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## INDEX OF CONTENTS.

JANUARY TO JUNE, 1896.

## A

ABERDEENSHIRE, technical instruction in horticulture in, 302  
 Abies amabilis, 621; *A. nobilis*, a fine, 790  
 Adiantum Farleyense, rapid growth in Greece of, 760  
 Adonis amurensis, 240  
 Aërides vandarum, 240  
 Africa, the Cedar of Central, 72  
 Agave americana, in flower at North-down, Margate, 17  
 Agavo laxifolia, 735  
 Agricultural depression, 706; research, 488  
 Aldenham House Gardens, Elstree, 295  
 Alpine garden, the, 643  
 Alpinia nutans, 300, 369  
 Altai flora, the, of Western Siberia, 45  
 Amateur's garden, an, 53  
 America, gardeners in the United States of, 302  
 America, the Carnation in, 461  
 American Grape-vines in Melbourne, 105  
 Amherstia nobilis, 610  
 Amsterdam, phytopathological institute at, 84  
 Anachronisms, botanical, 735  
 Androgynous cones, 769  
 Anemone sylvestris fl.-pl., 739  
 Anguloa uniflora var., 423  
 Annuals at Brayfield, 54  
 Antarctic exploration, 113  
 Anthurium Chamberlaini, 239, 610; *A. Gustavi*, 239; *A. Sanderianum*, 50  
 Anthuriums, 465; at Shipley Hall, Derby, 528  
 Ants, how to destroy, 708  
 Apiary, the, 523, 613, 677, 733  
 Apple, Annie Elizabeth, 562, 620, 658  
 Apple blossoms in East Anglia and about Edinburgh, 590  
 Apple, bush of Cox's Pomona, at East Sutton Park, 241; bush of Nonsuch, 137; Dutch Mignonne, 146; Goodwood Pippin, 398; Peagood's Nonsuch, espalier tree of, at East Sutton Park, 303; the Baltimore, 56  
 Apples, colour in, 20, 562; late blooming, 590; Royal Late Cooking and Lord Hindlip, 114; dessert, special prizes for, 462; the best-flavoured, 552  
 Apples, special prizes for dessert, 780  
 Apricot, the chemical composition of the, 728  
 Apricots from the Cape, 113  
 Aquilegia Skinneri, 86, 441  
 Aralia edulis as a vegetable, 737  
 Arcaearia cones, 243  
 Arbor-day in Japan, 204  
 Arderne's, Mr., garden at Cape Town, view in, 143  
 Arddarroch, Odontoglossum from, 421; sale of Orchids at, 765  
 Aristolochia gigas Sturtevantii at Washington, 73  
 Arle Court, Cheltenham, 582  
 Art and science, a summer school of, 526  
 Artichoke, the Jerusalem, 40  
 Arundinaria nobilis in the grounds of Menabilly, 700  
 Asafetida plant, the, 680  
 Asarum maximum, 296  
 Ascott, the gardens and grounds at, 165  
 Asparagus, a rational way of culti-

vating, 488; the best time and method of feeding, 551; feeding, 519, 620; fly, the, 765; from Melbourne, 105; the feeding of, 620  
 Asplenium Perkinsi, 8  
 Ash, the flowering, how to graft, 698  
 Ashlands, Newchurch, 520  
 Asters and Zinnias for bedding, 454; for seeding, 556  
 Aucuba japonica in berry, 465, 620  
 Auricula, 84, 371, 551, 674; gossip, 437  
 Auriculas, border, 560; on raising seedling, 550  
 Australia, fruit from, 737  
 Azaleas, Indian, grafted on the Rhododendron, 763

## B

BACTERIA in Carnations, 549  
 Bamboos in General Hutchins's garden, Bournemouth, 524; Japanese names for, 180, 208  
 Bardfield Oxlip, the, 620  
 Barron's, Mr. A. F., retirement, 17; presentation to Mr. A. F., 524; testimonial, the, 365  
 Battersea Park in May, 738  
 Beaumontia grandiflora, 735  
 Bedding, the methods of summer, 610  
 Beech trees, the grafting of, 672  
 Bees swarming early, 560  
 Beet-sugar in Germany and France, 427, 768  
 Begonia Duchess of Fife, 711; *B. Ortigiesii*, 207; *B. unbraculifera*, 172  
 Begonias, 305; fimbriated flowers of, 682  
 Belgium, horticultural schools in, 640; notes from, 19, 230, 369  
 Benefit and Provident Society, United Horticultural, annual meeting of the, 338  
 Benevolent Institution, Gardeners' Royal, 51, 141, 143, 174, 176, 259, 463, 492, 735; annual dinner of, 711; Devonshire branch of, 338; Wolverhampton Auxiliary, the, 396  
 Berberis buxifolia, 519; *B. stenophylla* ×, 671  
 Berlin Industrial Exhibition, 50, 699, 759, 782; collection of drugs in the, 648  
 Bifrenaria tyrianthina, 174  
 Birch trees, the grafting of, 673  
 Birds, early nesting of, 304; and injurious insects, 711; wild, and the need of protecting them, 87, 455  
 Bitter Oranges, 527  
 Bloom and berry on tree and shrub, 710

BOOKS, NOTICES OF:—Agenda Horticole (*M. Henry*), 113; American Florists' Co. Directory, 616; American Gardening, 142; An introduction to the Study of Sea Weeds (*G. Murray*), 240; Annals of the Royal Botanic Garden, Calcutta, vol. v., 781; Annual Bulletin of the Société Française d'Horticulture de Londres, 616; Australian Grasses, vol. i. (*R. Turner*), 52; Beeton's New Dictionary of Everyday Gardening, 366; Botanical Magazine wrappers, some old, 389; Botanical Magazine, 735; Botany of Yakutat Bay, Alaska (*U. S. National Herbarium*), 206; British Fungus Flora

(*Geo. Massee*), 179; British Mycetoza (*Arthur Lister*), 333; Botaniker Adressbuch, Botanists' Directory (*J. Dörfler*), 559; Bulletin de L'Association pour la Protection des Plantes, 737; Cassell's History of England, 178; Chrysanthemum Catalogue (*O. de Meulenaere*), 616; Cocoa, All about it, 2nd Ed. (*Historicus*), 766; De Conservanda Bona Valudine Opusculum Scholæ Salernitanæ ad Regem Angliæ, 579; Dictionnaire Pratique d'Horticulture et de Jardinage, 56, 174, 269, 558; Die Natürlichen Pflanzenfamilien, 129th section (*Engler & Prantl*) 269; Everybody's Guide to Poultry-keeping (*Donal Sherraton*), 526; Flora Capensis, 524; Flora of British India, part 21, 558; Forstbenutzung (*Gayer*), 697; Greenhouse and Stove Plants (*Th. Baines*), new edition, 708; Hand-list of Orchids Cultivated in the Royal Gardens at Kew, 366; Hand-list of the Species and Varieties of Conifers grown at Kew, 365; Icones Plantarum, 708; Index Kewensis, the manuscript preserved, 614; Influence of Rain and Spray on the Form of Leaves (*Regenfall & Blattgestalt*), 766; Insect Life (*F. Y. Theobald*), 366; In the Guinea Forest (*J. Rodway*), 392, 433; Introduction to the Study of Fungi (*M. C. Cooke, LL.D.*), 114; In Veronica's Garden (*Alfred Austin*), 51; Journal de la Société Nationale d'Horticulture de France, 709; Journal of the Kew Guild, 761; Journal of the Royal Horticultural Society, 463; Journal of the Scottish Meteorological Society, 709; La Culture du Poirier (*O. Poise*), 113; Le Chrysanthème a la Grande Fleur, 456; Les Bromeliacées, &c. (*L. Duval*), 113, 559; Les Fougères Organographie et Classification (*translated by M. Chas. Marion*), 302; Le Jardin de L'Herboriste (*M. H. Correvon*), 559; Les Palmiers de Serre Froide, &c. (*Raphael de Noter*), 51; Lloyd's Natural History, 765; Maladies des Plantes Agricoles causées par des Parasites Végétaux (*Ed. Prillieux*), tome I., 207; Manual of Forestry (*Dr. Schlich*), vol. v., 697; Nioe hundred and ninety-nine Questions and Answers, 559; On the Spraying of Plants (*E. G. Lodeman*), 396; Orchards and Gardens, Ancient and Modern (*Whiteley*), 56; Orchids of Costa Rica (*R. Pfau*), 549; Os Chrysanthemos ea sua Cultura (*H. Cayeux*), 704; Our Edible Toadstools and Mushrooms, and how to distinguish them (*W. Hamilton Gibson*), 179; Plant Breeding (*Professor L. H. Bailey*), 300; Petite Guide Pratique de la Culture des Orchidées (*L. Duval*), 266; Potato, Mr. Sutton's Lecture on the, (announced), 332; Rosarian Records by an Ex-exhibitor (*Rev. Alan Charles*), 398; Rules for Judging, and Suggestions for Schedule-makers, Judges, and Exhibitors (*Royal Horticultural Society*), 140; Rustic Adornments for Homes of Taste (*Shirley Hibberd*), 114; Silva of N. America (*Willow and Poplars*), 524; Smithsonian Report, 50; Sols, Terres

et Composts utilisés par l'Horticulture (announced) (*M. Truffaut*), 736; Suites au Prodromus, vol. ix., 205; The Auto-car (*Journal*), 404; The Bamboo Garden (*A. B. Freeman-Mitford*), 524, 588; The Chrysanthemum Album (*H. J. Jones*), 113; The Flora of Berkshire (*G. Claridge Druce*), 17; The Wood Industries of Sweden (*Timber Trades Journal*), 331; Ten New England Blossoms (*Clarence Moore Wood*), 179; The Orchid Hybrids (*Geo. Hansen*), 83; The Orchid Hybridists' Handbook (*A. E. Hopkinson*), 206; The Silva of North America, vol. viii. (*C. P. Sargent*), 52; The Structure and Development of Mosses and Ferns (*D. H. Campbell, Ph. D.*), 206; United States National Herbarium, 676; Wells' Book on the Culture of the Chrysanthemum (*W. Wells*), 240; Wild Flowers of the North-eastern States (*Ellen Miller and Chittie Whiting*), 113

Borer, Raspberry-stem, 620  
 Bosahaa, view in the garden at, 364  
 Botanic Fiction, a, 176, 736  
 Botanical anachronisms, 736; discoveries of Delavay, 615; discoveries, recent, in New Zealand, 43  
 Boegainvillea glabra Sanderiana, 610  
 Boegainvilleas, the culture of, 730  
 Boxes, railway packing, 304  
 Brangwin's garden roller, with scraper, 712  
 Brazilian Orchids, the treatment, 609  
 British Ferns, 755  
 Broccoli, 527; culture and protection, 106  
 Brodiaea californica, syn. Austinæ, 790; *B. Howelli* lilacina, 767  
 Brookfield, Hathersage, Daffodils at, 618  
 Brussels exhibition for 1897, 19  
 Brussels Sprouts, fasciated, 499  
 Budding of the Horse-Chestnut, 672  
 Buds on a seedling plant, 86  
 Bulbophyllum, a remarkable, 726; *B. multiflorum*, 294  
 Bulbs, imports of Japanese, 270; in herbaceous borders, 464, 465  
 Burrs, in the Ginkgo, 175; a new use for Burdock, 764

## C

CABBAGES, early, 658; spring, bolting, 590, 681, 704, 738, 767  
 Caladium, the, 137  
 Calanthe × Bryani, 50; *C. × William Murray*, 50  
 Calanthes, winter-flowering, 80  
 Caltha palustris, honey-glands of, 564  
 Camellia, the double white-flowered, 358  
 Campanula, a new, 648; *C. mirabilis*, 710; *C. Regina*, 681  
 Camphor Al., a Chinese product, 50  
 Cannas, hybridised with Hedycheiums, 112  
 Canees, horticultural meeting at, 422  
 Canlif, extensive exhibition at, 558  
 Carnation and Picotee, 674  
 Carnation rust and the Bordeaux Mixture, 270  
 Carnation and its culture, the, 52, 135, 350, 681

- Carnation, the, 84, 438, 551; from seed, 640; in America, 464  
 Carnations at Bookham, 786  
 Carnations, bacteria in, 549; diseased, 437; Souvenir de la Malmaison, 434  
 Carrot, an extraordinary, 105  
 Castleton House, Orchids at, 609  
 Catalpas, the, 423  
 Catasctum scurra, 294  
 Cattleya labiata, white variety, 133; with two leaves, 13  
 Cattleya  $\times$  Empress Frederick, 495; C. Mossiae, double growth on a, 55  
 Cedar, the dwarf Lebanon, 563  
 Cedar, the, of Central Africa, 72  
 Cedrus Libani nana, 563  
 Cenolophon vitellinum, 638  
 Cereus Cumingii, 390; C. Digneti, 390  
 Cheltenham syringe, the, 565  
 Cherry trees, Morello, at Scone Palace and Cullen, 56  
 Cherries, a novelty in, 429; the culture of, 41  
 Children and natural history, 766  
 Chinese Mustard, curled, 333  
 Chiswick, Saturday half-holiday for employes at, 583; vegetable trials at, 619  
 Chrysanthemum, the, 11; principal chemical constituents of, 557; at Hong Kong, 76; late-blooming, single-flowered, 12; notes on the culture of, 304  
 Cineraria, a fasciated, 463; origin of the garden, 641; origin of the, 239, 302, 335, 560, 620  
 Cineraria, the allies of the, 460; Hybrids, 791  
 Clay subsoil, newly-dug, 592  
 Clematis montana, 790  
 Climate and tree-growing, 730  
 Club in Cabbage, 708  
 Cologyne cristata, 241; C. flaccida, 241; abnormal flower of, 462; C. Rumphii, 452  
 Coffee in Central Africa, 366  
 Collecting tour, a, in Jamaica, 197, 263  
 Colonial notes, 105, 366, 520, 767  
 Colour in Apples, 20, 437, 465; and Pears, 146, 562  
 Colouring of flowers, the, 620  
 Colouring, the, of flowers and fruit, 146  
 Coltsfoot, first flowers of, 239  
 Combretum purpureum, 738  
 Committees, the views of the Royal Horticultural Society, 80  
 Cones, androgynous, 709  
 Conferences at the Royal Botanic Society, 492  
 Conifers, flowers of, 556, 586; grafting, 463; insect pests of, 486; some diseases of, 553  
 Conservatory at Ewthorpe, Bourne-mouth, the, 359  
 Convolvulus Cucorum, 738  
 Coomber, Mr. W., presentation to, 83, 332, 586  
 Coprosma Baueriana, the propagation of, 207  
 Cork in Spain, 558  
 Cornell University, syllabus of debates for advanced students at, 239; horticulture at, 117  
 Cornish Broccoli, 398; garden, early flowers in a, 176  
 Coruus Koussa, 782  
 Costa Rica and its Orchids, 548  
 Cotoneasters, the grafting of, 673  
 Cotton-seed oil, 646  
 Council, election of the, of the Royal Horticultural Society, 115  
 Covent Garden, fruit supply of, 21, 87, 116  
 Crabs, the propagating of ornamental, 640  
 Cranberries, ripe, in January, 141  
 Crataegus mollis, 610; C. tanacetifolia, 202  
 Crimea, fruit preserving in the, 188  
 Crinum Powellii alias C. Rosemanni, 644  
 Crocus Creweii, 208  
 Crows and gardens, 45  
 Cucumber, a variegated, 563  
 Cucumbers as grown for market, 610  
 Cultural memoranda, 46  
 Cycads from cuttings, the propagation of, 332  
 Cycas, sale of, of George Washington, 50  
 Cyclamen, the culture of the, 270  
 Cyclamens, unhealthy, 146  
 Cydonia japonica, the grafting of, 674  
 Cymbidium eburneum, 359; C. Tracey-anum, 10  
 Cyperus distans, 394  
 Cypripedium Burtoni  $\times$ , 20, 40; C. callosum Sanderæ, 726; C. Chamberlainianum, 640; C.  $\times$  Chas. Rickman, 132; C. Elliotianum, 358; C. hirsutissimum, abnormal, 518; C. Sanderianum, 329; C. spectabile, poisonous properties of, 588; trimmerous, a, 238; C. Victoria Maria, 294; C. villosum Truffauti, 104  
 Cypripedium, the Botany of the Genus of, 238  
 Cypripediums at Kew, 204  
 Cytisus albus, 671; C. Ardoini, 698; C. scoparius var. Andreanus, 671, 682, 791
- D**
- DAFFODILS, appearing blind, 177, 208, 242; at Brookfield, Hathersage, 618; poisoned by soot, 495; trumpet, in the Landes, 451  
 Dahlia certificates, the, given by the National Society, 116  
 Dahlias, 136; D. cactus, 242  
 Dasylium acrotrichum, 204  
 Dewish improvements, suggested, 708  
 Declaration, plants for, and exhibition, 261  
 Delavay, the Abbé, some of the botanical discoveries of, 615  
 Dell, The, Egham, Orchids at, 484  
 Dendrobium bigibbum, 334; D. cymbioides, 581; D. cariniferum, Highfield House var., 699; D. Dalhousieanum, 272; D. nobile intermedium, 264; D. nobile, unpruned specimen of, 56; D. nobiliss, 359; D. Ruckeri, 240; D. sarmentosum, 240; D. speciosum, 230; D. Wardianum, 116, 264; D. W. at Welham Hall, Keford, 304; D. W. and others, the culture of, 75, 241, 297; D. W. var. Lowii, 230; D. Wiganii, 553  
 Dentzia gracilis, culture of, 584  
 Dianthus attacked by grubs, 146  
 Dimorphotheca Eckloni, 296  
 Diospyros virginiana, 790  
 Diplosis pyrivora, 400  
 Diseases of Conifers, 553  
 Dombeya Wallichii, 169  
 Douglas Fir, 272; spar at Kew, 175  
 Brought in Massachusetts, U.S.A., 679  
 Drying, experiment in fruit, 238  
 Dyer, Mr. W. T. Thiselton-, created L.L.D. by the University of Glasgow, 492
- E**
- EATON Hall Gardens, 71  
 Echinocactus peninsule, 390  
 Edinburgh Royal Botanic Garden, 305  
 Ehret, G. D., 558  
 Elm, the winged, 453, 495, 527  
 Elms, the grafting of Weeping and other, 699  
 Elmsfield House, Maidstone, 609  
 Embankment Gardens, the, 82  
 Enville, the gardens of, 199  
 Environment, plants and their, 678  
 Epidendrum  $\times$  elegantulum, 361  
 Epiphyllum truncatum, 9  
 Episcia densa, 735  
 Epping Forest, 174  
 Eranthemum reticulatum, 735  
 Erica eodonodes, 487; E. Wilmoreana, 200  
 Eridge Castle, damage by fire to, 269  
 Eriaceæ paucens, 698, 738  
 Essex County School of Horticulture, 206, 238  
 Eucharis grandiflora at The Garnons, Hereford, 144, 177  
 Eupatoriums, 367  
 Eupomatia Bennettii, 305  
 Evolution, plants and the process of, 678  
 Exhibitions, the crowding of herbaceous plants at, 560; the use of horticultural, 515  
 Experiments on transpiration, 360
- F**
- FALCONER, Mr. W., appointment to the superintendency of the Pittsburg Park System, 334  
 Falkland Park, South Norwood Hill, 39, 73  
 Farmers and fruit-growing, 48, 114, 145, 177, 208, 456  
 Fasciated Brussels Sprouts, 499  
 Feeding Asparagus, 620  
 Female gardeners at Kew, 174  
 Fern-stealers punished, 142  
 Fern varieties, British, their rarity, 42  
 Ferns, British, 755; filmy, for the Wardian case, 76; Chitral, 302; hardy, 335, 432; in exposed positions, 242  
 Fernères en-Brie, Phalenopsis in flower at, 330  
 Ferula Asafetida, 680  
 Finger-and-Toe, experiments in regard to, 332  
 Finlaint, early-flowering shrubs at, 519  
 Fir, the Douglas, 272, 527  
 FI RA, the Altai, of Western Siberia, 45  
 Florists' flowers, 11, 84, 107, 136, 304, 371, 437, 486, 551, 582, 611, 640, 674, 713  
 Florists' flowers, raising seedling, 550  
 Flower-beds, effective combinations for, 681  
 Flower garden, the, 14, 47, 79, 108, 139, 170, 203, 234, 266, 299, 330, 361, 363, 427, 458, 490, 522, 555, 584, 613, 644, 677, 704, 733, 760, 787  
 Flower garden, the formation and maintenance of a, 325  
 Flower mission, a, 738; shows, and their uses, 515  
 Flowers as food, 55; by post, 679; from Scilly, 82; Colouring, 791  
 Flowering shrubs, 465, 466  
 Forestry, 13, 104, 145, 167, 200, 329, 362, 456, 553; instruction in Scotland, 168  
 Forest utilisation, 697  
 Forsythia suspensa, 454, 566  
 France, horticulture in the North of, 784  
 Freesia culture at Sufton Court, 272  
 Freesia refracta, 242  
 Freesias, 457; some fine, and others, 392  
 Frost, the, effect of on plants, 393  
 Frost, the great, of 1895, at Kew, 169, 196, 231  
 Fruit, bottling made easy, 495; cordons, 12; culture about Smyrna, 669; culture by farmers, 48, 114, 145, 242, 272, 456; drying, an experiment in, 238; drying, 607, 766; experiments at Woburn, 642; from Australia, 737; growing and farmers, 208; preserving in the Crimea, 198; prospects, 590; in South Wilts, 527; supply of Covent Garden, 21, 87, 116, 166; trees, bush, 769; spraying, 270; insects on, and spraying, 710  
 Fruits, &c., a year's imports of, 82; and flowers, new system of distribution of, 769; from Tasmania, 302, 588, 648, 708; thinning choice, 532  
 Fruits, hardy, see Hardy Fruit Garden  
 Fruits under glass, 14, 47, 78, 109, 139, 171, 203, 235, 266, 299, 330, 363, 395, 426, 459, 491, 522, 555, 585, 612, 645, 676, 705, 733, 761, 786
- G**
- GAME and timber, 87, 176, 329  
 Game-covert, undergrowth for, 23, 145, 329  
 Gardeners and crows, 45  
 Gardeners' Company, installation of the Master, 762  
 Gardeners' requirements, a trade, 113, 144, 176, 208  
 Gardeners' Royal Benevolent Institution, 116, 711, 795; annual meeting of, 81, 89  
 Gardeners and steam-mowers, 495; oil-motors, 368  
 Garden, literature, 304; hybrids, 791; machinery, 271; the formation and maintenance of a, 325; varieties in plants, the production of, 641  
 Gardénias, 457  
 Gardening, the poetry of, 753  
 Gardens, and oil as a motive power, 207; the embankment, 82; wild, and pleasure-grounds, 74  
 Geum Heldreichii, 682  
 Ghent, winter garden of the Count de Kerchove at, 231  
 Glasgow Botanic Garden, 769  
 Glasgow, Maxwell Park, 675; Queen's Park, 674  
 Glasgow notes, 674  
 Gladiolus, hardy, 304  
 Glasnevin Royal Botanic Gardens at, 428; spring at, 584  
 Gooseberry bushes, on pruning, 46  
 Gooseberry culture for exhibition, 55  
 Graft, Osmanthus, how to, 699  
 Grafting Conifers, 463  
 Grafting, indoor, 393; Limes and Elms, 699; Pear trees, 580; ornamental Crabs, 640; teaching the art of, 591; the Hawthorn, 698; the Ornu or Flowering Ash, 698; the utility of the Vine, 730  
 Grain, system of sowing, 489  
 Grape culture in its commercial aspect, 617, 700  
 Grapes, old and new, 767  
 Grape Vines, American, in Melbourne, 105  
 Greece, rapid growth of Adiantum Farleyense in, 760  
 Greenhouse construction, Kew system of, 112  
 Grenada Botanic Gardens, 756
- H**
- HABENARIA Elwesii, 735  
 Hailstorm Insurance Company, Nurserymen, Market Gardeners, and General, 397  
 Hakea multilinea var., 85  
 Hamamelis arborea, 361  
 Hamburg, International Horticultural Exhibition of 1887 at, 239  
 Hans Sloane, letters of to John Ray, 557  
 Hardy fruit garden, the, 15, 46, 78, 109, 138, 202, 231, 267, 298, 331, 362, 394, 427, 459, 490, 522, 554, 585, 613, 644, 677, 704, 732, 760, 787  
 Harrow Weald House, herbaceous Calceolarias at, 620  
 Hawthorn, to graft the, 698  
 Heating, the, of glass-houses by steam, 493, 528  
 Hechtia argentea, 174  
 Hedychium coronarium, 112  
 Herbaceous border, the, 359; forming a, 360, 399, 436, 464  
 Herbaceous Calceolarias at Harrow Weald House, 621  
 Herbaceous flowers, the crowding of, at exhibitions, 494, 560  
 Heuchera rubifolia, 738  
 Heythrop Park, 142  
 Highbury, Birmingham, the gardens at, 72  
 Hippeastrums, 674  
 Holland, the new horticultural school in, 84; new plants in, 85; new periodicals and books in, 84  
 Honesty, variegated, 768  
 Honey-dew, the origin of, 429



Hong-Kong, Chrysanthemums at, 76  
Hop culture, 18  
Hopetown House, 453  
Horse-chestnut, budding of the, 672  
Horticultural buildings, 244; schools in Belgium, 649; season, the 521; society, wanted a, 11  
Horticulture at Cornell, 117; at the Berlin Industrial Exhibition, 759, 782; Versailles school of, 75; — in the North of France, 784  
Hurst Side, West Molesey, 644  
Hyacinth, as a town plant, the, 494  
Hyacinths, the best, 790  
Hybrid Orchids, natural, 105, 198; outsting species, 175  
Hybrid Poppies, 50

## I

ILEX dipyrrena flowering in Scotland, 563  
Incarvillea Delavayi, 739  
Incisions, healing of, in plants, 648  
Insecticide, the Bala, 494  
Insects, injurious, 360; to fruit-trees, 589; on fruit-trees, and spraying, 710  
Interdependence of plants and animals, 392, 433, 517  
Iris reticulata, 368; Iris xiphioides, 790; I. xiphioides, a group of, at The Yews, Cambridge, 167  
Irises, reversion in, 681  
Italy, notes from, 232

## J

JAMAICA, a collecting tour in, 134, 197, 263  
Japan, arbor-day in, 204  
Japanese bulbs, imports of, 270; Lilies as articles of food and commerce, 135; Paeonies, new, 764  
Jardin d'Acclimatation at Paris, 103  
Jarra timber, 269  
Jasmine, the common, 80; fruiting in Kent, 205, 242  
Judging, the Royal Horticultural Society's code of, 168, 242, 304, 435, 562, 590, 620  
Juniperus drupacea, 519, 768; maintaining its lower branches, 611; J. pachyphloea, 641; J. rigida, 138

## K

KAM-BAM, the sacred tree of, 679  
Kew, Cyripediums at, 204; female gardeners at, 174; notes from, 239, 296, 610; Orchids at, 195, 328, 394; system of greenhouse construction, 112; the Douglas Spruce Spar at, 175; the effects of the great frost of 1895, at, 169, 196  
Kitchen garden, the, 14, 46, 78, 108, 139, 171, 202, 235, 267, 299, 331, 362, 394, 426, 459, 491, 523, 554, 585, 612, 645, 676, 705, 732, 761, 786  
Klugia Notoniana, 236

## L

LABURNUMS, the grafting of, 673  
Laeken, the Royal gardens at, 524  
Lachia anceps Protheroana, 40; L. elegans var. Kathleen, 580; L. purpurata, 550, 640  
Lagos botanic station, 700  
La Mortola, notes from, 611; plants in flower in the open at, on New Year's Day, 1896, 42; plants in flower at, 735, 738  
Landes, Daffodils in the, 451  
Larch disease, the, 243, 304, 335, 362, 368, 398, 431, 466, 494, 528, 560, 621, 670; in Ireland, 584  
Larches, American, 399, 465, 494; the Alderley Edge, 326  
LAW NOTES:—Johnson v. Piper, Quality of Daffodils supplied, 149;

Williams v. Vavasour, to recover for seeds ordered by gardener, 528

Lawn mowers, and motors, 620  
Layering shrubs and trees, 756  
Leaves, Influence of Rain and Spray on the form of, 766  
Leaves of Spruces, movements in the, 82  
Ledger, Mr. Charles, 438  
Leek, the, 791  
Lilies, Japanese, as food, 135; oriental, 75, 145, 176, 372  
Lily, another edible, 209  
Limes, the grafting of varieties of, 699  
Lindley, the Editorship of the, 142  
Lindley and Brouall quarrel, 176  
Lindsay, Mr., and the Neill Prize, 709  
Lippia iodantha, 399  
Litchies, how to procure, 791  
Literature of Gardening, 304  
Logan Gardens, Stranraer, Rhododendron Nobleum at, 332  
London in May, 671  
Longton Public Park, Spring Bedding at the, 587  
Lonjicea Standishii, 361  
Lowe's Garden, Mr. E. J., 728  
Lunaria biennis (variegated Honesty), 768  
Lycaste Skinneri alba, 133; virescent, 146  
Lychnis Lagasce, 643

## M

MACHINERY in gardens, 400, 436  
Madresfield Court Gardens and the Gardeners' Royal Benevolent Institution, 586  
Magnolia conspicua, 454, 494; M. grandiflora, early blooming of, 208; M. Kobus, 64; M. Watsoni, 765  
Male parent, prepotency of, 791  
Manchester Notes, 686  
Manchester Royal Botanic Gardens, 552  
Mandevilla suaveolens out-of-doors, 399  
Manure, poultry, for the garden, 424  
Manures for market gardens, 703; permanence of, 489; prices of garden, 21  
Maples, the budding of, 672  
Market gardening under difficulties, 486  
Marrow, vegetable, Courge patate, 59  
Martinet, N., Russian honour for, 50  
Mashonaland, prices of food in, 537  
Mechanical motors for gardens, 144  
Medicine, the Salernian School of, 579, 620  
Melons, a lecture on the culture of, 337; Sarda, 175  
Menabilly, a plant of Arundinaria nobilis at, 709, 701  
Mentone, Palms at the Villa "La Chiusa" at, 422  
Mignonette, origin of, 564  
Mildew in Wheat, and Sir Joseph Banks, 710  
Miltonia flavescens, 757; M. vexillaria "Memoria G. D. Owen," 755  
Monroe, E. G., the coming of age of, 303  
Moore, retirement of Mr. Chas., from the Sydney Botanic Gardens, 789  
Morea Robinsoniana, 296  
Morello-Cherry trees at Scone Palace and Cullen, 56  
Morris, Dr. C. M. G., in America, 141  
Motors, oil, and electricity, in gardens, 271, 399, 400  
Mulching, 562; and watering of wall-trees, 590  
Mushroom culture, 41  
Mustard, curled Chinese, 333

## N

NAMES, garden, in Polynesia, 403, 614  
Naples, Strawberries in, 637  
Narcissi and their artistic use, 547  
Narcissus Barri conspicuus with two flowers on a stem, 560; double, producing single flowers, 681; for

forcing, 208; crosses, 620; N. maximus in the Landes, 451  
National Horticultural Society, wanted a, 11; Trepass Prevention Agency, 679  
Naturalists' Club, proposed in London, 617  
Nectarine, the yellow, 104  
Neill prize, the, awarded to Mr. Robert Lindsay, 709  
Nemesia strumosa, 768  
Nesting, early, of birds, 336  
New inventions, 493  
New Zealand, recent botanical discoveries in, 43  
New Zealand, the displacement and replacement of the native vegetation of, 731  
New Zealand, viticulture in, 370  
Nitrate of soda, 459, 528  
Nomenclature of Orchids, the, 614  
Novelists' floriculture, 56  
Novelties of 1895.. 9, 45

NURSERY NOTES:—Brown, W. & Son, Ormskirk, 24; Bull, Mr. Wm., 712; Cannell & Sons, 208; Cypher, J., Cheltenham, 563; Heath & Sons, Cheltenham, 672; James, W. J., Farnham Royal, 583; M'Arthur, P., 371; May, George, Teddington, 274; Sutton & Sons, Reading, 177; Turner, Chas., Slough, 178; Veitch & Sons, Jas., 274, 371, 583; Williams & Son, B. S., 400

Nuts, and the best time to market them, 19

Nuttallia cerasiformis, 488  
Nycteria selaginoides, 422

## O

OAK-APPLE Day, 679  
Oakwood, Orchids at, 390

OBITUARY:—Bannister, Mrs., 24; Blackie, Robert, 468; Bloxam, Richard, 276; Cheal, Joseph, 244; Cole, James, 118; Delavay, l'Abbé, 526; Eastwood, Charles, 57; Farquhar, Robert, 244; Findlay, Bruce, 788; Fuller, Andrew S., 684; Goldsmid, Sir Julian, 48; Horsman, F. R., 339; Lawson, Professor Marquand, 365; Muller, Dr., 209; Morris, Jno., 275; Prince, George, 339; Reid, Jno., 209; Sadler, J. S., 794; Say, M. Leon, 524; Sickenberger, Ernest, 276

Ochna multiflora, 305  
Odontoglossum Andersonianum, 358  
Odontoglossum augustum, sold for 300 guineas, 736; O. egregium, 550; O. (Major Pigott's var.) lyroglossum, 197; O. Roezli, 358  
Odontoglossums from Arddarroch, 197, 421; the Pacho type of, 674  
Euothersa flowers, the opening of, 20, 648  
Oil machines for gardens, 141  
Oil motors for gardens, 271  
Oil rollers for gardens, 56  
Olympia, the gardens at, 616  
Oncidium sarcodeis, 390  
Onions, preparing land for, 170  
Opuntia Alcahes, 390; O. Cholla, 390  
Oranges, bitter, 527, 560, 591; and Bergamot from La Mortola, 499; the preservation of, 269; the reproduction of, from seed, 784  
Orchid, a poisonous, 588; double growth on an, 55; growing by the artisan, 368; house at Wexham Park, Slough, 619  
Orchid-houses, the, 15, 46, 79, 108, 138, 170, 202, 231, 266, 298, 330, 362, 395, 426, 459, 490, 523, 554, 585, 612, 645, 677, 704, 732, 760, 787  
Orchid notes and gleanings, 10, 40, 104, 132, 197, 230, 264, 358, 390, 394, 421, 452, 484, 518, 550, 580, 609, 640, 726, 757, 786; trade, an alleged fraud in the, 674

Orchids, a tasteful way of growing and exhibiting, 785; a supplementary list of hybrid, 431; at Castleton House, Clifton, 609; at Kew, 195, 328; at l'Horticulture Internationale, 19; at Pynaert Van Geert's, 518; at Oakwood, Wylam-on-Tyne, 390; at Parkfield, 230; at Tapton Court, 358; at Tring Park, 421; at Tyntesfield, 85; at W. Vanner's, Chislehurst, 452; branching pseudo-bulbs in, 12; monstrous, 146; natural hybrid, 105, 198, 232; nomenclature of, 614; sale of the Arddarroch collection of, 765; some easily-grown, 179; the treatment of Brazilian, 609  
Oriental Lilies, 75, 144, 176  
Ornus, to graft the, 698  
Orphan Fund, the Royal Gardeners', 174, 302, 429, 762; annual dinner of the, 788; annual meeting of the, 273; the presidency of the, 205  
Osmauthus, how to graft, 699  
Oudemans, resignation of Professor, 84  
Owthorpe, Bournemouth, Bamboos at, 524; conservatory at, 359  
Oxlip, the Bardfield, variations of, 620, 564

## P

PAEONIES, new Japanese, 764  
Palm fronds, dried, 462  
Pansies, 11  
Pansies, a contribution to the history of, 681, 726, 751  
Pansy, the, 371  
Paris, Horticultural Congress and National Horticultural Show, 50; notes from, 12, 200; streets, the flora of the, 203; the Jardin d'Acclimatation at, 103  
Park, the Victoria, 671  
Parkfield, Orchids at, 230  
Parrottia Jacquemontiana, 563  
Parsnip with its roots in a tobacco-pipe, 242  
Paulownia imperialis at Ventnor, 679  
Pea, Carter's Lightning, 658; the Sweet, 657; Exonian, 658  
Peas, penetrated by oats, 791  
Peach, thinning the shoots of the, 658  
Peach-trees, gumming, 146  
Pear, a double, 648; Benrre Perran, 209; Catillac, 20; Pitnastou Duchess, at Summerhill, Kingswinford, 268; the Sudduth, 108  
Pears, Diplosis pyrivora on, 400, 658; fickleness of, 56, 116; the grafting of, 552, 580  
Pears, special prizes for dessert, 789  
Peas, early, 713, 738; experiments in manuring, 703; protecting from birds, 496  
Pentillie Castle, Saltash, 23  
Ponstemon, the, 243  
Perezia sonchifolia, 390  
Perfumes, action of light and moisture on flower, 463  
Persia, some vegetable products of, 649  
Persimmon, hardness of the, 790  
Petersham meadows, 399  
Phaens mishmensis, 735  
Phalæopsis speciosa, 495  
Pharmaceutical Society, the, and the vending of weed-killers and other poisonous preparations, 48  
Photographing the invisible, 83  
Phylloxera laws, the, in regard to Italy, 790  
Phytopathological Institute at Amsterdam, 84  
Picea Morinda at Shelsley Walsh, 132  
Pine, the Scots, 104  
Pineapple culture, 530  
Pink, Her Majesty, as a forcing variety, 713  
Pink, the, 371  
Pinus, garden, 709  
Pinus Coulteri (macrocarpa), cones, and foliage of, 146  
Pinus Laricio var. Salzmanni, 175; P. macrocarpa, 790; P. Massouiana, 580; P. Pinaster prolifera, 421; sylvestris monophylla, 104



- Seed-sowing, 369  
 Seeds, the vitality of Cucurbit, 710 ;  
 effect of growing unripe, 110, 144  
 Senecio Bourgei, 296 ; *S. platanifolius*,  
 12  
*Sequoia gigantea pendula*, 454  
 Sequoias, the female flowers of, 556  
 Shipley Hall, Derby, *Anthurium* at,  
 528  
 Shirenewton Hall, Monmouthshire,  
 728  
*Shortia galacifolia* as a pot plant, 426  
 Shrubs, flowering, 465, 466  
 Siamese Teak, the trade in, 456  
 Siberia, the Altai flora of Western, 45  
 Singleton Abbey, fire at, 175  
*Sirex gigas*, in timber, 486, 564, 653  
 Slug with a shell, the, 175  
 Slugs, a train stopped by, 269  
 Smyrna and neighbourhood, 669  
 Snowdrop, the first, 109  
 Snowdrops, 304 ; at Kew, 175
- SOCIETIES**.—Aberdeen Chrysanthemum,  
 558 ; Agricultural Seed Trade,  
 735 ; Ancient Society of York  
 Florists, 302, 462 ; Antwerp Royal  
 Horticultural, 462 ; Axminster Gar-  
 deners', 238 ; Birkenhead Gardeners'  
 Improvement, 117 ; Birmingham and  
 District Amateurs', 175 ; Birming-  
 ham Gardeners' Mutual Improvement  
 Association, 269, 526 ; Bradford  
 Paxton Society, annual dinner of  
 the, 175 ; Brighton and Sussex  
 Horticultural, 531 ; Bristol Amateur  
 Horticultural 50 ; Brussels Orchi-  
 déenne, 230, 369 ; 558 ; Cairo  
 Horticultural, 205 ; Cercle Horti-  
 cole Van Houtte, 205 ; Ches-  
 hunt, Wormley, and District  
 Horticultural Mutual Improvement,  
 174, 365, 429, 616, 764 ; Chester  
 Horticultural Fête, 302 ; Clay Cross  
 Horticultural, 766 ; Crystal Palace,  
 372 ; Cuckfield Chrysanthemum 82 ;  
 Darlington Horticultural, 565 ; Devon  
 and Exeter Gardeners', 117, 142, 212,  
 403, 648 ; Ealing Gardeners', 117,  
 142, 174, 205, 238, 269, 335 ; Ealing  
 Horticultural, 142 ; Edinburgh Bot-  
 anical, 244, 402, 769 ; French Na-  
 tional Rose, 112 ; Ghent Horticul-  
 tural, 81, 207, 369, 763 ; Grand  
 Yorkshire Gala, 83, 769 ; Hereford-  
 shire Fruit and Chrysanthemum,  
 269 ; Highgate Chrysanthemum,  
 142 ; Horticultural Club, 112, 364,  
 763 ; annual dinner of the, 237 ; Isle  
 of Wight Horticultural, 462 ; Lee,  
 Blackheath, &c. Horticultural, 113 ;  
 Ledeburg, International Horticul-  
 tural exhibition at, 532 ; Leeds Gar-  
 deners' Friendly Benefit, 112 ; Lei-  
 cester Chrysanthemum, 175 ; Lin-  
 nean, 17, 141, 268, 423, 557, 735 ;  
 London Wholesale Fruit and  
 Potato Trades, and Growers' Bene-  
 volent, 301, 338 ; People's Palace  
 Horticultural, 142, 437, 462 ;  
 Manchester Royal Horticultural and  
 Botanic, 371, 659, 685 ; Midland  
 Carnation and Picotee, 365 ; National  
 Auricula and Primula (Southern Sec-  
 tion), 332, 531 ; (Northern Section),  
 564 ; National Carnation and Picotee,  
 305 ; National Chrysanthemum, 171,  
 206, 238, 273, 364 ; National Dahlia,  
 429 ; Nationale d'Horticulture de  
 France, 112, 200, 364, 706 ; Na-  
 tional Rose, 300, 428, 557 ; (Southern  
 Section), 793 ; National Viola, 365,  
 735, 793 ; Newcastle and District  
 Horticultural Mutual Improvement,  
 113, 366, 648 ; Newcastle-on-Tyne  
 Horticultural, 531 ; Reading Gar-  
 deners' Mutual Improvement, 24,  
 141, 206, 269, 365, 437 ; Reading  
 Horticultural, 179 ; Royal Botanic  
 of London, 82, 334, 372, 430,  
 462, 496, 621, 703 ; Royal  
 National Tulip (Southern Section),  
 657 ; Royal Horticultural, 17,  
 87, 210, 336, 400, 466, 529, 564,  
 591, 620, 706, 739, 762, 791 ;  
 annual meeting of the, 205, 211 ; and  
 the provinces, 237 ; new committees  
 of the, 80 ; Temple Show, 650 ; re-  
 port of the Council of the, 88 ;  
 Royal Horticultural of Aberdeen, 82,  
 174, 708 ; St. Mary's, Whitechapel,  
 Horticultural, 364 ; Scottish Horti-  
 cultural, 112, 237, 338, 708 ; Shef-  
 field Chrysanthemum, 174, 531 ;  
 Shirley and District Gardeners'  
 Mutual, 113, 238, 365, 618, 766 ;  
 Shropshire Horticultural, 302 ; So-  
 ciety of Arts, 205 ; Société Fran-  
 çaise d'Horticulture de Londres, 83 ;  
 Société Nationale d'Horticulture de  
 France, 238 ; Stoke Newington,  
 Stamford Hill, and Clapton Chrysan-  
 themum, 334 ; Sunderland Gar-  
 deners', 175, 239 ; Surveyors' In-  
 stitution, 141, 269, 648 ; Torquay  
 Gardeners, 437, 558 ; Wakefield  
 Paxton, 199 ; Waterford Horti-  
 cultural, 272 ; West of England  
 Chrysanthemum, 274 ; Winchester  
 Gardeners' Mutual Improvement,  
 174, 593 ; Wolverhampton Floral  
 Fête, 302 ; Yorkshire Gala, 769 ;  
 Yorkshire Naturalists' Club, 617
- Soils and plant growth, 490  
 Solar spectrum, experiment with the  
 rays of the, 268  
*Sopronitis grandiflora*, 10  
 Spain, cork in, 558  
 Spectrum, experiment with the rays of  
 the solar, how affected by, 268  
*Spiraea Thunbergii*, 451  
 Sporting in Roses, 146  
 Sprayer, a new patent, 333  
 Spraying fruit trees, 270 ; of plants, on  
 the, 396  
 Spring flowers, early, 124  
 Spruces, movements in the leaves of, 82  
 Stanhopeas, the, 264  
 Steam lawn-mowers and rollers, 87,  
 116, 399, 464, 495, 560  
*Sternbergia Fischeriana*, 455 ; *S. mar-  
 crantha*, 174  
 Stocktaking, 51, 205, 334, 493, 616,  
 736  
 Stopping preserve-bottles and jars, new  
 method of, 565  
 Straffan House Gardens, co. Kildare,  
 680, 789  
 Strathfieldsaye, 7 ; the pleasure-grounds  
 at, 44  
 Strawberry forcing, 430  
 Strawberry, Louis Gauthier, 199 ; *S.*  
*Royal Sovereign*, 495, 682, 710 ; *S.*  
*Stevens' Wonder*, 527  
 Strawberry, the cultivated : its origin,  
 787  
 Strawberries, as annuals, 755 ; autumn-  
 fruiting, 495 ; early, 738 ; from  
 France, 735 ; in the province of  
 Naples, 637  
 Sulton Court, Freesia culture at, 272  
 Sugar-Beet, in Germany and France, 427 ;  
 conditions affecting the sugar contents  
 of, 768  
 Summer hedding, 610  
 Sweet Pea, Cupid, 177 ; the, 657  
 Swinton Park, Yorkshire, 131  
 Swiss National Horticultural Exhi-  
 bitions, 680  
 Synchronism of variation, 177  
 Syringe, the Cheltenham, 565  
*Syriuga villosa*, sacred tree of Kam-Bam,  
 679
- T**  
 TARRAGON, subterranean fasciation in,  
 18  
 Tasmanian fruits, 302, 588, 648  
 Teak in glass-houses, the use of, 562  
 Teak, the trade in Siamese, 456  
 Technical education in Aberdeenshire,  
 269, 302, 616 ; in Hertford, 270  
 Temple show, the, 560, 646, 681  
 Tibet, a holy tree of, 646, 679  
 Thinning choice fruits, 532  
*Thuia dolabrata nana*, 698 ; *gigantea* or  
 Lobbii, the timber of, 304 ; timber of,  
 242 ; Lobbii, timber of, 369 ; *orien-  
 talis pedunculata*, 200 ; *orientalis Zuccar-  
 iniana*, 169  
*Thuia Marshalliana*, culture of, 584  
*Tilia dasystyla*, 421  
 Timber *v. Game*, 13, 55, 176  
 Timber, hedge-row, 456  
 Timber of *Thuia gigantea* or *T. Lobbii*,  
 242, 304, 369 ; Jarra, 269 ; prices of  
 British-grown, 13 ; trees, upon, 200  
 Tomato culture, 657 ; Frogmore Se-  
 lected, 55 ; fungus, 743  
 Tomatos and disease, 768, 791  
 Top-dressings in winter and summer,  
 428  
 Transpiration as a guide to cultivation,  
 616  
 Tree of ten thousand images, 646  
 Trees and shrubs, 12, 133, 169, 200,  
 301, 361, 420, 454, 519, 562, 580,  
 610, 641, 671, 698  
 Trees and their growth, 169 ; large, in  
 Australia, 246 ; our timber, 167  
 Trelissick, the gardens at, Truro, 435  
 Trespass-prevention, 679  
*Trias picta* and *T. vitrina*, 240  
*Trigonidium latifolium*, 294  
 Trilliums and other plants in one bed,  
 359  
 Tring Park, a remarkable Bulbo-  
 phyllum at, 726 ; notes from, 729 ;  
 Orchids at, 421  
 Trinidad, the Royal Gardens at, 611  
 Trinity College, Dublin, the botanical  
 school at, 398  
 Tucker, the horticultural works of Mr.  
 W. Duncan, 244  
 Tulip, a hybrid, 83 ; a much-branched,  
 648 ; species, Dutch names for, 682 ;  
 the florists', 532 ; English, Samuel  
 Barlow, 614 ; the, 11  
*Tulipa Batalini*, 759 ; *T. Maximow-  
 wiczii*, 757  
 Tulips, 674 ; in Philips' Park, Man-  
 chester, 618  
 Tulips, the best, 790  
 Turnip crop, the winter treatment of  
 the, 489  
 Turnip-tops a desirable vegetable, 369  
 Tyloses in Beech-root, 564  
 Tyntesfield Orchids, 85  
*Typha minima*, 682
- U**  
 ULMUS *alata*, 453, 495, 527  
 Undergrowth in game covert, 145  
 Unripe seeds, effects of growing, 110
- V**  
 VANDA *Bensoni* var. "Trister," 422 ;  
*V. bicolor*, 422 ; *V. spatulata*, 197  
 Variation after birth, 678  
 Variation, the synchronism of, 83  
 Vegetable, a new, 737  
 Vegetable Marrow, Cource Patate, 50  
 Vegetable poisoning, death of a gar-  
 dener from, 335 ; products of Persia,  
 649 ; trials at Chiswick, 619
- Vegetables, 170, 704 ; and vegetarians,  
 458, 494, 657 ; new and old favourites,  
 136  
 Vegetation in a vitiated atmosphere,  
 613 ; different rays of the solar  
 spectrum, 268  
 Veitchian Medals, presentation of the,  
 734  
 Versailles School of Horticulture, 50,  
 75  
 Victoria Park, London (London in  
 May), 671  
*Vigna strobilophora*, 8  
 Vilmoria's garden, notes from M.  
 H. L. de, 12  
 Vine, grafting the, utility of, 730  
 Vine House Gardens, Haslingden, 758  
 Vines, the bleeding of, 671  
 Vinegar from honey, 429  
 Viola Countess of Moray, 738 ; the,  
 608  
 Violet Farquhar, 238 ; *V. Lady Hume*  
 Campbell, 495 ; *V. Princess of Wales*,  
 393  
 Violets, large-sized, 499  
 Virescent *Lycaste Skinneri*, 146  
 Viticulture in New Zealand, 370  
*Vitis Coignetia*, 265 ; *V. C.* propaga-  
 tion of, 213
- W**  
 WAGENINGEN, appointment to the  
 Directorate of the School of Horti-  
 culture at, 18  
 Wallflower seed, the sowing of, 730  
 Wardian-case, filmy Ferns for the, 76  
 Warner's, Mr. Robert, garden, 683  
 Warham Court, the rockery at, 559  
 Weather in the North of Scotland, 334  
 Weather, the, 335  
 Weed-killer, death through drinking,  
 526 ; and other poisons, unlicenced  
 sale of, 18, 21, 112, 114  
*Weldeuia candida*, 296  
 Wellingtonias, flowers of, 556, 564  
 Westouirt, Gloucestershire, 433, 517  
 Wheat, mildew on, and Sir Joseph  
 Banks, 710  
 White-thorn, early budding of the  
 double-flowered, 145  
 Widford Lodge, Chelmsford, 683  
 Wild gardens and pleasure grounds,  
 74, 107  
 Williams' Memorial Medals, 83  
 Willows, propagation of, 672  
 Winchelsea's, Lord, distribution agency,  
 769  
 Wine production in France, 334  
 Winter Garden of the Count de Ker-  
 chove, 231  
*Wistaria chinensis*, 682  
 Woburn, fruit experiments at, 643  
 Woodman Memorial Fund, the Dr.,  
 735  
 Woolton Wood, Cologynes at, 424  
 Wright, S. T., of Chiswick, 240  
 Wright, presentations to Mr. S. T., 18  
 Wycombe Abbey to be sold, 47  
 Wye College, progress at, 239
- Y**  
 YUCCA *gloriosa* in bloom in Scotland,  
 677
- Z**  
 ZEALAND, New, discoveries in, 43 ;  
 the displacement and replacement  
 of the native vegetation of, 731  
*Zygopetalum* × *Perreouandi*, 367 ; the  
 raiser of, 490 ; *Z. Wendlandii*, 786

## LIST OF ILLUSTRATIONS.

- A**  
*AGAVE americana*, flowering at North-down House, Margate, 17  
 Aldenham House, Elstree, the gardens at, 295, 297  
*Alpinia nutans*, 301  
 Amateurs' Garden, view in an, 53  
*Anemone sylvestris*, fl.-pl., 739  
*Anguloa uniflora* var., 423  
 Apple, bush of Nonsuch, at Orwell Park, Ipswich, 137; A. Cox's Pomona, bush of, at East Sutton Park, 211; A. Goodwood Pippin, 399; A. Lord Hindlip, 115; A. Peasgood Nonsuch, as espalier tree at East Sutton Park, 303; A. Royal, late cooking, 114  
*Aristolochia gigas*, var. *Sturtevanti*, at Washington, 73  
*Arundinaria nobilis*, in the gardens of J. Rashleigh, Esq., 701  
 Ascott, flower parterre, with clipped shrubs, in the gardens at, 173
- B**  
 BAMBOOS in Gen. Hutchinson's garden at Bournemouth, 525  
 Bedford, portrait of His Grace the Duke of, 271, 765  
 Begonia, Duchess of Fife, 711  
 Brangwin's Garden-roller with scraper, 712  
*Brodiaea Howelli* lilacina, 767  
 Burbidge, M.A., portrait of F. W., 736
- C**  
 CAPE TOWN, view in the gardens of H. M. Arderne, Esq., 143  
 Carrot, an extraordinary, 105  
*Cattleya labiata* with two leaves, 13  
*Cineraria*, common seedlings of, 457  
*Cornus Kousa*, 783  
 Cucumber, a variegated, 533  
*Cypripedium Sanderianum*, 329
- D**  
*DENDROBIUM cymbioides*, 531; *D. Wiganiae*, 553  
 Dunn, Malcolm, portrait of, 737
- E**  
 EAST SUTTON PARK, bush of Apple Cox's Pomona at, 211; espalier-tree of Apple Peasgood's Nonsuch at, 303  
 Elm, the Wahoo or winged, 453  
 Elsfield House, herbaceous border in the gardens at, 611; view of a shady walk in the gardens at, 609  
*Epidendrum elegantulum*, 361
- F**  
 FALKLAND PARK, NORWOOD, view of the plant-houses at, 49  
 Farquhar, R., portrait of, 214  
*Freesias* as cultivated at Round Oak, Englefield Green, 521; F., varieties of, 391, 397
- G**  
 GARDEN-MACHINES driven by steam and electricity, 491  
 Ghent, winter-garden of Count de Kerchove at, 231, 233  
 Grafting Conifers, methods of, 463  
 Group of plants in Mr. Inglis Jones' garden, Derry Ormond, Cardiganshire, 763
- H**  
*HAKA multilineata* var., 85
- I**  
 IRIS, group of Spanish, at The Yew, Cambridge, 167
- J**  
 JASMINE, fruits of the common, 81  
*Juniperus drupacea*, 519
- K**  
*KLUGIA Notoniana*, 237
- L**  
 LELIA, branched pseudo-bulb of, 13  
*Lamproloma rubiella*, 595  
 Larch disease, 434, 135  
 Lindsay, Robert, portrait of, 709  
 Logan, Staurer, *Rhododendron Noble-anum* at, 333
- M**  
 MACHINES, steam and electric, for gardens, 491  
 Moplex, group of Japanese, 653
- Masdevallia** × *Shuttryana*, Chamberlain's variety, 262  
*Meconopsis cambrica*, double-flowered variety of, 671  
*Miltonia vexillaria* "Memoria G. D. Owen," 755  
 Mushrooms, gathering, from an outside bed, 41; part of a morning's picking, 43
- N**  
*NUTTALLIA cerasiformis*, 489
- O**  
*ODONTOGLOSSUM coronarium*, 79; *O. crispum* var. *augustum*, 649; *O. crispum* *Ashworthianum*, 197; *O. Erstedii*, 77  
 Orchid-house at Wexham Park, 619  
 Orchids, a tasteful method of exhibiting, 785  
 Orwell Park, *Epiphyllum truncatum* at, 9  
 Owtorpe, Bournemouth, clump of Bamboos at, 525; the conservatory at, 359
- P**  
 PEONY, tree, Florizel, 639  
 Palm house in the Jardin d'Acclimatation, Paris, 111  
 Pansy, a fancy, 727; P., model of the old florists', 726  
 Pear, *Beurré Perran*, 209  
 Pitfield Cottage, Meopham, view in the gardens at, 53  
 Plan of proposed new pleasure-grounds at St. Ives, 19  
*Posoqueria macropus*, flowers of, 587; P. m., showing habit of, 583  
 Potato-tray, an improved, 177  
 Preserve-bottles, new method of stopping, 565  
*Prunus pseudo-cerasus*, single flowered form of, 467; new variety, 517  
 Pseudo-bulb, branched, of *Lelia*, 13  
*Pyrus Sorbus*, a large specimen of, 335
- R**  
 RAGISH, a monstrous, 795  
 Raspberry-moth, the, 595  
*Rhododendron* - *Eos*, 327; R. *Mrs. W. T. Thistleton-Dyer*, 797; R. *Noble-anum*, at Logan, Staurer, 333; R. × *Numa* and its progenitors, 133; R. *Schlippenbachii*, 561  
 Richardias on lake side at Trelassick, 485  
 Roller with scraper, Brangwin's garden, 712  
 Rolleston Hall, Staffordshire, 421  
 Round Oak, Englefield Green, *Freesias* as cultivated at, 521
- S**  
 SARGENT, portrait of Prof. Chas. S., 731  
 Say, Léon, portrait of, 527  
*Scelopendrium vulgare*, var. *Daviesii*, 107  
 Scots Fir, a proliferous, 420  
*Senecio multiflorus*, D. C., 461; S. seedlings, 455  
*Sequoia gigantea* ♀, flowers of, 556; S. *sempervirens* ♀, flowers of, 556  
 Service-tree, a large specimen of the tree, 335  
*Stanhopea florida*, 265; S. *oculata* (*gut-tulata*), 264  
 St. Ives, Cornwall, plan of proposed new pleasure-grounds at, 19  
 Stopping preserve-bottles, new method of, 565
- T**  
 TEMPLE show, Wills & Segar's group at the, 638; C. Turner's group at the, 642; Sutton's growing Peas at the, 643, 651; Sander's Orchids at the, 647; Veitch's group of flowering shrubs at the, 655; the *Caladiums* at the, 673; Sander's group of foliage plants at the, 675; Messrs. Rivers' fruit-trees at the, 683  
 Trelassick, Richardias on lake-side at, 485  
 Tulip Samuel Barlow, 615  
 Tulipa *Batalini*, 759; T. *Kolpakowskyana*, 589, 591; T. *Maximowiczii*, 757
- U**  
*ULMUS alata*, 453
- V**  
 VIEW of the plant-houses at Falkland Park, Norwood, 49  
 Vilmorin, H. L. de, portrait of, 729  
 Violet Princess of Wales, 393
- W**  
 WATSONIA O'Brieni in the gardens of H. M. Arderne, Esq., Cape Town, 143  
 Wexham Park, Slough, Orchid-house at, 619  
 Winter-garden of Count de Kerchove, 231, 233  
 Wood-leopard Moth, 595  
 Woolly Oak gall, the, 657  
 Woolton Wood, Liverpool, *Colognyes* in the gardens at, 425  
 Wright, S. T., portrait of, 210
- Z**  
*ZEUZERA rescui*, 595  
*Zygopetalum Perrenondii*, 307

## SUPPLEMENTARY ILLUSTRATIONS.

- BOSAHAN, CORNWALL, VIEW IN THE GARDENS AT, March 21.  
 DASYLIRION ACROTRICHUM, A FLOWERING SPECIMEN OF, IN THE CONSERVATORY AT CORSBIE, N.B., February 15.  
 EATON HALL, VIEW IN THE ORCHID HOUSE AT, January 18.  
 GLASNEVIN, VIEW IN THE ROYAL BOTANIC GARDENS AT, April 1.  
 PEAR-TREE PITMASTON DUCHESS, AT SUMMERHILL, KINGSWINFORD, February 29.  
 PONTEDEKIA CRASSIPES, AS GROWING IN THE BOTANIC GARDEN, PORT DARWIN, June 13.  
 SNOWDROPS UNDER LIME TREES, AT STRAFFAN HOUSE, CO. KILDARE, IRELAND, June 27.  
 STRAFFAN HOUSE, CO. KILDARE, IRELAND, FROM THE BANKS OF THE RIVER LIFFEY, May 30.  
 SWINTON PARK, MASHAM, YORKSHIRE, VIEWS FROM, February 1.  
 TRELASSICK, TRURO, A WATER-SIDE VIEW IN THE GARDENS AT, April 18.  
 VIEW IN THE ROCKERY IN THE GARDEN OF C. T. LUCAS, ESQ., WARHAM COURT, May 2.

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## CONTENTS.

Belgium, notes from ... 19	Plants, new or noteworthy—	
Braehiog pseudo-bulbs of Lælia ... 12	Asplenium Perkinsi ... 8	
Cattleya labiata with two leaves ... 12	Vigna strobiliphora ... 8	
Colour in Apples ... 20	Pleasure-ground, proposed new public, for St. Ives ... 19	
Cypripedium Burtoni ... 23	Potatoes ... 20	
Epiphyllum Russellianum truncatum ... 9	Presentations ... 17, 18	
Florists' flowers ... 11	Prices of garden manures ... 21	
Chrysanthemums ... 11	Railway charges for products, reduced ... 17	
Panics ... 11	Societies—	
Tulips ... 11	Lionese ... 17	
Fruit supply of Covent Garden ... 21	Royal Horticultural ... 20, 21	
Fruit tree cordons ... 12	Strathfieldsaye ... 7	
Game covert planting ... 23	Timber, prices of British grow ... 13	
Hop culture ... 18	Timber v. Game ... 13	
Kentish Nuts ... 19	Trees and shrubs ... 12	
New year's honours ... 18	Wanted, a National Horticultural Society ... 11	
Novelties of 1895 ... 9	Week's work, the—	
Nursery notes—	Flower garden, the ... 14	
Brown, W. & Sons, Ormskirk ... 24	Fruits under glass ... 14	
Ornithogalum pseudo-bulb of Lælia ... 12	Hardy fruit garden ... 15	
Paris, notes from ... 20	Kitchen garden, the ... 14	
Pear, Catillac ... 23	Orchid houses, the ... 15	
Peotillia Castle, Saltash ... 20	Plants under glass ... 15	
Pharmaceutical Society's prosecutions ... 18, 21	Potato crop of 1895, the ... 18	

## ILLUSTRATIONS.

Agave americana at Margate ... 17
Braehiog pseudo-bulb of Lælia ... 13
Cattleya labiata with two leaves ... 13
Epiphyllum Russellianum truncatum at Orwell Park Gardens ... 9
Plan of pleasure-grounds at St. Ives, Cornwall ... 19

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" These are all SEEDLINGS. The plants usually met with  
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" GLAUCA, 4, 5, 6, 7, and 8 feet.  
CEDRUS LIBANI, 5, 6, 7, 8 to 10 feet.  
ENGLISH YEW, 4, 5, 6 to 8 feet.  
GOLDEN CHINESE JUNIPER, 4, 5, 6, 7, and 8 feet.  
GOLDEN YEW, Seedlings, perfect pyramids 4, 5, 6, and 7 ft.  
" Standards, 6, 7, and 8 feet.  
PICEA CONCOLOR } 4, 5, 6, 7, and 8 feet.  
" VIOLACEA }  
" LASIOCARPA } 6, 7, and 8 feet.  
" MAONIFICA }  
PINUS AUSTRIACA } 3, 4, 5, 6, to 8 feet.  
" LARICIO }  
THUOPSIS BOREALIS 5 to 8 feet.  
" DOLABRATA, 5 to 10 feet.  
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" HODGINS }  
" LAURIFOLIA } up to 10 feet.  
" MYRTIFOLIA }  
" GOLDEN QUEEN } 4 to 10 feet.  
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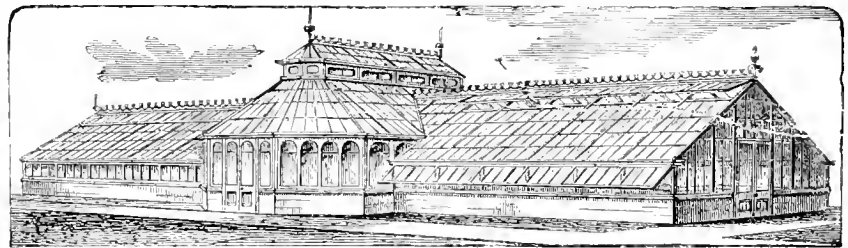
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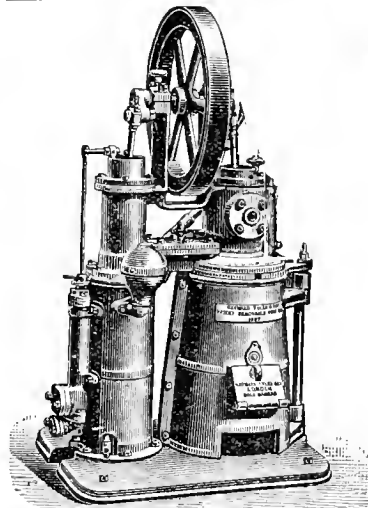
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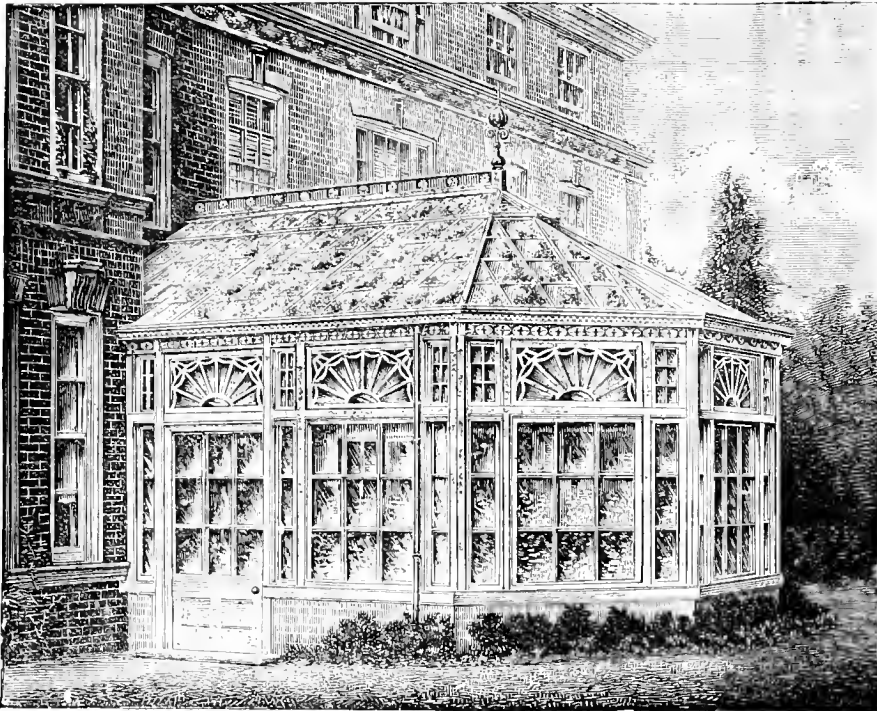
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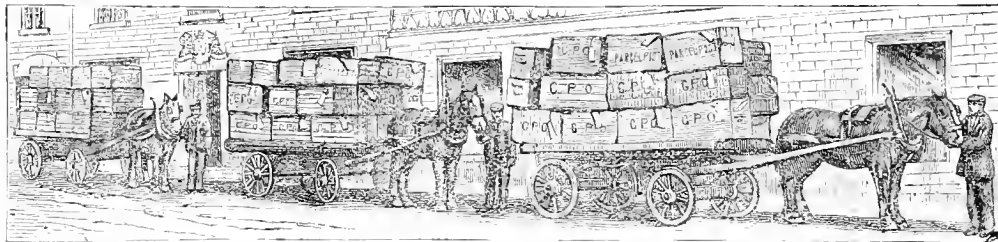
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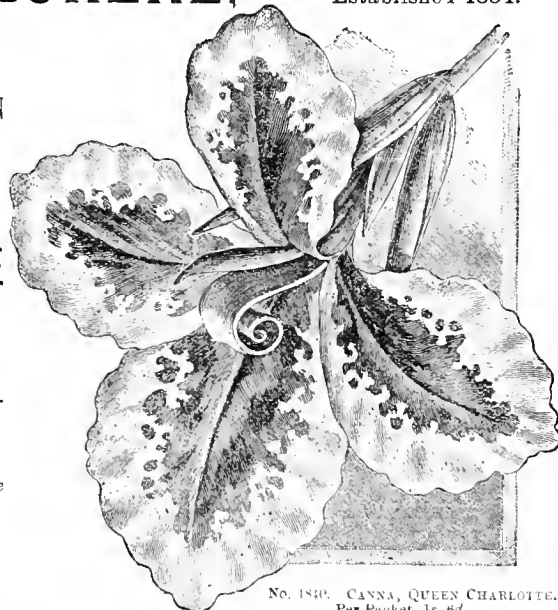
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THE

## Gardeners' Chronicle.

SATURDAY, JANUARY 4, 1896.

### STRATHFIELDSAYE.

A RUN of little more than one hour's duration from Paddington by the Great Western Railway, *via* Reading, lands the visitor to Strathfieldsaye at Mortimer Station—one of the prettiest and best-kept railway stations in the country. Travelling along a pleasant country road, through rich grazings and well cultivated land, for about 3 miles, the policies are reached, and the drive sweeps through a spacious park studded with many picturesque ancestral trees and embellished modern plantations, and thriving examples of *Conifera* and other ornamental subjects. About half a mile from the mansion the drive enters a grand avenue of stately Elms, each about 100 feet high, and many 15 feet or more in girth, standing like a row of gigantic sentinels on either side for some distance, and forming a splendid approach to the home of the great warrior, the late "Iron Duke."

Within the private grounds, we make our way towards the gardens, through a rich wealth of trees and shrubs growing with great luxuriance, and indicating the high qualities of the soil and subsoil for the nourishment of tree life. In the kitchen garden, great improvements have been carried out, and the whole place thoroughly renovated, under the skilful direction of Mr. McHattie, who took charge of the gardens and ornamental grounds in the spring of 1893. Forcing-houses and pits have been rebuilt or thoroughly repaired, exhausted borders renewed, walks remade, worthless fruit trees removed, and their places filled with the best and most productive varieties; and everything has been done that skill and experience can effect to put the place in perfect going order. Neither has the comfort and health of those employed in the gardens been overlooked, as the residences for the gardener and his assistants amply testify. These have been completely remodelled, and all the best sanitary arrangements have been introduced, which tend so much to preserve the health and add to the comforts of the occupiers. As the object of our visit was mainly to see the trees and shrubs, for which the grounds and policies are noted, and of which a fine collection of specimens of about 200 varieties was exhibited at the Conference on Trees at Chiswick, on September 29, 1894, only a hurried glance could be given to the gardens, the houses, and their contents, but it was evident on all sides that fruit, flowers, plants, and vegetables, were liberally responding to the energy and skill displayed in their cultivation. Fruit and flowers, especially *Chrysanthemums*, were of very high excellence.

Accompanied by Mr. McHattie, who is as enthusiastic an arborist as he is an able gardener,

# VEITCH'S GENUINE FLOWER SEEDS, &C.



## PHYSALIS FRANCHETI.

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Per packet, 2s. 6d.

## CAMPANULA PYRAMIDALIS COMPACTA (Syon House Variety).

This variety is quite distinct from the older form, being of dwarfer pyramidal habit, with larger flowers and a deeper blue; very sturdy and free flowering.

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Very beautiful and distinct. The flowers range from pale lavender to a deep violet. Per packet, 2s. 6d.

## TOMATO, ALL THE YEAR ROUND (NEW).

First-class Certificate R.H.S., April 23, 1895.

Very superior variety, fruit bright red, of a plum shape, solid, and of high quality. Very prolific, producing clusters at every joint. Suitable for growing under glass, or in the open ground.

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For full descriptions of the above and other choice Seeds see Catalogue for 1896, forwarded post-free on application.

# JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,  
CHELSEA, LONDON, S.W.

we proceeded to view the trees in the pleasure-grounds and policies. Entering the grounds from the kitchen garden and turning to the left, we were presently in front of an imposing group of Cedars of Lebanon, twelve in number, the largest of which towers to a height of fully 120 feet, with a massive bole girthing 12 feet at 4 feet from the ground. The Cedars have been planted and grown closely, so that their tall cylindrical stems are denuded of branches to a height of about 70 feet, and present more of the appearance of well-grown Larch stems than that of ordinary Cedars. In the same vicinity were seen some very fine Scots Firs, with the red scaly bark and clean stem that indicate high quality in the timber. To the right of the group of Cedars we entered the pinetum, and the first object to attract our attention was a fine specimen of the Douglas Fir, which however has unfortunately lost its leader in a storm, after attaining a height of about 55 feet. Still, the beauty of the tree has not been marred to any great extent, as it is a fine shapely specimen in vigorous health, and clothed to the ground. Near by are growing a well-feathered specimen of the Hemlock Spruce, said to have been planted by Loudon, the eminent landscape gardener, having a stem girthing 5 feet 8 inches at 4 feet up, and dividing into two stems at 8 feet, with a total height of 60 feet, and a spread of branches sweeping the ground, with a circumference of 174 feet; and a beautiful example of *Picea orientalis*, 74 feet in height, feathered to the ground, and from base to apex a perfect cone. Here is also one of the most interesting and notable trees in the whole collection at Strathfieldsaye, namely, one of the original, or first-introduced trees of *Sequoia* (*Wellingtonia*) *gigantea*, named after the great Duke of Wellington. It was planted where it stands by Her Grace the Duchess of Wellington on April 24, 1857. It is a handsome tree, in vigorous health, a perfect model of a *Sequoia* (*Wellingtonia*) richly clothed with branches from the greenward to the apex, and appearing to be quite at home amidst its environment. Measured in 1868, it had attained a height of 24 feet 6 inches, with a spread of branches 44 feet in circumference; and a stem girthing 6 feet at 6 inches from the ground, and 4 feet 10 inches at 2 feet up. On January 12, 1872, it measured 30 feet in height, 8 feet 7 inches in girth at the base of the stem, and 5 feet 4 inches at 4 feet from the ground, with a spread of branches 54 feet in circumference. It was measured in September, 1895, and found to be 71 feet 4 inches in height, 21 feet 6 inches in girth of stem at the base, and 16 feet 5½ inches at 4 feet up, with a spread of branches 110 feet in circumference. These dimensions compare favourably with the largest specimens of *Sequoia gigantea* in Great Britain, and the tree is among the finest of its kind to be found anywhere outside its native habitat in the mountain ranges of California. A cutting from this fine tree was struck, and when about 2 feet high it was planted out by the Princess of Wales in 1875. This has now attained a height of 30 feet, and a girth of stem of 6 feet at 4 feet from the ground, and has the handsome shape and characteristic appearance of the parent-tree.

At a short distance from the large *Wellingtonia* stand two handsome trees of the yellow-flowered Chestnut (*Pavia*), worked on the common Horse-Chestnut. They are very healthy, and highly ornamental, flowering profusely every year. A large specimen of *Pinus Cembra* was not in a thriving state, having suffered severely from the hard frosts in 1894

and 1895. A vigorous young tree of *Abies nobilis* was, on the other hand, a picture of health, and the silvery sheen of its foliage stood out in pleasing contrast with that of its more sombre congeners. A beautiful specimen, perfect in outline, of *Abies Nordmanniana* has attained to a height of 67 feet 6 inches, and is a very effective Conifer. Adjacent to this handsome Conifer is a fine example of the Holm, or Evergreen Oak, *Quercus Ilex*, bearing acorns freely, with a stem girthing 10 feet 6½ inches at 4 feet up, and rising to a height of 66 feet. A beautifully-variegated variety of the common Oak stands near at hand, with a stem-girth of 5 feet 6 inches at 4 feet up—an extra fine specimen of its kind, and bearing a fine crop of acorns among its richly-coloured foliage. A few yards outside the grounds at this point, standing in the park is a magnificent English Oak, *Quercus pedunculata*, with a solid bole girthing 22 feet 8 inches at 4 feet up. At the ground level, measured round the spurs, it girths 39 feet, and is a monarch of its kind, although there are many other majestic Oaks in the park closely approaching it in size.

Returning to the grounds, a splendid example of the Copper Beech is worthy of note, as being one of the most effective of ornamental trees when seen, as here, in its best form. A fine tree of *Taxodium* (*Sequoia*) *sempervirens* is 70 feet in height, and has a stem-girth of 12 feet at 4 feet up. The severe winter of 1894-95 has left its mark on the foliage and young growth, but the tree is fast recovering itself, and in another season the effects of the frost will be quite obliterated. A striking specimen of *Pinus Benthamiana* attracts attention from its robust habit and vigorous appearance, and has attained to a height of 69 feet 6 inches. Many other fine specimens of Conifers and broad-leaved trees are seen thriving well in the pinetum, and their number is being constantly added to by the introduction of the choicest species and varieties of ornamental trees and shrubs, among the more recent being some of the more select varieties of Conifers, Maples, Oaks, Elms, Beech, Birch, Thorn, and Pyrus. A notable feature also in the pinetum is the huge mass of *Rhododendrons* with which it is adorned. When in flower they must add greatly to the charms of this most attractive spot.

Passing from the pinetum towards the mansion, many fine ornamental trees embellish the grounds. One of the first to attract special attention was a grand example of *Ailanthus glandulosa*, standing in a fine open situation, with its leafy branches drooping all round to the surface of the lawn—an ideal tree to sit under on a hot summer's day. It girths 6 feet 2 inches in the stem at 4 feet up; and the spreading branches have a circumference of 165 feet. Standing amongst some grand clumps of Hollies, Yews, *Rhododendrons*, and other shrubs, are three curiously-gnarled Scots Firs, which lend quite an air of antiquity to the spot. Hard by grows a fine example of the Himalayan Pine, *Pinus excelsa*, its silvery foliage and soft outlines forming a marked contrast with the rugged Scots veterans. Close by stands a fine tree of the Sweet Gum, *Liquidambar styraciflua*, which is at all times a beautiful tree, but in the autumn, when it assumes its richest tints of foliage, it is a perfect gem amongst trees.

Near to what is known as the "Rook Clump," there stands a picturesque specimen of the White Birch, *Betula alba*, a rare old tree, spreading its boughs far out into shapes of grace and beauty. One of the finest forms of the cut-leaved Beech, *Fagus sylvatica aspleniifolia*, is seen flourishing

vigorously here, and is probably one of the largest specimens of its kind in the country. It girths 6 feet 6 inches at 4 feet up; and when viewed from a little distance the tree, with its delicately-out leafage, may readily be compared to a huge Maidenhair Fern. Its near neighbour is a handsome specimen of the cut-leaved Lime, both trees standing well out, and showing to great advantage in their environment. The "Rook Clump" consists chiefly of fine old Beeches, with tall clean stems and umbrageous tops, in which a colony of rooks abide. Some rugged specimens of *Pinus Pinaster* and a tall Larch with a bare stem and long drooping branches also attract notice in the clump; and on its outskirts are seen two grand specimens of the Tulip-tree, *Liriodendron tulipifera*. D.

(To be continued.)

## NEW OR NOTEWORTHY PLANTS.

### ASPLENIUM (DARÆA) PERKINSI, *Jenm., n. sp.*

Rootstock fibrous, densely clothed with finely attenuated, undulated, reticulated, castaneous scales; stipes tufted, several, channelled, glossy castaneous, 1 to 2 in. long; fronds bipinnate, oblong-lanceolate, ¾ to 1½ foot long, 2 to 4 in. wide, much reduced at the base, tapering at the apex into a filiferous naked thread 2 to 3 in. long, radiant at the end, firmly membranous, naked, pellucid, dark glossy green; rachis and costa similar to the stipes; pinnae numerous, spreading horizontally, sessile, obtuse, pinnate, 1 to 2 in. long, ¼ to ½ in. wide, alternate, with their own width or more between them; segments lax, broadly cuneate, sessile, bi or tri-lobed but not divided beyond the third or middle, 1½ to 2 lines long and wide; lobes roundly-pointed, ¾ line wide; veins simple in the lobes, not reaching the point, each bearing, medially, a single short, tumid sorus; involucre vaulted at length.

In damp forests, in the region of the Kaisteur Falls, Potaro River, British Guiana; named after Mr. H. I. Perkins, Acting Gold Commissioner of the Colony, who lately discovered it, in quantity. A slender species, tufted at the top of the fronds, very close to *A. rutaceum*, Mett., but differing by its much laxer habit, abrupt, instead of gradual, reduction of the pinnae toward the base of the fronds, and the slender, indurate, but fragile, castaneous vascular parts. *A. rutaceum*, Mett. (*Aspidium*, Willd.) was founded on *Plam. Fil. t. 57*, which differs from the plants since ascribed to it in having a truncate base, and the apex terminating in an ordinary segment, instead of having a gradually tapering base and leafless radiant tail-like extension of the rachis at the apex, which the latter show. In the pinnules, however, the chief character to go by, the plants referred to it quite correspond. Hooker's figure, plate 34, shows this character exactly, which consists in the pinnules being merely lobed at the top, but not divided into free segments. This reveals the fact that the Jamaica plant hitherto referred to *A. rutaceum*, is quite another species—the final segments being free and entire. This latter species I have described in my *Synopsis of the Jamaica Ferns* in the *Bulletin of the Botanical Department, Jamaica*, and I now propose to call it *A. Willdenovii*, Jenm. G. S. Jenman, Demerara.

### VIGNA STROBILIFERA.

This is a very recent acquisition, of which neither the novelty nor the ornamental qualities can be contested. It is a Leguminous liane, perennial, discovered in Mexico in 1893 by the traveller Pringle, and named by Professor Sargent, who sent me some seeds of it. Sown in 1894 at the foot of a wall in a favourable south aspect, the tubers passed the winter undisturbed, and flowered freely this year during October and part of November. From the strong tubers in spring, issued numerous twining stems several yards long, of which the trifoliate leaves a little resembled those of Beans. This



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11	Tu	Boy. Hort. Soc. Coms.	11	S	New Moon.	11	S	Boy. Hort. Soc. Coms.	11	Tu	Boy. Hort. Soc. Coms.
12	W	Boy. Hort. Soc. Musical Promenade.	12	F	Boy. Hort. Soc. Lecture.	12	M	Mean temp. Chiswick, 41°60'.	12	W	Boy. Hort. Soc. Musical Promenade.
13	Th	Boy. Hort. Soc.	13	S	Boy. Hort. Soc.	13	Tu	Royal Hort. Soc. Coms.	13	Th	Boy. Hort. Soc.
14	F	Brussels Orchideenne meet.	14	M	Brussels Orchideenne meet.	14	W	Boy. Hort. Soc. Coms. (Roses).	14	F	Boy. Hort. Soc. Coms. (Roses).
15	S	Dr. Hugh Cleghorn d. 1895.	15	Th	Brussels Orchideenne meet.	15	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	15	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
16	M	Standing after Ascension.	16	Fr	Brussels Orchideenne meet.	16	Fr	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	16	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
17	W	Standing after Ascension.	17	S	Brussels Orchideenne meet.	17	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	17	W	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
18	Th	Standing after Ascension.	18	M	Brussels Orchideenne meet.	18	F	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	18	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
19	Fr	Standing after Ascension.	19	Tu	Brussels Orchideenne meet.	19	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	19	Fr	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
20	S	Standing after Ascension.	20	W	Brussels Orchideenne meet.	20	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	20	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
21	M	Standing after Ascension.	21	Th	Brussels Orchideenne meet.	21	Tu	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	21	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
22	W	Standing after Ascension.	22	Fr	Brussels Orchideenne meet.	22	W	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	22	W	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
23	Th	Standing after Ascension.	23	S	Brussels Orchideenne meet.	23	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	23	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
24	Fr	Standing after Ascension.	24	M	Brussels Orchideenne meet.	24	F	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	24	Fr	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
25	S	Standing after Ascension.	25	Tu	Brussels Orchideenne meet.	25	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	25	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
26	M	Standing after Ascension.	26	W	Brussels Orchideenne meet.	26	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	26	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
27	W	Standing after Ascension.	27	Th	Brussels Orchideenne meet.	27	Tu	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	27	W	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
28	Th	Standing after Ascension.	28	Fr	Brussels Orchideenne meet.	28	W	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	28	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
29	Fr	Standing after Ascension.	29	S	Brussels Orchideenne meet.	29	Th	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	29	Fr	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
30	S	Standing after Ascension.	30	M	Brussels Orchideenne meet.	30	F	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	30	S	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).
31	M	Standing after Ascension.	31	Tu	Brussels Orchideenne meet.	31	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).	31	M	Boy. Hort. Soc. Prom. Geneva Exp. temp. Show (6 days).

## SEPTEMBER.

## OCTOBER.

## NOVEMBER.

## DECEMBER.

1	Tu	Nat. Chrysanth. Show (Dulhais, Gladhols, Chrys., etc.) (3 days).	1	Th	Boy. Hort. Soc. Show of Fruits at Crystal Palace (3 days). Pleasant shooting begins.	1	S	Boy. Hort. Soc. of Ghent.	1	Tu	Nat. Chrysanth. Soc. Winter Exp. (3 days).
2	W	Mean temp. Chiswick, 59°6'.	2	F	Mean temp. Chiswick, 54°5'.	2	M	Mean temp. Chiswick, 47°5'.	2	W	Mean temp. Chiswick, 41°9'.
3	Th	Mean temp. Chiswick, 59°6'.	3	S	I. of W. Hort. Assoc.; Soc. Frang. d'Hort. Meet.	3	Tu	Nat. Chrys. Soc. Jubilee Exp. (1 day). Sun rises, 6h. 50m.; sets 4h. 20m.	3	Th	Mean temp. Chiswick, 41°9'.
4	F	Sun rises, 5h. 19m.; sets 6h. 40m.	4	S	Boy. Hort. & Agr. Soc. of Ghent.	4	W	Exeter Fruit and Chrysanthemum (2 days). New Moon.	4	F	New Moon.
5	S	I. of W. Hort. Assoc.; Soc. Frang. d'Hort. Meet.	5	M	Sun rises 6h. 8m.; sets 5h. 29m.	5	Th	Exeter Fruit and Chrysanthemum (2 days). New Moon.	5	S	I. of W. Hort. Assoc.; Soc. Frang. d'Hort. Meet.
6	S	Boy. Hort. and Agr. Soc. of Ghent.	6	Tu	National Chrysanth. Soc. Autumn Show (3 days). New Moon.	6	F	I. of W. Hort. Assoc.; Soc. Frang. d'Hort. Meet.	6	S	Boy. Hort. & Agr. Soc. of Ghent.
7	M	New Moon.	7	W	Boy. Hort. Soc. Coms. Moon, 1st quart.	7	S	I. of W. Hort. Assoc.; Soc. Frang. d'Hort. Meet.	7	M	New Moon.
8	Tu	Boy. Hort. Soc. Coms.	8	Th	Royal Hort. Soc. Coms. Moon, 1st quart.	8	S	Brussels Orchideenne meet.	8	Tu	Boy. Hort. Soc. Coms.
9	W	Boy. Hort. Soc. Coms.	9	Fr	Royal Hort. Soc. Coms. Moon, 1st quart.	9	M	Brussels Orchideenne meet.	9	W	Boy. Hort. Soc. Coms.
10	Th	Exhib. of Produce from Small Holdings, Bot. Gdn., Manchester.	10	S	Brussels Orchideenne meet.	10	Tu	Royal Hort. Soc. Coms.; Kingston Chrys. Show (2 days). Hanley Chrysanth. Soc. (2 days).	10	Th	Boy. Hort. Soc. Coms.
11	F	Exhib. of Produce from Small Holdings, Bot. Gdn., Manchester.	11	S	Brussels Orchideenne meet.	11	W	Huntingham Chrysanth. Show (2 days).	11	F	Boy. Hort. Soc. Moon, 1st quart.
12	S	Exhib. of Produce from Small Holdings, Bot. Gdn., Manchester.	12	M	Brussels Orchideenne meet.	12	Th	Hezarde Chrysanth. (2 days). Moon, 1st q.	12	S	Brussels Orchideenne meet.
13	S	Brussels Orchideenne meet.	13	Tu	Royal Hort. Soc. Coms. Moon, 1st quart.	13	F	Stockport Chrysanthemum (2 days).	13	M	Brussels Orchideenne meet.
14	M	Moon, 1st quart.	14	W	National Swiss Exhib. closed.	14	S	Boy. Hort. Soc.	14	Tu	Royal Hort. Soc. Coms.
15	Tu	Moon, 1st quart.	15	Th	National Swiss Exhib. closed.	15	S	Ghent Chrysanth. Show (3 days).	15	W	Boy. Hort. Soc. Moon, 1st quart.
16	W	Moon, 1st quart.	16	Fr	National Swiss Exhib. closed.	16	M	Ghent Chrysanth. Show (3 days).	16	Th	Boy. Hort. Soc. Moon, 1st quart.
17	Th	Hugh Low died, 1893.	17	S	29th Sunday after Trinity.	17	Tu	Newcastle-on-Tyne Chrys. Show (2 days).	17	F	Boy. Hort. Soc. Moon, 1st quart.
18	F	Dr. Johnson born, 1709.	18	M	Night long, 13h. 34m.	18	W	Edinburgh Chrysanthemum Show (3 days).	18	S	Boy. Hort. Soc. Moon, 1st quart.
19	S	Sun rises 5h. 42m.; sets 6h. 50m.	19	Tu	Full Moon.	19	Th	Edinburgh Chrysanthemum Show (3 days).	19	Th	Boy. Hort. Soc. Moon, 1st quart.
20	S	14th Sunday after Trinity.	20	W	Full Moon.	20	F	March. Chrys. Sh. at Town Hall (2 days). Moon full. Sun rises 7h. 29m.; sets 5h. 50m.	20	M	Boy. Hort. Soc. Moon, 1st quart.
21	M	Full Moon.	21	Th	Mean temp. Chiswick, 18°1°; C. F. Raunce died, 1850.	21	S	25th Sunday after Trinity. R. Gilbert d. 1895.	21	Tu	Boy. Hort. Soc. Moon, 1st quart.
22	Tu	Geneva Ex. temp. Show (23 days).	22	Fr	Mean temp. Chiswick, 18°1°; C. F. Raunce died, 1850.	22	S	25th Sunday after Trinity. R. Gilbert d. 1895.	22	W	Boy. Hort. Soc. Moon, 1st quart.
23	W	Geneva Ex. temp. Show (23 days).	23	S	Mean temp. Chiswick, 18°1°; C. F. Raunce died, 1850.	23	M	Mean temp. Chiswick, 41°60'.	23	Th	Boy. Hort. Soc. Moon, 1st quart.
24	Th	Mean temp. Chiswick, 56°1°.	24	S	21st Sunday after Trinity. Sun rises 6h. 48m.; sets 5h. 40m.	24	Tu	Royal Hort. Soc. Coms.	24	Fr	Boy. Hort. Soc. Moon, 1st quart.
25	F	Mean temp. Chiswick, 56°1°.	25	M	21st Sunday after Trinity. Sun rises 6h. 48m.; sets 5h. 40m.	25	W	Royal Hort. Soc. Coms.	25	S	Boy. Hort. Soc. Moon, 1st quart.
26	S	Peter Grievé d. 1895.	26	Tu	Royal Hort. Soc. Coms.	26	Th	Royal Hort. Soc. Coms.	26	M	Boy. Hort. Soc. Moon, 1st quart.
27	F	17th Sunday after Trinity.	27	W	Royal Hort. Soc. Coms.	27	Fr	Royal Hort. Soc. Coms.	27	Tu	Boy. Hort. Soc. Moon, 1st quart.
28	S	Louis Pasteur d. 1895.	28	Th	Torquay Chrysanth. Show.	28	S	Boy. Hort. Soc. Moon, 1st quart.	28	W	Boy. Hort. Soc. Moon, 1st quart.
29	M	Michaëlas Day.	29	Fr	Mean temp. Chiswick, 37°6'.	29	Th	Boy. Hort. Soc. Moon, 1st quart.	29	Th	Boy. Hort. Soc. Moon, 1st quart.
30	Tu	Michaëlas Day.	30	S	Mean temp. Chiswick, 37°6'.	30	F	Boy. Hort. Soc. Moon, 1st quart.	30	Fr	Boy. Hort. Soc. Moon, 1st quart.
31	W	Mean temp. Chiswick, 37°6'.	31	M	Mean temp. Chiswick, 37°6'.	31	S	Boy. Hort. Soc. Moon, 1st quart.	31	M	Boy. Hort. Soc. Moon, 1st quart.

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shoot of the second year's growth grow rapidly, and from the end of the summer there were seen forming in the axils of the leaves cone-shaped or strobile-like inflorescences, the length and breadth of a finger, formed of large imbricated bracts which covered the growing flowers. In the progress of their growth these strobile-like heads developed into large bunches of papilionaceous flowers a little smaller than those of a *Pee*, rosy white as to the standard, and the carina and wings of a beautiful purple colour. This blooming is remarkable, and it is not

of blossom, freedom to produce it, and the ease with which the plants can be grown. The varieties commonly met with in gardens are *E. Russellianum*, *E. R. tricolor*, *E. R. violaceum*, and *E. R. superbum*. Grown from cuttings struck in the months of February and March onwards, these plants form capital materials for furnishing hanging-baskets,  *jardinières* small vases for use on the dinner-table, or pots, to add a little colour to the sombre tints of the intermediate-house and conservatory during the winter. And the period during which a good stock

of *phylam truncatum*, grown both as pyramids and standards, and find them very useful and beautiful subjects for the decoration of the conservatory during the months of November and December." A few new varieties of *Epiphyllum* have appeared in recent years, notably *E. t. Makoyanum* and *E. t. Gaertneri*. The latter differs from most of the older forms, and from *E. t. Makoyanum*, by the greater breadth of its fleshy-jointed branches, and its larger and more brilliant-coloured flowers, which are of a cinnabar-red. *E. Makoyanum* has the terminal joints fringed with stiff hairs; its petals are shorter, and the colour a lighter scarlet.



FIG. 1.—EPIPHYLLUM TRUNCATUM AT ORWELL PARK.

without due reason that the introducer of this plant compares it to that of the *Wistaria*, so well-known in our gardens. It should rank among the most decorative plants which we have yet received from Mexico, and will be a treasure for greenhouses in the north, and for gardens in the warm parts of the south of Europe, where it would cover trellises or arbours. *Ch. Naudin, Revue Horticole*, p. 585, December 16.

EPIPHYLLUM TRUNCATUM.

AMONGST the gay *Cactus* tribe of plants which can be had in bloom early or late in the year, we have none to rival the varieties of *Epiphyllum truncatum* for brilliant coloring, and varied beauty

of plants will furnish flowers is of considerable length, seeing that gentle forcing will bring early matured plants into bloom at the end of the autumn, and a succession may easily be kept up till the spring. It is usual to graft the *Epiphyllum* on a stout-growing *Cereus*, or on *Pereekia aculeata* (*Barbados Gooseberry*), *Cereus grandiflorus* (the night-flowering), *C. multangularis*, and others similar, which make excellent stocks for them. The plant which we illustrate (fig. 1), was grown by Mr. Wallis, the gardener at Orwell Park, Ipswich, who says the "dimensions of the largest plant is 6 feet 6 inches high, and 3 feet 6 inches through, and the other same height, but not quite so far through. The photos were taken on November 18 by an amateur friend. Altogether we have several large plants of *Epi-*

NOVELTIES OF 1895.

THE history of horticulture can show probably no instance of success attending the gardener's art in regard to floriculture so marked as that of the last few years. In the rapidly-growing field of Orchid hybridising. Those who beheld with more curiosity than admiration the few earliest productions, never imagined the wealth of beauty which would be created in that direction by the year 1895; and it is only reasonable to infer that even those of us who are more enlightened on the subject of cross-breeding than our predecessors, have yet many startling revelations to witness when the minute progeny of the unending combinations of species and varieties present and prospective arrive at maturity and bear blossoms. First in this field, it is but natural that Messrs. J. Veitch & Sons, of King's Road, Chelsea, should keep in the van of the band of Orchid hybridists, and their novelties of 1895 have been well worthy of their reputation. Two fine new hybrid *Phalaenopsis*, *P. x Ariadne* (*Stuartiana* ♂, *Aphrodite* ♀), and *P. x Luddeviolecea* (*Luddemanniana* ♂, *violacea* ♀), deserve special mention, for seedling *Phalaenopsis* are extremely difficult to rear. Late in the year Messrs. Veitch brought out *Laelio-Cattleya x Lady Rothschild* (*C. Warscewiczii* ♂, *L. Perrinii* ♀), one of the most charming novelties of the season; and *Calanthe x Harrisii*, the finest pure white *Calanthe* of the *Veitchii* class; and previously they had raised a very singular hybrid of the *C. veratrifolia* section, *C. x manco-tricarinata*, with pretty flesh-coloured flowers. From the favourite *Cattleyae*, Messrs. Veitch have evolved *C. x Macraea* (*superba* ♂, *Warscewiczii* ♀), *C. x Eros* (*Walkeriana* ♂, *Mossii* ♀) which received a First-class Certificate at the Royal Horticultural Society on August 13, and several varieties of the robust and bright-coloured *C. x Mantinii* (*Dowiana* ♂, *Bowringiana* ♀), which first appeared with M. G. Mantin of Paris. Of the hybrids between *Laelia* and *Cattleys*, they have *Laelio-Cattleya x Myra* (*L. flava* ♂, *C. Trianaei* ♀), a charming, soft primrose flower; *L. C. x Eunomia* (*C. Gaskelliana* ♂, *L. pumila Dayana* ♀), *L. C. x Semiramis* (*C. Gaskelliana* x *L. Perrinii*), *L. C. x Isis* (*C. x Marsteronensis* ♂, *L. pumila* ♀), and *L. C. x Euphrosyne* (*C. Warscewiczii* ♂, *L. pumila Dayana* ♀), all distinct, showy, and of compact growth. Of hybrid *Dendrobium*, Messrs. Veitch's best hit was the extraordinary *D. x illustre* (*Dal-housieanum* ♂, *chrysotoxum* ♀); and of *Cyprripedium*, *C. x Norma* (*Niobe* ♂, *Spicerianum* ♀), *C. x Metis* (*philippinense* ♂, *Boxallii* ♀), *C. x Minoea superba* (*Arthurianum* x *Spicerianum*), and *C. x Carnationum*, Veitch's var., which has lower sepals extraordinarily enlarged and divided. Messrs. Veitch also imported and first flowered the noble *Cirrhopetalum robustum*, Blume; the pretty *Coclogyne Veitchii*, and various other species.

Sir Trevor Lawrence, Bart., who cares alike for the species and for the hybrids, and who, while being our most successful amateur cultivator in bringing out new Orchids, by good cultivation evolves beauty previously unsuspected from selected varieties of well-known species. During the year, one of the most interesting of showy species flowered at Burford, viz., the orange-coloured *Luddemannia triloba*, and there also the first flower of the gigantic *Bulbophyllum grandiflorum*, Blume, first saw the light;

the known but extremely rare *Dendrobium Treacherianum* flowered as it never had been flowered before; the singular and handsome *Disa longicornu* bloomed for the first time; and many other events interesting to botanists took place; while the lovers of garden hybrids were met with the handsome *Cypripedium* × *platycolor* (C. *Stonoi* *platytenium* × C. *concolor*); C. × *Pelletianum*, "Barford Beauty," C. × *Eleanor* (*selligerum majus* × *superbiens*), *Masdevallia* × *Sauttryana*, and other handsome hybrids raised at Barford.

Baron Sir H. Schroder excels in fine varieties of Orchids of every class, and in the hands of his gardener, Mr. H. Ballantine, they put on their best form. At the Temple Show many new forms of *Ontoglossum* were exhibited, and throughout the year many good things from The Dell have been brought before the Orchid Committee of the Royal Horticultural Society. Among them we noted the fine natural hybrid *Phalenopsis* × *Yongiana*; the magnificent *Cattleya Mendeli Dellenis*, a noble specimen of the pretty *Dendrobium Hildebrandti*, and quite recently a charming white natural hybrid *Lælia* of the L. × *Finkeniana* type, *Lælia* × *Finkeniana Schroderi*.

From Lord Rothschild's gardens at Tring Park (gr., Mr. E. Hill), has been exhibited the new, wholly purple-lipped *Cattleya Warcewiczii* *Rothschildiana*; and from the rich collection of botanical Orchids formed by the Honble. Walter Rothschild, have been shown the ornate *Cirrhopetalum Rothschildianum*, the showiest of the plume-bearing section; the pretty and rare *C. gamosepalum*; and *Aërides cylindricum*, both of even greater interest than many hitherto unrecorded species; the showy *Lælia flava*, var. *aurantiaca*, and other pretty plants.

To Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Wm. Murray), fell the honour to carry off the Royal Horticultural Society's prize for the best hybrid Orchid of the year with *Phalis* × *Cooksonia* (*Humboldtii* ♀, *grandifolia* ♂); and among other good things he has shown the fine white *Cattleya labiata Cooksonia*; *Dendrobium* × *Murrayi* (*nobile* ♀, *albo-sanguineum* ♂); and *D. Astrea* (*anreum* ♀, *crassinode* ♂), both good.

Among the numerous new Orchids shown by Messrs. F. Sander & Co., St. Alban, the best were of the species *Zygopetalum* (*Bollea*) *Schroderianum*, a fine white flower; *Angraecum Eclerianum*, previously known, but not introduced; *Batemannia peruviana*, *Lycaste Dyeriana*, a quaint species, with the habit of growth and arrangement of its greenish flowers of *Cattleya citrina*; *Celoglyne carinata*, C. *Micholitzii*, and C. *Balfouriana*, all good and distinct; the handsome white *Dendrobium Donnesia* (first flowered by Mr. Bradshaw, of Southgate), the new Bornean *D. speciosissimum*; several new spotted forms of *Ontoglossum crispum*, of which the fine yellow O. c. Sander's *Monarch* is the most distinct; the handsome *Anacochilus Sanderiana*, the pretty *Masdevallia Forgetiana* and M. *eclyptrata*, the showy *Trichopilia brevis*, *Microstylis macrochila*, and many other interesting plants, as well as having the unique good fortune to introduce for the first time in some number the noble white *Lælia*-like *Dendrobium Johnsonia*. The hybrids at this nursery were in 1895 both many in number as well as excellent in quality. Those especially noteworthy are *Cattleya* × *Fowleri* (*Leopoldi* × *Hardyana*), C. × *Miss Measures* (*Ludemanniana* ♀, *velutina* ♂), *Lælio-Cattleya* × C. G. *Roebling* (*purpurata* ♀, *Gaskelliana* ♂), *Lælio-Cattleya* × D. S. *Brown* (C. *Triarai* ♀, L. *Schilleriana* ♂), *Sobralia* × *Amesiana* (S. *xantholeuca* ♀, S. *Wilsoni* ♂); and among the *Cypripediums*, C. × *Marchioness of Salisbury* (C. *bellatulum* × C. *barbatum superbum*), C. × *Chas. Steinmetz* (C. *philippinense* var. *Rebeleni* × C. *Lawrenceanum*); C. × J. H. *Berry* (C. *Harrisianum superbum* × C. *concolor*); C. × *Madame G. Troffant* (C. *ciliolare* × C. *Stonoi*); C. × *Fordianum* (C. *Stonoi* × C. *callosum*); C. × *Spicero-niveum*; C. × *Clement Moore* (C. *Dauthieri* × C. *Leeanum*); C. × A. de *Lacresse* (C. *Curtisi* × C. *Rothschildia-*

*num*); C. × *Fowlerianum* (C. *Harrisianum superbum* × C. *bellatulum*); C. × *Fran Ida Brandt* (C. *Io grande* × C. *Yongianum*); C. × *Mrs. Fred. Hardy* (C. *superbiens* × C. *bellatulum*); C. × *Svend Branson* (C. *Lowii* × C. *Curtisi*); and C. × A. J. *Herrington* (C. *Leeanum* × C. *antheranthum superbum*).

Messrs. Charlesworth & Co., Ilston, Bradford, have the honour of being the importers of the spotless white *Cypripedium bellatulum album*, the clear yellow *Dendrobium velutinum*, D. *Hildebrandi*, D. *chryseoprepis*, *Cryptophoranthus obovifolius*, and *Lælia tenebrosa* var. *Charlesworthii*.

To Messrs. B. S. Williams & Son, Paradise and Victoria Nurseries, Holloway, N., the credit is due of introducing *Catasetum apendens areum*, *Zygopetalum* (*Pescatorea*) *Roezii rosea*, *Cypripedium* × G. H. *Rogers*, and others; and Messrs. W. L. *Lewis & Co.*, Southgate, N., with the fine-looking *Cypripedium* × *Ashton*, and some other novelties.

Messrs. Hugh Low & Co., Clapton, among other good plants introduced by them, showed *Dendrobium speciosissimum*, D. *sanguineum*, the clear yellow-coloured *Cypripedium insigne* var. *Laura Kimball*, the fine *Cattleya Mendeli grandis*, the white C. *labiata Lowii*, which has a velvety, rich purple-coloured blotch on the lip, nearly approaching C. L. *Cooksonia*; *Ontoglossum* × *Wilckeanum Lowii*, and *Cypripedium* × *Gertrude Hollington* (C. *ciliolare* × C. *bellatulum*), which was raised by A. J. *Hollington, Esq.*, of Enfield (gr., Mr. Ayling), who is likewise the raiser of C. × *A. Fred Hollington*, a very handsome hybrid out of C. *Curtisii*.

Among amateurs who have exhibited showy flowers during the year, Thomas Scatter, Esq., of Stand Hall, Whitefield, Manchester, is, as usual, to the fore, his forms of *Cattleya aurea* being extremely fine, especially C. a. *Johnsoniana* and C. a. *Marantina*; *Cypripedium* × *Lord Derby* is, so far as we know of, by far the finest of the section to which it belongs; and *Cattleya superba alba* is a superb variety. The same variety, it may be remarked, also flowered with *Eljah Ashworth, Esq.*, at Harefield Hall, Wiltshire, Cheshire; *Dendrobium* × *Cassiope Ashworthii*, and other new varieties, flowered in the same garden. Mr. Ashworth is also the possessor of the only specimen of the pure white *Dendrobium Phalenopsis hololeuca*. W. Thompson, Esq., of Walton Grange, Stone, exhibited *Ontoglossum crispum* "The Bride;" *Cattleya labiata corulea*, and C. L. *Thompson's* var., two fine varieties; and the uncommonly handsome form of this valuable winter-flowering species, named C. *labiata Broomeana* came from Joseph Broome, Esq., at Llundudno, whose collection of Orchids is famed for the showy *Cattleyas* that it contains.

The novelties exhibited by D. B. *Crawshaw, Esq.*, of Rosefield, Sevenoaks (gr., Mr. Cooke), consisted of *Lælia anceps Crawshawana*, L. a. *Rosefield* var.; *Ontoglossum triumphans*, var. *Lionel Crawshaw*; O. *Uro-Skinneri*, *Crawshaw's* var., and *Cattleya Mendeli Princess of Wales*, all of much excellence in their respective classes.

Of fine novelties shown by Sir Frederick Wigan, of Clare Lawn, East Sheen (gr., Mr. W. H. Young), were *Cypripedium bellatulum album*, *Lælia grandis*, Wigan's var.; L. *purpurata*, *Richmond Gem*, and *Cattleya Moesia*, *Lady Wigan*, a white form, which found many admirers on the occasion of its being shown at the Temple Show.

Some of the prettiest hybrid Orchids of the season in their respective classes were exhibited by C. L. N. *Ingram, Esq.*, Elstead House, Godalming (gr., Mr. T. W. Bond). Noteworthy were *Cattleya* × *Lady Ingram* (C. *Eldorado* × C. *Dowiana aurea*), a pretty and fragrant flower, *Lælio-Cattleya* × *Obello* (C. *maxima* × L. *elegans Turneri*), a showy rose and crimson hybrid; C. × *Cecilia* (C. *Lawrenceana* × C. *Triarai*); and *Lælio-Cattleya* × *Chas. Darwin*, besides a variety the result of L. C. *elegans* cross.

#### CONTINENTAL EXHIBITS.

Some of the finest were the grand forms of *Catasetum* from Messrs. *Linden, l'Horticulture Internationale*, Brussels, and which are likely to give an impetus to the cultivation of this extra-

ordinary, but rather neglected genus. The finest of those shown was undoubtedly *Catasetum imperiale*, which was awarded a First-class Certificate at the Royal Horticultural Society. Those who saw these *Catasetums* at the time, were struck with the peculiar beauty of C. *Lindeni*, C. *mirabile*, and others. Some few fine hybrids came from the collections of M. *Jules Hye-Lyssen*, M. A. *Peeters*, and others, in sufficient quantity to show that the year was fairly productive on the continent as in our own country.

Orchid novelties or re-introductions figured in the *Gardeners' Chronicle* during the past year:—

- Aërides cylindricum*, Lindl., March 30, p. 393.
- Batemannia peruviana*, May 4, p. 551.
- Bollea Schroderiana*, April 20, p. 497.
- Bulbophyllum grandiflorum*, Blume, April 6, p. 429.
- Catasetum imperiale*, C. *mirabile*, and C. *Lindeni*, March 16, p. 329.
- C. *tabulare* var. *rhizophorum*, July 13, p. 43.
- Cirrhopetalum Rothschildianum*, Nov. 23, p. 609.
- Cirrhopetalum robustum*, June 22, p. 771.
- Cypripedium* × *Lord Derby*, Sept. 23, p. 357.
- Cypripedium Kimballianum*, June 29, p. 801.
- Cypripedium* × *Gertrude Hollington*, May 25, p. 644.
- Cypripedium* × *Madame Jules Hye*, Jan. 26, p. 117.
- Cypripedium* × *Mrs. Fred Hardy*, Jan. 26, p. 111.
- Cypripedium* × *Olenus*, May 18, p. 613.
- Dendrobium Hildebrandi*, July 27, p. 93.
- Dendrobium* × *illustre*, July 6, p. 15.
- Dendrobium Phalenopsis hololeuca*, October 5, p. 397.
- Disa* × *Kewensis*, September 7, p. 273.
- Disa longicornu*, June 29, p. 791.
- Houlletia tigris*, November 9, p. 519.
- Lælio-Cattleya* × *Fowleri*, August 31, p. 245.
- Lælio-Cattleya* × *Clonia superba*, October 12, p. 421.
- Ludemannia triloba*, December 14, p. 713.
- Masdevallia melanoxantha*, March 23, p. 359.
- Microstylis macrochila*, September 21, p. 325.
- Ontoglossum triumphans Lionel Crawshaw*, April 20, p. 489.
- Ontoglossum Pescatorei leucoxantha*, May 25, p. 681.
- Polycycnis Lehmanni*, August 31, p. 245.
- Trichopilia brevis*, November 30, p. 641.

(To be continued.)

## ORCHID NOTES AND GLEANINGS.

### CYMBIDIUM TRACEYANUM.

This fine plant was illustrated in the *Gardeners' Chronicle* in 1891, p. 137, from the specimen in Baron Schroder's collection, and this plant was, for a time, the only one known to exist. Its supposed parentage was C. *grandiflorum* (*Hookerianum*) × C. *giganteum*, and much curiosity has been displayed as to the correctness of this supposition, and also as regards the native locality of the plant. Of late several specimens have come for naming, chiefly from the north, and one correspondent, writing from Philiphaugh, Selkirk, who sent a flower of C. *giganteum* and another of C. *Traceyanum*, gives the following interesting particulars:—"Both these *Cymbidiums* are from one importation, and were received from a friend of Mr. Steel, in Barnah. They were very small plants when we got them, and they now will fill 9-inch pots, and are flowering for the first time, carrying two fine spikes of seventeen and eighteen flowers respectively."

These isolated plants, received by different persons, seem to indicate that C. *Traceyanum* is not found in quantity. It probably only grows in small areas, and where C. *grandiflorum* and C. *giganteum* mingle or approach each other. J. O'B.

### SOBRONITIS GRANDIFLORA.

This is a grand Orchid when under good cultivation. In one of the cool houses of Mr. Sidebottom, Erisdene, Bowdon, there were recently about a score of plants, each bearing from twelve to twenty flowers of large size, and of that beautiful vermilion colour which is so captivating in any flower, and



especially so in an Orchid. These plants are grown in shallow pans, suspended from the roof, and rather freely potted; indeed, this dwarf-growing Orchid does not relish hard-and-fast block treatment. I used to grow it to a largish size, treated liberally as to pot-room. This treatment is adopted in Mr. Sidebottom's house, and it answers admirably. Suspended in juxtaposition to a fine lot of *Cypripedium insigne*, densely flowered, and with large-sized slippers, too, the plants at once took the eye. The lesson taught is not to starve the plants, and keep them moderately cool. *J. A.*

### WANTED, A NATIONAL HORTICULTURAL SOCIETY.

In several of your contemporaries, as also in your own columns, the desire for a National Society of Horticulture has recently been expressed; in a word, it now seems desirable that the Royal Horticultural Society should really become the Royal Horticultural Society of Great Britain, even if not of Ireland as well. Some years ago the Society did attempt the holding of provincial shows, but with the solitary exception of that held at Bury St. Edmunds, I believe, they were financial disasters. Although it is no use fighting against the results apparent, and the experience then obtained, still, there may be other fields rich enough to repay cultivation. With some little organisation and application it might be possible to affiliate all the best local and provincial societies with the Royal Horticultural Society, and in populous centres, such as Liverpool, Manchester, Birmingham, Edinburgh, &c., the Royal Horticultural Society might appoint local assistant-secretaries, or even special committees, to act in the interest of the Society, and in the cause of horticultural progress generally. As it is, the Royal Horticultural Society is chiefly a metropolitan society, or rather one of many metropolitan societies, a fact that is to be deplored, seeing that there might be an enormous saving of working expenses if the work of several, even if not all of these societies could be centralised. "Competition" may be "good for trade," but there is a heavy loss entailed all the same.

If it should be found impracticable to appoint local sub-secretaries, or local committees, possibly delegates could be appointed from amongst existing Fellows of the Royal Horticultural Society to visit the great provincial exhibitions, with power to make any special awards of medals or certificates to really deserving objects of culture or production, in harmonious accord with local judgment, of course, whenever possible. Of course, I know that the whole question involved is a complex one, and that many practical difficulties will have to be faced and overcome; still it is thought both by myself and others in the craft, that no time should be lost in endeavouring at all events to lift the Royal Horticultural Society from the "metropolitan trade route" it at present pursues, into a free and open "overland route."

No one condemns the trade, of course, for the great and generous aid they have constantly given to our Society, even although such aid may in a few cases be merely given as *quid pro quo*; nor, on the other hand, can anyone honestly and wisely blame the Society for turning such assistance as the trade has proffered, or given from time to time, to the best financial advantage. At the same time there is a higher and wider point of view, and it has long been felt that our Society should strive to occupy a more honourable and broader position, not one of merely metropolitan interest, great as that may be, nor of trade interests, important as they also may be to a limited section of the Fellows; but that much more than all this could and should be done.

The main point is, how to reduce all the best suggestions that are being periodically made to practice? It seems quite clear that provincial horticulturists take but a slight interest in the Society; hence it follows that the Society must go out to them in some form or other—to be

decided on by its executive, of course. The delegate plan seems to be at once feasible, practical, and comparatively inexpensive to boot. There is plenty of local capital and intelligence to work really excellent exhibitions, on which the Royal Horticultural Society might set its hall-mark, and bestow some of its prestige with good results all round. Both the Society and its publication, that is to say, the *Journal*, would gain by this plan being adopted; or, again, would it not be possible and practical to invite all the Fellows of the Society, and other distinguished amateurs and professional gardeners who are not Fellows, to send photographs, and to report from time to time any interesting facts as to the flowering or fruiting of any rare trees, shrubs, or plants, or of special crops grown in their neighbourhood, such information to be edited and condensed if necessary for the society's *Journal*. In this way a vast amount of valuable information from all parts of the country could be easily and cheaply obtained. Of course, the Frost and Fog reports are not forgotten; but my idea is to have a permanent running report of contemporary horticulture from all parts of the country.

There is another point affecting the awards of the Royal Horticultural Society; they are, no doubt, carefully and honourably made in most cases, but they are confined within bounds that are nowadays far too narrow, and in this way the interest of our craft generally suffers, and with that also our interest in the society itself.

Fruits, vegetables, flowers, trees, shrubs, and other new plants (especially Orchids) are honoured with certificates and medals, but how rarely is the real art and science of gardening honoured or commended in any way. To name a case in point: there is now being published one of the great practical works of our era, a work that ought to be the textbook for gardeners for the next ten years. I allude to Oliver's translation of Karner's great *Pflanzenleben* a book containing the laws and principles of plant growth that lie at the bottom of all successful plant cultivation in garden, forest, or farm. I saw a meagre review of this great book in the last number of the *Journal* of the Royal Horticultural Society, but it would have redounded more to the credit and acumen of the Council if they had awarded a Gold Medal or the highest award in their power to such a book. This is merely one example amongst many that may be cited as an example, for I hope to see the day when nothing that is great or even serviceable and practical in connection with garden craft whether book or picture, or tool or implement, or machinery—anything, in fact, that aids real progress—shall be at once examined and honoured according to its merits by our society. Above everything else, however, it is necessary for us to know the policy of the society that takes our subscriptions, and gives many of us nothing but the *Journal* in return. We hear of proposed changes in the management of the gardens at Chiswick. What is the character of the proposed innovations? These are questions above all mere personal considerations, and a reply ought, in all honesty and fair dealing, to be forthcoming.

In any case, the fact is generally acknowledged that our society is too restricted, and too limited in its scope; it is only one of three or four important metropolitan bodies in the same line, and it leaves all the good work, all the progress and high endeavour of the country at large unseen, unrecorded, and unrewarded. When we compare the Royal Horticultural Society with the Royal Agricultural Society of England, whether it be as to its widely-extended practical work and methods, or its valuable publications, we must of necessity feel somewhat disheartened, even if not ashamed. The one graceful and pleasant action of the Royal Horticultural Society of late was the giving of a Life Fellowship to their late Superintendent at Chiswick (Mr. A. F. Barron), and it is to be hoped that future Councils will not deprive him of his right to vote at its meetings, as was, I believe, once before the case after Mr. D. T. Fish was honoured in a similar manner some years ago.

The above are my own convictions, set down in no petty carping spirit, for I have, and long have had, a special interest in the Royal Horticultural Society, and would willingly aid in bringing about a good understanding between the great body of its Fellows and the Executive, a state of things that is non-existent at the present time, and will continue until the Fellows are told honestly and frankly what is really and truly the policy of the society. *F. W. Burbidge.*

## FLORISTS' FLOWERS.

### THE TULIP.

I REMEMBER an old Tulip fancier saying, "I attribute the almost universal failure in Tulips last season to the weather alone, and by judicious protection I believe a repetition of the loss and disappointment will be avoided." What was meant is protection in January, from excessive wet, snow, and severe frost. I tried for years to grow the Tulip without any protection, and should have succeeded but for severe weather during the early months of the year. The tender leaves would sometimes push through the soil in January, and rain or melted snow would afterwards collect in them, and the result was not satisfactory. To avoid this, the old and simple arrangement of iron hoops bent over the beds and fixed in position by rods tied to them horizontally is the best one. Mats are then thrown over the beds when the weather is likely to be injurious. These mats throw off superfluous wet, in addition to providing protection from snow and frost. In addition, I give a good mulch soon after Christmas with decayed stable-manure or spent Mushroom bed soil. This applies to all the late-flowering Tulips, including those called 'Darwin Tulips.'

### PANSIES.

If Pansies be grown and flowered in 6-inch pots in rich soil, and the pots are placed close to the glass, they produce some large, well-maked flowers, long before they may be obtained out-of-doors. Place the frames in a sheltered position, and where they will get all the sun possible. Watch for slugs at night, and use care in regard to watering, allowing no plant to become very dry at the root. Pansies in beds are best left to take care of themselves, but see that they are firmly fixed in the ground, so that high winds cannot disturb their position in the soil. Give a mulching of well-decayed manure over the surface of the beds; it will act beneficially in many ways.

### CHRYSANTEMUM.

The work of taking cuttings of these should be pursued at every possible opportunity. Each cutting should be planted separately in thumb-pots, and put under a hand-light in the cool Orchid-house, or other house with a similar temperature. The hand-glass should be kept close until the cuttings have made roots. Each plant should be removed from the glass as soon as it has commenced to grow. The cuttings intended to produce specimen plants of large size, require to be treated in the same way. All of the vigorous-growing sorts do best from cuttings, but those of medium vigour succeed better when the plants are obtained from old stools. If the plants are intended for exhibition, it is essential that they be grown "with a single stem seen distinctly above the soil in the pot;" and even if they are not for exhibition purposes, it is best to select a plant which was grown last season, to produce only three or four large blooms. Many of such plants have from three to nine growths pushing out from the stem some 3 to 6 inches above the surface-soil in the pot. The stem should be cut through above these growths, and the plant dug out of the pot, the soil being removed from the roots so as to allow of them being put into a 6 inch flower-pot. Place the plants near the roof-glass in any house from which frost is merely excluded, and they will continue to grow all through the winter. As the days lengthen, admit air more freely, and re-pot into 8-inch pots as soon as the plants need a shift; afterwards they may be put in 11-inch pots. Pompons should all be grown from cuttings. *J. Douglas.*

## LATE-BLOOMING SINGLE-FLOWERED CHRYSANTHEMOMS.

Two varieties of the single-flowered Chrysanthemum have outlasted all I have this season grown in a cold house, viz., Admiral Sir T. Symonds, a large, broad-petalled variety, with stout florets, bright in colour; and Jane, or Snowflake, also large, pure white, with long twisted florets, and very free and nice for cutting. I find the single varieties more lasting in damp, cold weather than the double varieties. Sir T. Symonds is particularly lasting; and if generally so late as it is with me, then it is an especially useful variety. R. D.

## FRUIT CORDONS.

MANY owners of small gardens are enabled to cultivate Apples and Pears as cordons and have considerable variety, who could not spare the space needed by large bushes and trees. I would not advocate for the cordon system any variety that can be grown at a profit, but only such as have fine quality, my remarks having application only to owners of small gardens, not to growers for market. Some persons may object to this division, considering that both should be studied, and fruit grown on cordons in the trade orchard. In my earlier years, I had a fair experience of fruit culture on a large scale, and I know that most amateurs do not want large quantities of any variety of fruit, but a long succession, combined with general good quality; whereas market fruit is mostly judged by its size and fine appearance. The Pear grown as a cordon gives a good return, providing proper attention be paid to stopping the shoots, manuring, root-pruning, and the and is good. A great deal, however, always depends upon the aspect afforded the cordons, and the varieties planted. For instance, last year and the previous year excellent fruits of many varieties were obtained from trees having a northern aspect; and I may mention instances of fruits of Pitmanston Duchesse nearly 16 oz. in weight, and fine Doyenné Boussoch and Beurré Clairgeau from cordons. These varieties, I admit, are but of second-rate quality; still, they are good market fruits, and it shows what may be done in favourable seasons on northern aspects. In cold districts, and gardens much exposed, or with but little shelter, and on soils which are cold and heavy, cordon Pears on a west aspect will afford fine fruits. At Syon there are many varieties of the Pear on walls with east aspect. There is a want of hard wood and fruiting-spurs on trees that are shaded by tall trees standing at some distance from them, and there is much wood made, and growth is late—hence, ill-ripened. In selecting varieties, only trustworthy fruiters should be chosen for particular aspects, all varieties not doing well on the same aspect are not suitable; some, indeed, are not deserving of a place on walls, but do well enough as bushes or pyramids, and some are excessively vigorous, and therefore not fit for cordons, bushes, or pyramids. A few years' trial of any particular variety is not enough, as so much depends upon soil, atmospheric influences, and the stock upon which a variety is worked, all of which have an effect on the growth of the tree; and I may here say that the land at Syon is not by any means good for fruit culture, and the results obtained there as those commonly reaped in many other places. I am not therefore inclined to find fault solely with the variety. A few which have done well at Syon in poor, gravelly soil, and with not over-abundant sunshine, will be noted below.

Adverting to the question of stocks, the Quince is the best for bushes and cordons if plenty of root-feeding is practised, the roots being mostly near the surface. To lack of food near the surface, the failure to fruit the Pear on the Quince may be frequently traced. I mulch the soil over the roots of these trees in the autumn and spring, and lift the bushes and cordons once in three or four years. By regularly acting thus much pruning is saved, and the trees kept fruitful. Some varieties will only do well on the wildling Pear stock, but the Quince is the best

stock when the soil is shallow, overlying gravel. Souvenir du Congrès on the Pear stock, and Clapp's Favourite, are varieties that crop on the Pear stock, and also bear excellently; Van Mons, Léon le Clerc is a sure fruiter on the Pear as cordon-trained trees. The following varieties do well at Syon, proving good croppers; some being grown for the production of fruits of extra-large size, others for keeping, and others for their superior qualities:—Triomphe de Vienne, Beurré Hardy, Beurré Fonqueray, and Beurré Alexandra Lucas, the last two new varieties being well worth space in all collections, but I have only grown them as cordons so far. Beurré Mortille, another of the less known newer kinds, is a valuable addition, a fine fruit, sweet and handsome; the same remarks apply to Marguerite Marillat, a continental variety, a large, showy fruit of excellent quality, and very free on a warm wall; all these newer kinds require warmth to get colour and flavour. Beurré Diel, Beurré Ballet père, Beurré Superfin do well as cordons; Beurré Bachelier never fails, but it is not a good Pear, though very free; Beurré Sterckman, grown cordon shape, is grand; and Emile d'Hayet is especially good and very free; Louise Bonne of Jersey comes very fine, and is delicious, being one of the best and most reliable cordons; Marie Louise, also Marie Louise d'Ucle, grows well, the last is named for size of fruit, the first where quality is desired. The valuable Doyenné du Comice does well—in fact, is much better in cordon form when grown on west or east walls. Nouvelle Fulvie on the Quince stock is a grand fruit, not the best-looking fruit, but delicious, and its late keeping is worth extended culture; Marie Benoist, a large, late variety, is reliable, and of good quality; the newer Princess makes a good cordon, and is very handsome; Olivier de Serres, a small fruit, is worth a place, being very prolific and a long keeper, but its fruits should be gathered late and at intervals when ready; it is also sweet and of good quality. Easter Beurré is another late-keeping variety, which is remarkable for heavy cropping and superior quality. There are several more equally good, but the record in my note-book shows that the above-named after several seasons' trial are valuable as cordons; and when it is considered how long a succession of fine fruit is obtained, the ease with which the trees can be protected from injury by frost and the birds, the list stands in no need of additions.

## APPLES, CHERRIES, AND PLUMS.

This section of the subject demands but little space, as they are less commonly grown (in the south, at least) in cordon form. Some varieties do not bear freely unless well exposed, and the branches stand a fair distance above the soil; but when a wall can be devoted to them, there is then no fear of having poor crops of fruit. The cordon Apple is grown mostly low, so as to form a kind of fence or finish to a vegetable or bush quarter, and in this position the cordon does not get enough sun. I would, however, advise the growing of Apple cordons on a fence, trained either upright or slightly sloping, when they will fruit grandly, and if there is space for extension, so much the better. Very fine fruits of the Apple can be obtained in this manner. These remarks apply to culinary kinds, such as Manx Codlin, Lord Grosvenor and Lord Derby; Lane's Prince Albert, Cellini, Grenadier, and Bismarck; and among dessert kinds, to Worcester Pearmain, Baumann, Red Reinette, Fearn's and Kerry Pippins, Irish Peach, Reinette du Canada, Melon Apple; the Russets in variety, notably, Rosemary and Boeton. We have got excellent results from cordons, which have been allowed more freedom than usual for a season or two, but this spoils the shape of the cordons, and when persisted in, the tree can scarcely be termed a cordon. If the top-growth is greatly restricted, it is not well to plant either shy-fruited varieties, or those that make strong growth; unless space of wall or other support can be given, the cordon-stem leader is allowed to grow on for a time. Several of the Ducks and Bigarrean section of the Cherry do splendidly as cordons, the growths soon getting thickly studded with fruiting-spurs. The

Plum does not give so good a return, as it requires more freedom of growth, and fruit comes mostly and better on the young shoots. Dener's Victoria is a Plum that does well when used as an edging to garden-walks, having a nice effect. Gooseberries as single cordons are quite successful, fruiting heavily every year. G. Wythes.

## BRANCHING PSEUDO-BULBS.

THESE are so rare among Orchids, that we give an illustration (fig. 3, p. 13) from a photograph of a *Laelia* kindly supplied by a correspondent, and which is the counterpart of one of *Odontoglossum Andersonianum* brought under our notice by Mr. Dr. Bary Crawshaw, see *Gard. Chron.*, June 15, 1895, p. 739.

## PARIS.

In Mr. H. L. de Vilmorin's private garden at Verrières are some specimen Conifers worthy of note, such as *Abies Lowiana*, a fine tree, here grown under the name of *A. grandis*; *Abies concolor*, a very beautiful specimen; *Abies Pineapo*, a characteristic tree, the curious hybrid between *A. Pineapo* ♀, and *A. cephalonica* ♂, raised by M. H. L. de Vilmorin himself. We have before alluded to the microscopical structure of the leaves of this plant. *Abies Nordmanniana*, *A. numidica*, and *A. cilicica* are each well represented.

*Larix dahurica* is bearing cones freely, as also is the interesting golden Larch, *Pseudolarix Kämpferi*. The scales of this Conifer are deciduous, and leave behind them a central core, as in *Abies* (Silver Fir), but this core, in place of being solid and woody, is fibrous. One of the most interesting trees in the garden at Verrières is a tree of *Pinus Murrayana*, grafted on the Scotch Pine, and which is now flourishing. M. de Vilmorin observing that his seedling plants were dwindling and dying, grafted one as above-mentioned; this has succeeded, whilst all the seedlings died.

The trial-grounds are models of accuracy and precision, more like laboratory experiments than the usual rough-and-ready field trials. How many thousand plots there are we hesitate to say, nor how many control plots by which the results may be checked. In addition to the ordinary field and garden crops, here may be seen plots and quarters of vegetable, &c., little or not at all grown in this country, such as the Chou Moellière, a tall Cabbage with succulent stems, which are cut in pieces and stored like Swedes, than which, however, they are not so hardy. Here, too, are breadths of a peculiar variety of Cabbage, with dark-green shining leaves, not at all glaucous, but resembling in colour the leaves of the Laurel-Cherry; these "glazed" Cabbages are grown for the American market. But to attempt to enumerate even a fraction of the interesting forms grown here would demand more space than we could give.

It was early winter when we had the opportunity of seeing the trial-grounds, but we could not be struck even then with the extreme care taken to secure trustworthy results, and with the great value of the trials to the student of variation.

## TREES AND SHRUBS.

## SENECIO PLATANIFOLIUS.

MR. GUMBLETON obligingly tells us that he has now coming into flower for the first time an exceedingly handsome foliage shrub, *Senecio platanifolius*, with large, thick leaves resembling green velvet in texture. Though quite a small plant in a pot, and not a foot high, the plant is sending up quite a surprising spike of bloom with twelve bunches of flowers, and in height almost, if not quite, as long as the plant that bears it. It is most unusual for so large-leaved a plant to bloom at all in so very small a state, as when full-grown it is presumably a coarse grower. Mr. Gumbleton has also succeeded in raising a nice little lot of seedlings of the fine New Zealand purple-flowered *Forget-me-not*, *Myosotis capitata*, which is figured in *Flora Antartica*, vol. 1, plate 37, and which Sir J. D. Hooker says is the most beautiful of all the New Zealand species.

**CATTLEYA LABIATA WITH TWO LEAVES.**

In the *Gardeners' Chronicle* for September 21 of last year, at p. 339, is a note on a *Cattleya labiata* which produces in some seasons single-leaved pseudo-bulbs, and in others two-leaved. We are now indebted to Mr. Francis H. Moors for the opportunity of illustrating (fig. 2) a two-leaved pseudo-bulb. Whether this is due to a little extra vigour in the plant, whether it is a reversion to a former condition, or whether it may be an evidence of former hybridisation and dissociation of heretofore blended characters are all points that may be discussed but hardly settled.

**FORESTRY.**

**TIMBER VERSUS GAME.**

"S.'s" argument that timber-growing and game preserving can be combined in the same wood may be sound enough in itself, but the difficulty is to

be anything to fell or thin. As for planting, if done at all, it is entirely confined to the formation of new covers, about which our nurserymen could tell many a tale.

In the north of England and Scotland, or on a few large estates throughout the country, we may not find the head of game always regarded as the criterion by which the value of a wood is judged, but it is, nevertheless, a fact, that the economic aspect of plantations never receives serious consideration in this country. Until it does, the forester might almost as well take "S.'s" advice, and study philo-sophy rather than forestry. Ten years after planting, any plantation can be used as a game-cover, and ninety-nine out of a hundred are so used, and the development of the trees becomes a matter of secondary importance. The improvement of woodlands is not a source of profit to those who carry it out, and for this reason alone it can never be more than an occasional undertaking on private estates.

The majority of proprietors, like Mr. Elwes, regard economic forestry as an unprofitable way of employing their spare capital, for the obvious reason that

is usually made, and not born, and in many cases a toes-up might have decided whether his career was to be that of a game-keeper, forester, or gardener. We all live in a little world of our own, and the smaller the world, the more we magnify it. The tail-feather of a pheasant is more precious in the keeper's sight than a promising young plantation, or the reputation of a forester. He usually divides mankind into two classes—game-preservers and game-disturbers, and if the forester belongs to the latter, he is rarely thanked by his employer, or blessed by the keeper. If the latter is a sensible and intelligent man (and we meet with keepers who are such sometimes), he will prevent all avoidable damage being done to young trees as much as possible. If he does not do this, the owner can see the mischief, and has the remedy in his own hands; but in most cases this is more readily overlooked than is a lack of game. I have still enough charity left in my nature to abstain from the wish (devout though it may be) that keepers should be placed under the control of foresters, and be expected to satisfy their employers at the same time. The end



FIG. 2.—CATTLEYA LABIATA WITH TWO LEAVES.



FIG. 3.—BRANCHED PSEUDO-BULB OF LELIA. (SEE P. 12.)

convince game-keepers and sporting proprietors of the fact. The game-keeper's *beau ideal* of a covert is a mass of brambles, rough grass, or any other rubbish, with just sufficient trees on the ground for pheasants to roost in or to provide shelter for; anything beyond this he considers objectionable, for the simple reason that it furnishes an excuse for someone besides himself to cross the boundary once or twice in the non-shooting season. Ardent sportsmen, who care little or nothing for timber or even trees, are only too ready to acquiesce in plans which cost them nothing, and in nine cases out of ten the system of forestry practised on English estates is the "game-keeper's system." The forester or woodman, providing he does not get off the rides or make a noise, is allowed to walk about in the woods at most seasons of the year, but it is only during the first three months of it that he can get anything done in the shape of felling or thinning, supposing there should

the money so spent is practically lost to them, and most of it to their sons, and it is only the third and fourth generations that get the full benefit. Agricultural depression also tends to curtail rather than encourage expenditure on all work not absolutely necessary on estates. Until the Government recognises the national importance of forestry, and is willing to give it the assistance it requires, we cannot expect estate owners to do much in the matter. The pecuniary returns alone do not represent the full value of State forests on poor land to the nation at large, as the advantages they confer are indirect rather than direct, and we find no record of any continental nation having abandoned State forestry as useless and unprofitable after it has once been instituted on a sound basis.

In the meantime, I do not see what good can be effected by waging secret warfare against the game-keeper, as suggested by "S." Unlike the poet, he

would not, I fear, be peace until the millennium. A. C. Forbes.

**PRICES OF BRITISH-GROWN TIMBER.**

Mr. Webster must live in a favoured locality, to obtain from 10d. to 1s. per foot for Beech grown on chalky soils. I live where chalk abounds and Beech trees flourish, but I cannot get more than 8d. per foot for clean good timber. We are now contemplating cutting a number of trees, many of them being 17 inches quarter girth, and of sufficient length to come out at 40 feet of timber, or more.

Hedgerow-grown Beeches are of little use as timber trees in this part. Trees freely knotted are rejected by timber merchants about here.

Much of the Beech sawn up in this neighbourhood is used for pianofortes, small pieces coming in for brush-heads of many kinds. As Mr. Webster truly remarks, Scotch Fir is of little value; 4d. per foot is

the top price offered. Not far from where I write there is much Crown land under timber cultivation. Many acres are planted with Scotch Fir, which grows apace in the sandy-gravelly soil there. Here too in the chalky as well as in the heavy retentive soil of other parts of the estate this Pine grows fast and straight. In some cases it overtops the Larch alongside. This, however, is an exception, the latter as a rule, makes more progress than the Scotch Pine.

The idea prevailing amongst some Crown foresters is that in time to come the Baltic timber will be exhausted and then Scotch Fir will be more eagerly sought after. How far such theories will prove correct is a matter for the future. I find that Scotch Fir gives more trouble in regard to maintaining the trees with perfect leaders than any other variety of either the Pine or any other family. I have noticed, too, that during exceptionally dry-weather spells, at a time when the new shoots are bareting into growth in the spring, the most damage takes place to the leaders. The arid or dry state of the atmosphere seems to check the first stage of growth of the leader. This refuses to grow, and instead of one shoot taking the lead, as it ought, there are in some cases as many as four, and sometimes more than that even, struggling for the mastery. At the end of the year's growth, all of these shoots will be on an equality as to length; the tree is then without a leader, necessitating the removal of all but one. It is surprising, too, how quickly the one retained straightens itself and assumes the leadership, eventually growing quite straight. Where the pruning is carefully done, in a few years' time such trees lose all signs of what might have remained a perfect disfigurement. I find trees under 15 feet high are much more liable to give trouble with the leading shoot than when beyond that height.

Larch is undoubtedly the favourite of present-day planters in this neighbourhood. Trees under eighteen years old are, however, of little value. At one time there was a brisk demand for them for Hop-poles, but now that wire and Cocoa-nut fibre string is so largely employed Larch is not required, and pays much better if allowed to remain long enough to grow into rail size.

Although Ash fetches a good price, but little of this wood is planted; the growth is but slow.

The Corsican Pine is fast finding favour with planters; the growth is so clean and straight that it will in the future oust the Scotch Fir from public favour. The great fault is its liability to die when planted, especially if trees beyond 1 foot are chosen. Those 6 inches high are much safer for planting. Where Austrian Pine is planted pretty thickly, the growth is quite equal to Corsican, but in the open the Austrian is not a good timber-growing tree. The rapid growth of its branches seems to prevent the fast progress necessary to make good, clean timber. Where planted 4 to 5 feet apart, the trees "draw up" rapidly.

I have much faith in *Thuja gigantea* (Lobbi) as a timber tree; it will grow nearly, if not quite, as fast as Larch, the strongest of soil appearing to suit its progress as well as that which is sandy. From one or two well-established trees abundance of seed can be obtained annually; this, if sown in boxes in a cool-house in October soon make stocky plants. We planted 2000 trees of this *Thuja* amongst Larch five years since as an experiment, and their present rate of progress appears to warrant the trial. *E. McInnes, Swanmore, South Hants.*

## THE WEEK'S WORK.

### FRUITS UNDER GLASS

*By W. POPE, Gardener, Highclere Castle, Newbury.*

**LATE VINERIES.**—Where Grapes are required to remain on the Vines for some time longer, a dry, buoyant atmosphere should be maintained in the vinery, and the temperature kept at about 45° to 50° by gentle firing, air being given on all favourable occasions, putting a little extra heat into the pipes for an hour or two in the middle of the day when this is done, so that all damp may be expelled. Should the weather be very foggy or otherwise damp-laden, keep the vinery closed, or at the most afford but a slight chink of air at the top. The bunches of Grapes should be examined three or four times a week, cutting out all berries showing signs of decay. Where the vinery is utilised for storing plants, it

will be safest to cut the bunches together with six inches of the shoot, and to stick the latter into bottles of clean soft water, putting a few small bits of charcoal in each bottle. Place them in a dark dry room, with a temperature of 40° to 45°, and examine the bunches occasionally for decaying berries, and fill up the bottles. Bottled Grapes, if the conditions are right, keep better than on the Vines, and the latter are benefited by their removal, besides having a longer season of rest. When the Grapes are cleared from the Vines, pruning and dressing may at once be undertaken, and on the completion of those jobs, the woodwork, glass, and trellises should be cleaned with warm soap-suds, the walls lime-washed, and the woodwork painted where necessary. If the Vines were infested with red-spider or other insects, remove the loose portions of the bark, and scrub them all over with a weak solution of soft-soap, using a moderately hard brush for the purpose. If mealy-bug be present, a wine-glassful of petroleum may be added to each gallon of the wash. In manipulating Vines at this season, especial care must be taken not to damage the buds. After the washing, the canes may be painted with Gishurst Compound, at the rate of 4 oz. to the gallon of water, working this into all angles and the crevices of the bark. The surface-soil of inside borders should be shovelled off, and a top-dressing of fibry loam afforded, enriched with an approved special Vine-manure. The forcing of Vines to carry ripe fruit in June should now commence, and if the borders are outside ones, they will probably have been covered with dry leaves or litter to conserve warmth in the soil, with waterproof coverings over all. If the Vine-border is inside the vinery, a bed of leaves and manure may be made up in the house, turning this every day or two, which will lessen the amount of fire-heat needed for a time, and is beneficial to the Vines till the buds are in a forward state. If fire-heat alone is employed, the Vines must be syringed two or three times daily with tepid water till they burst into leaf, and let temperature be kept at starting at from 45° to 50° with fire-heat, increasing it 1° or 2° weekly till the Vines arrive at this state. See that all inside borders are thoroughly moistened; and when water is afforded, let it be slightly warmer than the temperature of the house.

### THE KITCHEN GARDEN

*By C. HERRIN, Gardener, Droghmore, Maidenhead.*

**PROSPECTIVE.**—At the New Year, with its hopes and aspirations to excel in the culture of the various occupants of the kitchen garden, should come to the private gardener, whether he be a grower for exhibition or not, the resolve to supply his employer's table abundantly with choice vegetables throughout the coming year.

**BROCCOLI.**—The weather as yet having been, comparatively speaking, open, green vegetables are still plentiful, but care should be taken to protect any that require it on the first approach of severe frost, the succulent nature of the growth consequent on the mild weather making them less able to withstand severe frost, such as may visit us at any time. Our supply of Cauliflowers and early Broccoli has so far proved excellent, and at the present time consists of two varieties of the latter, viz. Self-protecting Autumn, and Snow's Winter White, and although 10° of frost were experienced on one or two occasions, there has not been any spell of severe frost to injure the Broccoli in the early stages of heading-in. The precaution is taken to go through the quarters at the least once a week, and carefully lift all the plants the heads of which have attained the size of a shilling, keeping the soil and roots intact as far as possible, and to transplant into trenches prepared to receive them, planting them so as to form a compact bed, where, if frost appears probable, they can be covered with bracken, a bracken-wall being built up round the sides as a protection against the wind. It is found that by lifting carefully, very slight check is given to the formation of the head, and unless growth is arrested by very severe frosts, almost a daily supply of nice heads from 2 to 3 inches in diameter can thus be kept up till the spring Broccoli turn in later on.

**CELERY** is another kind of vegetable easily spoiled by severe frost, and if once it be badly frozen, decay is sure to set in however well it may afterwards be covered. To guard against loss, therefore, sufficient covering materials should be placed in readiness for use on the shortest notice. In these gardens we have a good supply of bracken always at hand, and this is used exclusively for covering

purposes—still, any other litter is applicable. Where circumstances permit, two boards nailed together V-shape will prove an additional protection, taking care to remove these and all other coverings in mild weather.

**ROOT-CROPS.**—If not already done, a portion of the crops of Parsnip, Jerusalem Artichoke, Stachys tuberosa, and Salsafy should be similarly covered with litter, that is assuming that these roots are left in the ground for lifting when required for use, which is the method to be generally recommended. Leeks also should receive some protection from litter, otherwise severe frost adds to the difficulty of lifting them. A quantity may be lifted and laid in soil close together for the convenience of covering. I leave a goodly proportion of our Carrot crops where they grew, spreading a little bracken over them on the approach of frost, and find in this way that they keep remarkably well, and are quite equal if not superior when used to those lifted and stored in the orthodox way. Where storeroom accommodation is limited, these root-crops may be left in the ground until it is required for preparation for other crops in the spring.

**GLOBE ARTICHOKE.**—These plants being very susceptible to injury by frost, should be well protected with light, strawy litter or bracken, covering the plants completely, but always removing the top covering in mild weather. A portion of the stock of these plants should be transplanted in the autumn, planting good, strong single suckers, and these will be found to withstand frost much better than the larger and old stock plants.

**CLEARING-UP THE QUARTERS.**—The dead and decaying leaves on Brussels Sprouts, Broccoli, Colewort, winter Greens, and Parsley should be carefully removed, such decaying refuse being inimical to the hardiness of the plants, has a bad odour, and an untidy appearance.

### THE FLOWER GARDEN.

*By HEDLEY WARREN, Gardener, Aston Clinton, Tring.*

**MISCELLANEOUS WORK.**—In anticipation of severe weather, sufficient protection should be afforded plants and shrubs in exposed places not sufficiently hardy to withstand very inclement weather, cold cutting winds oftentimes doing far more injury than severe frost. In either case, mats, bracken Fern, or branches of evergreens may be used with advantage. Those recently planted should also be protected at their roots by a good mulching of suitable material, and if of large dimensions, some support should be given to prevent disturbance at the roots. Gravel paths may also receive attention by way of adding fresh gravel where necessary, and by turning them in places where worn or discoloured, rolling well on all favourable occasions if they are required to be kept in a firm condition. Attend to grass verges, and lay down new turf where required. Any bulbs that remain unplanted should be attended to with all possible despatch, these affording a pleasing contrast if planted along the outskirts of shrubberies, and in patches on the lawns, always, however, avoiding anything approaching formality in the planting, or any desired natural effect will be destroyed. If not already done, beds devoted entirely to bulbs should be afforded a mulch of Cocoa-nut fibre refuse, or half-decayed leaf-mould. Christmas Roses should be protected, movable hand-lights being much the best aid to employ for this purpose; or if planted in beds of suitable size, a frame may be placed over the whole, removing the lights on all favourable occasions. Treated thus, Christmas Rose blooms come of excellent quality, and at this dull period of the year are greatly valued, none the less so on account of their lasting qualities, and of their being obtainable in an outdoor garden.

**ROSES, TREES, SHRUBS, ETC.**—These may also be planted should mild weather continue. In selecting the former, due attention should be paid to the selection of those varieties which came safely through the trying ordeal of last winter. Should the nature of the soil permit, dwarf Roses should be planted low, which will largely lessen the annual losses from frost. If in the planting of permanent beds a good sprinkling of crushed bones and soot can be given, the outlay will be amply repaid later on, by having robust, healthy plants and finer blooms. When planting is completed, mulch the roots with half-rotten manure or bracken Fern, the latter being one of the best materials that can be used. Where necessary, new stakes and ties should be given to



standards; in fact, everything in the Rose garden should now be made as safe and snug as possible without delay.

**NEW SHRUBBERIES.**—In making these, due regard should be given to the surroundings, and if possible, a plan of the intended planting or alterations should be made prior to its commencement, and in that way each tree can be indicated and a position assigned to it suitable to its habit and character, always affording plenty of space to the trees and shrubs so that the natural habit of each can be observed, and where each will appear to the best advantage; by doing this, a vast amount of future labour in the way of re-arrangement will be saved, and branch mutilation avoided. The pruning of deciduous and other trees may likewise be proceeded with, which should mainly consist of thinning-out the branches where crowded, and the removal of all dead or decaying wood; in some instances a shortening-back of the branches of robust-growing trees may be necessary, but a good deal of judgment is required in this matter.

**WALLS, ARCHES, ETC.** which would otherwise be unsightly, may be made both useful and pretty, by planting at the base such plants as climbing Roses, *Rosa rugosa*, Honey-suckle, Jasmines, *Pyraeanthus Lelandi*, Clematis, Cotoneasters, variegated Ivies, *Climocanthus fragrans*, *Escallonia macrantha*, *Ceanothus* in variety, *Magnolia grandiflora*, *Ampelopsis Veitchii*, muralis, &c.; *Vitis* in variety, *Wistaria sinensis*, and other suitable subjects.

**THE ORCHID HOUSES.**

By W. H. WHITE, *Bu ford, Dorset.*

**THE HOUSES.**—For the benefit of beginners in the cultivation of Orchids, it may be well to enumerate the various glasshouses in which these plants are usually grown, giving also the respective degrees of warmth found conducive to the health of the plants at this season of the year. By night the warmth of the East Indian or warmest house should when maintained by fire-heat range from 60° to 65°; the Cattleya or intermediate-house 55° to 60°; Mexican about 55°, and the *Odontoglossum*-house, 50°; although during very cold weather the degree of warmth during the night, the warmth owing to the extra fire-heat used, being somewhat drier than at other times, may fall a few degrees with benefit to the plants. During the past two months the degree of warmth at night has only been on one or two occasions below the above figures, although on some days with sun-heat the temperatures have been several degrees above those given, but then air has been gradually admitted to the houses whenever practicable. It need not be supposed that special houses are a pressing necessity for Orchid culture, and evidence showing this has often appeared in these pages, and also the perfection to which some gardeners cultivate *Calanthes*, *Dendrobium*, *Taonia*, *Cypripedium*, *Colognes*, Mexican *Laelias*, &c., in the ordinary hot-house, Cucumber-house, and vinery. Where large numbers of certain species have to be grown well, it is, however, advisable to afford them a house as at Barford, where, besides those mentioned, houses are set apart for *Astrides*, *Masdevallias*, *Cypripedium*—a cool intermediate-house, with a temperature a few degrees higher than that of the *Odontoglossum*-house. Such a structure as this is very convenient, especially for cultivating *Miltonia vexillaria*, and others of that family; *Sobralias*, *Epidendrum*, *Maxillarias*, *Cymbidiums*, *Lycastes*, *Laelia harpophylla*, *L. monophylla*, *Oacidium*, and *Cypripedium insigne*, *C. Spicerianum*, *C. Leeanum* × *C. Schlimi*, *C. villanum*, *C. Boxallii*, *C. Charlesworthii*, *C. Fairianum*, and some others. Where no such ample accommodation exists, the warmer part of the cool-house or a cool one in the Cattleya-house have to be utilised. Orchid cultivators possessing only the first-named divisions, need not fail to grow satisfactorily the majority of tropical Orchids, providing the ordinary requirements of the plants are attended to. Each plant should be under their personal care, noting the conditions under which it succeeds, whether on the bright or the shady side of the house, at a cool or warmer part, and a variety of circumstances which strike the observant grower. The lack of sunshine lately has been unfavourable to some species, especially to those which are now forming their flower-buds, but the prevailing mildness has rendered much fire-heat unnecessary, and the external air, being moist, very little damping-down in either division was or is required. The paths and stage of the East Indian-house should be well syringed in the

morning, when the thermometer shows the required degree of warmth has been reached; in the afternoon, and at night, should fire-heat be necessary, the paths may again be sprinkled. As regards the Cattleya or Mexican division, a less moist air will be required whilst mild weather prevails, and a moderate damping two or three times a week will suffice. The cool-houses need scarcely any damping, the watering of the plants and the washing of the floors affording as much moisture as the plants need. During the middle of the day the atmosphere of the houses may become moderately dry, but no damping should be done, or "spot" may appear on the plants. Afford a moderate amount of air to the plants in all the divisions when the weather is favourable for doing so.

**PLANTS UNDER GLASS.**

By J. S. McINTYRE, *Gardener, Wolside, Dirlington.*

At the commencement of each year the gardener should mature his plans for the season. He should look over the various plant departments, and carefully note the successes and the failures of the past season. By such study, many mistakes may be avoided where failure previously occurred, and further improvement may be attained. All work in connection with plants must be done promptly, at the correct time, and nothing should be effected in a haphazard manner. In a regular systematic method will be found the way to success in plant cultivation.

**THE CONSERVATORY.**—If this structure is attached to the mansion, the watering of the plants and the removal of decayed leaves, &c., should be done in the morning; but in severe weather, the removal of plants from the forcing-house, or other warm structures to the conservatory, cannot be accomplished without injury. In winter we do all such work on Saturdays, and select the warmest part of the day. In the arrangement of most conservatories there is a great tendency to overcrowd the plants, and this must be guarded against. It will be difficult to keep the conservatory gay with flowers at this season, and the display of *Caryanthemum* during the past two months will make any deficiency the more apparent.

**FORCING HOUSES.**—Lift a good batch of *Dielytra spectabilis*, and pot the clumps up into any old soil. They will turn in rapidly, and are bright showy plants. Imported roots of these are much better, and if expense has not to be considered, should be used in preference to those from the borders. Encourage with all speed a good quantity of *Narcissus*, which having now made roots, and showing their young growth, may be removed from the planting material and put in a temperature of 45° or 50°. In this way a good show of *Narcissus* may be had by the end of January. Pot up a quantity of *Astilbe* (*Spiraea*) *japonica*, which has been in the open ground a couple of years; they will produce a moderate quantity of flowers, and the green foliage is most useful for cutting from. Imported clumps of *Spiraea* do not lend themselves so well to early forcing, but a first batch of these may now be placed in gentle heat. Roman *Hyacinths* being now almost over, it is well to introduce into heat each fortnight a quantity of the *Hyacinth* grown in colours. A light airy shelf near the glass in a temperature of about 50° at night will be best for them, and in order to obtain large spikes of flower, a little liquid-manure should be given at every alternate watering. Sheep-manure is one of the best natural manures, or Clay's or Thompson's artificial manures suit *Hyacinths* well. A good batch of *Tulips* should be introduced into heat every ten days; they are easily forced, and are very showy. In growing *Tulips* for house decoration, select four or six of the finest large-flowering varieties, and grow them in quantity, in order that a good mass of one colour can be had at any one time. The *Pottsbakker White*, *Kaiser's Crown*, *Cottage Maid*, *Vermilion Brilliant*, and *Proserpine* are all good and useful varieties.

**PROPAGATING HOUSES** and cases should now be overhauled, thoroughly cleaned, and all put ready for active work. It is a good time to propagate some of the stronger-growing stove plants, such as *Anthurium Andreanum*. This plant, in the course of a year after propagating, becomes leggy, but where nice dwarf plants are wanted, it is better to propagate annually. The tops, if taken off with the aerial roots at this season, and if placed in 4 inch pots, using sphagnum moss and fibrous peat, and placed in a close structure for a few weeks, make good useful flowering plants the same season. After

topping, place the old stools in the warmest end of the stove, they will then produce three or four shoots which, as soon as large enough, can be taken off and propagated, if increase is desirable. I prefer this plant for all decorative purposes with single stems grown very strong, and carrying one or two large spathes. Part of the stock of *Gloxinias* should now be started in order that they may flower early. The earliest of these should not be re-potted, they are better grown on in the same pots. Remove all loose surface soil and top-dress afresh with soil of a light, rich nature. Treated thus, they can be had much sooner in flower. When they are making strong growth, assist them with a little good fertilising manure.

**THE HARDY FRUIT GARDEN.**

By G. WOODGATE, *Gardener, Kollaston Hill, Burton-on-Trent.*

**PLANTING**—All fruit-tree planting should be completed with the least possible delay, so that the roots may become established in the soil before the growing season commences. When planting, remove all broken and braised roots with a sharp knife, making a clean cut from the under side upwards, so that the fibrous roots which will grow from the point where the old roots were cut may run in a horizontal position, and remain near the surface of the soil, where they will be influenced by air and warmth. It is not yet too late to take up and replant any young trees that have shown a tendency to grossness, but remove them very carefully. Shorten the main coarse roots by a clean cut, and remove entirely any that have a direct downward growth. In the case of standard trees, endeavour to plant when the soil is fairly dry, so that the earth may be firmly trodden, and the stems should be made secure by fastening them to a strong stake. These should be just long enough, after being driven into the ground, to allow of the upper tie being made close under the head of the tree, but quite clear of the side branches. If there should be any probability of the stem touching the stake through being bent, let it be tied again at that place to prevent any friction. Pieces of hop-backing cut in strips 4 inches wide and of sufficient length to go about twice round the stem, form a capital substitute for hay-bands, but all such ties on young trees ought to be renewed with fresh material annually, so as not to check the natural swelling of the stem, and to prevent the harbouring of insects. When planting trees against a wall, keep the stem a few inches away at the bottom, and let the tree incline slightly to the wall. It often happens at this season of the year, that the soil in north and east borders is cold and wet, and if it be found necessary to plant under such conditions, some dry soil should be at hand to place among and over the roots. For this purpose use some good sandy loam, with a fair proportion of wood-ashes, or burnt garden-refuse and road grit. This compost will greatly facilitate root-action; finish off with the ordinary soil, and tread lightly, letting the trees and soil settle down together. If the branches require support, tie them loosely, but wall trees and espaliers should not be fixed in their position by tying or nailing until at least a month after planting.

**PRUNING**, if not completed, should be pushed forward on every opportunity, but not if the branches are frozen. Peaches and Nectarines are best left till last. In pruning wall trees remove all ties and take away all old string, ruffin, or shreds; the last-named, however, if good, may be used again after being cleared of insects by immersion in boiling water for a short time. Brush the walls with a stiff brush or broom, and well syringe them with a strong solution of soapy water, adding a half-pint of petroleum to every four gallons. When syringing south walls, on which Peaches and Nectarines are grown, a good handful of sulphur thrown into each four-gallon water-pot of the solution will assist greatly in keeping red-spider in check during the summer. The trees may be sprayed with the same mixture, which must be well stirred during its application. The stem and larger branches may with advantage be painted over at the same time, a half worn-out painter's brush answering well for the purpose. Tie or nail in the trees without delay, so as to prevent any loss of buds through friction by wind. If any grafts are required for use this season they should be taken off as soon as possible, and labelled correctly. Lay them in by their heels in a cool sheltered border. Cut back the branches of any trees it is intended to graft to within a few inches of where the grafts will be inserted.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

## APPOINTMENTS FOR JANUARY.

## MEETINGS AND SHOWS.

SATURDAY,	JAN. 4	{ Isle of Wight Hort. Improvement Association meet.
SUNDAY,	JAN. 5	{ Royal Horticultural and Agricultural Society of Ghent Show.
FRIDAY,	JAN. 10	{ Annual meeting of the Gardeners' Royal Benevolent Institution at Simpson's, Strand.
SATURDAY,	JAN. 11	{ Royal Botanic Society meet.
SUNDAY,	JAN. 12	{ Brussels Orchidifera Show.
TUESDAY,	JAN. 14	{ Royal Horticultural Society's Committees Show.
THURSDAY,	JAN. 16	{ Linnean Society.
SATURDAY,	JAN. 25	{ Royal Botanic Society meet.

## SALES FOR THE ENSUING WEEK.

MONDAY,	JAN. 6	{ Continental Plants, Roses, Hardy Border Plants, Greenhouse Ferns, &c., at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 9	{ Lilies, Begonias, Spiræas, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 10	{ Imported Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°3'.

The Potato Crop of 1895. THE United Kingdom and the Continent of Europe generally harvested a large crop of Potatoes last year. Seasonable temperatures and usually sufficient rainfall materially increased the average yield per acre compared with the season of 1894, when the crop had considerable deterring climatic influences with which to contend. In England the yield was rather under the average last year, as it was also in area, although both were in excess of 1894. Late Potatoes did better than early varieties, and disease was prevalent in some counties. There was little complaint from Scotland, either in yield of produce or from disease. In Ireland the crop was very good, both in quantity and quality. On the Continent reports are generally favourable outside of Italy, which is never much of a Potato country, yielding in the average of years only about 700,000 tons. France had a good output of Potatoes, and prices promise to remain low. That country, compared with Great Britain, has about six times the area under the Potato crop, but yields less than three times as much aggregate produce, and gives considerably less than three tons per acre, that is less than half as much per acre as Great Britain, and even considerably less than Ireland. In Germany the Potato yield is reported to be especially large, although many of the tubers are deficient in size. The percentage of loss through disease is less than in 1894.

Although enormous quantities of Potatoes are produced, continental countries as a rule consume all they grow at home, and have little to export, aside from France and Germany, and to some extent the Netherlands, which ship their surplus to England.

We learn from the *American Agriculturist* that the Potato yield in the United States was abnormally large, but unwieldy only in the western districts. The above-mentioned journal also furnishes the estimated yield of Potatoes for 1894 and 1895, which are made up from the best data obtainable, and brought down to harvest time, although owing to absence of thorough crop-reporting in some of the continental countries, the figures are subject to modifications:—

Country.	Acres.	Total Crop (Bushels).	
		1895.	1894.
United Kingdom ...	1,252,900	192,500,000	172,494,000
United States ...	3,204,000	282,148,000	185,000,000
France ...	3,851,000	443,200,000	393,000,000
Germany ...	7,525,000	1,106,000,000	940,875,000
Austria ...	2,738,000	308,700,000	271,565,000
Hungary ...	1,153,000	118,760,000	101,700,000
Canada ...	492,100	53,956,000	44,854,000
Belgium ...	515,000	141,625,000	127,500,000
Denmark ...	140,000	19,600,000	15,290,000
Holland ...	375,000	90,000,000	80,000,000
Italy ...	411,000	26,460,000	27,000,000
Russia ...	6,234,000	611,000,000	555,000,000
Sweden ...	395,000	57,670,000	50,251,000
Norway ...	89,000	25,810,000	22,250,000

The foregoing data show that in the fourteen countries enumerated, every one except Italy yielded a larger crop of Potatoes in 1895 than in 1894, and most of them considerably more. In the United States, as we learn from the *American Agriculturist*, the crop was not only large, but was by far the largest ever grown. The acreage was suddenly increased out of all proportion to the demands for consumption, in response to ill-advised suggestions from high official sources, coupled with a natural desire of the farmers to replace Wheat in the north-west with some more-paying crop.

The result is what might have been expected, a crop furnishing a heavy surplus above food requirements, and this surplus, especially in the north-west, having no adequate outlet at present, crushed prices to a level below the cost of production, in some sections. In fact, in many districts, in the north-west especially, growers abandoned the results of their year's work, and did not dig their crop, prices not paying the cost of digging and hauling.

But for the enormous increase in that section, the total crop of the country would not be excessive, but the surplus there pressing for market was felt by growers all over the country. The estimated average area under the Potato crop in the United States is 2,197,877 acres, against 3,204,000 in the season just closed. The average aggregate produce of marketable tubers is 4,139,313 tons; while the crop of last year is placed at 7,053,700 tons, the estimated average rate of yield being eighty-eight bushels per acre, that is about one-half as much as Great Britain for the present year, so that the crushing crop of 1895 resulted from an enormous acreage, rather than a phenomenal rate of yield. The variation in produce in different States was more marked than usual. New England returned only a fair average; while New York showed a good yield in spite of local damage to the early crop from drought. In the Ohio Valley, the season for early Potatoes was marked by severe drought, which lasted late enough to damage the first growth of latter plantings. This condition cut short the early crop, and robbed late fields of the vigour of haulm necessary to a full yield. The increased acreage in New England and propitious weather until late summer, was

followed by such a general attack of blight and disease, that the crop was ultimately out down materially. In Aroostook, Me., the world-famous Potato county, loss in this direction was serious, but yield was still large, with an area 20 per cent. larger than last year; and starch-factories were working up large quantities purchased at 14 to 20 cents per bushel.

In the southern States the crop of white Potatoes was good, furnishing a full supply for domestic wants, and limited quantities in excess for shipment. The New Jersey crop was called upon to supply many of the western markets, where there was a deficiency in home-grown, and growers were placing in cold storage a considerable proportion of the best stock, sending the poorer grades to market. The increased area and yield in Colorado and on the Pacific coast gave the Rocky Mountain States a surplus.

Canada was no exception to the rule of a bountiful crop, the 1895 yield closely approximating to 57 millions of bushels, showing a material increase over the previous year's short crop. Returns to growers have been very unsatisfactory since the opening of the season, with prices so low that, where possible, stock is held.

Following the 40 per cent. reduction in the tariff, admitting Potatoes in the United States at the low rate of duty of 15 cents per bushel, there was considerable stimulus toward increased acreage, especially in Ontario, Quebec, and Nova Scotia. This, with good weather conditions, and freedom from serious blight, resulted in an unusually large tonnage, and growers were confronted with a poor outlet either on European account, or to the United States, and in remote sections many fields were unharvested, or the tubers were set aside for feeding live-stock. The quality of Canadian Potatoes was in the main good to excellent.

While many growers were disposed to hold for better prices, the majority have shown a willingness to sell at anything like reasonable figures, owing to the general conditions. Far less complaint was heard of disease than in America, yet there was some loss in this direction, especially in Nova Scotia, New Brunswick, and portions of Quebec. While Canada usually depends considerably upon her export trade, this, compared with the volume of the crop, does not amount to much after all. The Canadian export of Potatoes, for the three last years ending June 30 in each year, was for 1893, 1,112,833 bushels; 1894, 1,007,576 bushels; 1895, 1,379,042 bushels.

## DISTRIBUTION OF THE AMERICAN CROP.

The market outlook is acknowledged to be rather mixed, but the situation when closely studied presents some features which may eventually do much to bring about a better state of things. Prices are almost unprecedentedly low in every direction, due in some sections to actual conditions, and in others partly to sentiment. While a record-breaker, the crop of 1895 is only about 12 per cent. larger than was that of 1891, when the December farm price was 37 cents, or perhaps 10 cents higher than now. The 1895 crop was top-heavy, chiefly in the north-west, and should not be regarded as unmanageable elsewhere. The principal increase serving to swell the total figures, was in those sections far removed from markets.

Rates of freight were so high that shippers could in many instances do nothing, and the Potatoes grown in large areas, considerable quantities of which were not harvested, will never come into direct competition with the crop in the older States.

In addition to the abandonment of a part of the

crop in the north-west, there was a tendency towards excessive rotting of the tubers in many portions of the country. Together, these facts may result in relieving the congested conditions, and eventually bring an improvement in prices.

The distribution is unfortunate, the surplus production being confined chiefly to a few States far from consuming centres, but exerting a secondary and, for the time being, disastrous influence on the moderate crop grown elsewhere. With the knowledge of a bumper crop, taking the country at large, buyers and dealers have

to see these striking plants on payment of a small fee, the total amount being given to a charity. No doubt, Mr. FRIEND had some difficulty in dispelling the popular error that these plants are Aloe, and that they only flower once in a century. There are some errors which appear to live for ever, and these are of them.

**LINNEAN SOCIETY.**—On the occasion of the meeting held on Thursday, December 19, Mr. W. P. SLADEN, V.P., in the chair, Mr. William Scott was elected, and the Rev. T. R. Stebbins, Rev. H. P. Fitzgerald, and Mr. A. W. Giffcken were admitted

an economic plant. Mr. Rolfe gave an account of the morphology and mode of fertilisation of the genus, its affinities, geographical distribution, and an enumeration of the species, with descriptions. As indicating a still imperfect knowledge of the genus, he remarked that it was even now uncertain to what species the Peruvian plant with aromatic fruits belonged which was noticed by Humboldt more than eighty years ago. The paper was illustrated by a series of carefully-made drawings.

**THE ROYAL HORTICULTURAL SOCIETY.**—The secretary writes as follows: "It would hardly be consistent with my duty to the Council of the Royal Horticultural Society for me to enter into any discussion in your columns as to the merits of any suggestions that may be made for the improvement of the society. Knowing, however, so well what is the real mind of the Council, and sharing myself to the fullest possible extent in their earnest desire and endeavour to do anything and everything that may tend to promote the true interests and well-being of the society, I ask you to allow me to state that all suggestions made in the courteous spirit of your correspondents on pp. 774 and 775 of the last volume, and recognising as they do that there are difficulties to be overcome, will, I am certain, be always most carefully considered by the Council, with a view to the adoption of such of them as may be found practically feasible. May I further remark that definite suggestions and definite action will, I am sure, always be received by the Council with the attention which they deserve, whilst vague generalities seldom lead to any useful result. I am, faithfully yours, W. WILKS."

**MR. BARRON'S RETIREMENT.**—At the invitation of Mr. BARRON, the *employés* in the Chiswick Gardens assembled to dine together on the 21st ult. In a speech referring to his retirement from the superintendence of the gardens, Mr. BARRON expressed much regret. Being proud of many of the men who had gone from Chiswick, as well as of the present staff, he had asked those present to meet him that he might formally wish them good-bye. Subsequently—and quite unexpectedly—the staff presented Mr. BARRON with a handsome marble clock, through Mr. TURNER, the garden foreman, who spoke of the respect in which the Superintendent was held by the *employés*.

**REDUCED RAILWAY CHARGES FOR PRODUCTS.**—The London & South-Western Railway has followed rapidly on the lines of the Great Eastern Railway in establishing much cheaper rates for the transit of fruit, vegetables, and farm products to London from its numerous stations, the reduction being 33 per cent. within about 25 miles, to 20 per cent. for long distances. The rates include two classes, No. 1 and 2, the latter evidently comprising products of the more important or valuable kind, as in its case the reduction is slightly less. Thus 1 cwt. of products under class 1 can be sent from Ascot to London for 8*d.*, the previous charge having been 1*s.*, or from Romsey, Hants, for 1*s.*, whereas the older charge was 1*s.* 5*d.* In the case of products under class 2, the reduction is a trifle less. Although the railway company has for some time made known its intentions, and especially amongst farmers, in respect of feeding-stuffs, manures, &c., as well as of the marketing of poultry, &c., yet a very poor response, so far, has, we learn, been made on the part of agriculturists. One important thing to be borne in mind is that the newly-reduced rates apply to parcels of 1 cwt. and over. That condition may not benefit many consignors, unless they enter into combination to send their products to London as one consignment. To effect that, there is need for collecting and distributing agencies. These latter are to hand already in London but they do not exist in the country. It is for those who wish to benefit by the reduced rates to organise these useful agencies.

"THE FLORA OF BERKSHIRE" (dedicated by special permission to her most gracious Majesty the

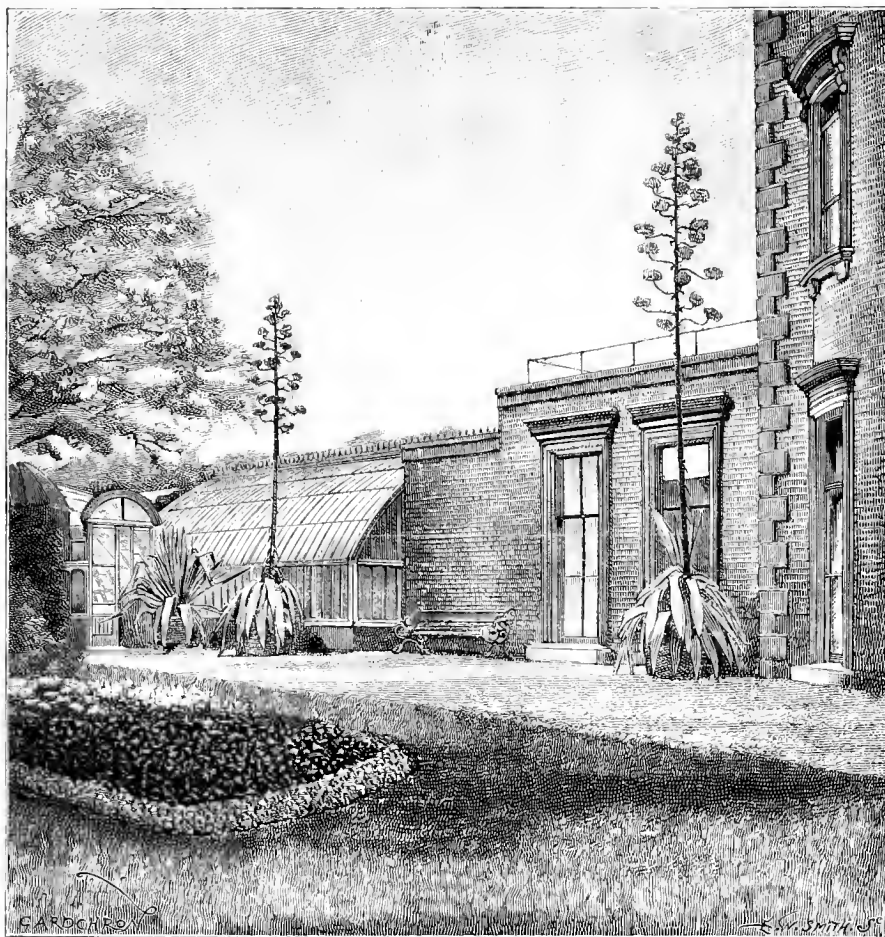


FIG. 4.—FLOWERING SPECIMENS OF AGAVE AMERICANA.

(From a photograph sent by G. Friend, Esq., Northdown House, Margate.)

not been slow to jump on the market, and as a result it is not at all impossible prices have opened directly on the bottom of the scale. The generally bountiful crop of Potatoes for 1895, the world over, must be recognised, however, in deciding whether to sell or hold, also the fact of usual shrinkage in merchantable Potatoes through storing them, instead of selling direct from the fields.

**AGAVE AMERICANA.**—The Agaves figured in our illustration (fig. 4), flowered in the gardens of G. FRIEND, Esq., Northdown, Margate. As will be seen, they were handsome specimens, about 26 feet high, and attracted much attention. It was a kind thought of Mr. FRIEND to allow the public

Fellows of the Society. Mr. W. B. Hemsley exhibited specimens and photographs of Cactæ from the Galapagos Islands, and gave an account of some of the more remarkable species. Mr. R. A. Rolfe gave an abstract of a paper entitled "A Revision of the genus Vanilla," in which some fifty species were enumerated, seventeen of which were new, though five of them had been previously confused with older forms. The plants in this genus were described as tall forest climbers, some of them leafless; found almost throughout the tropics, though generally somewhat local in their distribution. Of the species described, 29 were American, 11 Asiatic, and 10 African. Six of the American species have aromatic fruits, and three of them are well known in commerce, although only one of them, *Vanilla planifolia* (often confused with other species), is largely cultivated as

**QUEEN.**—As no general Flora of Berkshire has been written, the author (G. CLARIDGE DRUCE, Hon. M.A. Oxon), since the publication of his *Flora of Oxfordshire*, has devoted a considerable portion of his leisure time to the compilation of the *Flora of Berkshire*. The work, which will extend to a volume of about 500 pages, is intended to be not only a catalogue, but a history of the plants of the county. The various botanical writers since 1550 have been pretty exhaustively consulted, and no pains have been spared in personally visiting nearly every parish in the county in order to make the work as complete as possible. In the *Flora* about a thousand flowering plants and Ferns will be enumerated, in addition to a large number of varieties and plants of casual occurrence. In order to show their distribution through the county more completely, Berkshire has been divided into five botanical districts, which are based upon the river drainage. The plant distribution through these, and also through the border counties, will be shown in a tabular form. Brief sketches of the topography, the meteorology, the geology, river drainage, and the physiography of the botanical districts will be given. The work will also include short biographies of the various botanists who have investigated the Berkshire botany.

**HOP CULTURE.**—Judging by the statements recently made by a deputation that waited on the Prime Minister, Hop culture seems to be in a bad way. But Hope after all are not the only things that are cheap. No doubt a very much larger area of land in this country under Potato culture than is under Hop culture, yet Potatoes whilst having to encounter at this season no foreign competition, were never cheaper than now. Potato growers, however, do not invite help from the Government. Probably, after reading Lord SALISBURY'S cold-water reply to the Hop deputation, there will be no similar ones in favour of any other industry. Everything must be left to economic effects. Even fruit growing is found satisfactory only in certain cases, but higher prices would be more pleasant. Practically, growers suffer either from there being too abundant crops or because the public are not so great consumers as they should be. Perhaps in a year or two the tendency will be upward so far as prices are concerned and downward in production, and then again we shall be no better off.

**PEOPLE'S PALACE EXHIBITION.**—The programme of a great exhibition to be held in June in the People's Palace, Mile End Road, has been issued. The committee is an influential one, and a substantial Guarantee Fund has been raised. There are twenty-seven classes, that devoted to horticulture comprising hot-houses, boilers and heating apparatus, lawnmowers, tools, pots, and plant boxes. There will be special sections for the display of work of (1), by individual craftsmen; (2), by apprentices and students of the various Polytechnic Institutions; (3), by women. Mr. LLOYD has been appointed manager of the exhibition. The honorary secretaries are HAROLD BOULTON, Esq., and ERNEST FLOWER, Esq., M.P.

**"THE MONEY-LENDER'S CLUTCHES."**—This little pamphlet professes to be an exposure of the manners and customs of some advertising money-lenders. If only a tenth part of what is here set down be capable of verification, there is still reason to demand Government inquiry, with a view to checking the iniquities here spoken of. The pamphlet is published at one penny, by the Yeoman Company, at 11, Palace Chambers, Bridge Street, Westminster. Provincial and other newspapers might do much by declining to insert advertisements, the character of which is generally obvious.

**THE HORTICULTURAL SCHOOL AT WAGENINGEN.**—We are informed that Dr. J. TH. CATTIE, for many years Editor of the *Nederlandsche Tuinbouwblad*, has been appointed Director of the newly-established School of Horticulture at Wageningen.

**SOUTHPORT CORPORATION PARKS.**—Mr. J. HARRAWAY, gardener to the Earl of Lathom, has

been chosen the successor to the late Mr. H. HALEWOOD, as Southport Corporation head gardener and parks keeper.

**SUBTERRANEAN FASCIATION IN TARRAGON.**—Mr. PHILIP FRY sends us a curious fan-shaped, lobulated growth, looking like a saddle-flap fungus, such as is often met with in decaying trees. The presence of scattered leaf-scales, however, shows that the growth in question is an undergrowth shoot fasciated in the manner often met with in Asparagus. Along the free edges of the fan-shaped lobes is a row of little pearly growing-points. These are the tips of the young shoots, but instead of separating as shoots generally do to form branches, they remain united by connecting cellular tissue. To what circumstances the disproportionate growth is due is not known, probably to some local excess of nutrition.

**FOREST GATE AND STRATFORD AMATEUR CHRYSANTHEMUM SOCIETY.**—Few of special floral societies are as active in the work of philanthropy as those concerned with the cultivation of the Chrysanthemum, which, in not a few cases, devote a part of their surplus funds to charitable purposes. The society which heads this paragraph has just made a donation of ten guineas to the local hospital—a proceeding well worthy of imitation. It may be remarked that this society is in a prosperous condition.

**ANNUAL REUNION OF MESSRS. DOBBIE & CO'S EMPLOYEES AT ROTHESAY.**—This annual gathering took place in the New Public Hall on the 27th ult., Mr. W. CUTBERTSON, the senior partner, presiding over a party of 120.

**THE PHARMACEUTICAL SOCIETY'S PROSECUTIONS.**—Before Sheriff FIFE, on December 16, THOMAS B. KERR, assistant to ALEXANDER CAOSS & SONS, seed merchants and chemical manufacturers, Hope Street, Glasgow, was charged with selling by retail a poison within the meaning of the Pharmacy Acts—to wit, a quantity of arsenic, forming an ingredient in a substance called "Ballykiennin Ant Destroyer"—he not being a registered pharmaceutical chemist. Mr. T. B. MORISON, Edinborough, said that the "Ant Destroyer," which contained a large quantity of arsenic, was spread upon twigs of bush, and might have resulted in most dangerous consequences to children. Mr. BORLAND contended that the prosecution was made only in the interests of pharmaceutical chemists, who wanted a monopoly of such sales. The Sheriff dismissed the case with an admonition, remarking that in this case the accused was the victim of "the letter which killeth."

**SHIRLEY AND DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting of this society was held at the Parish Room, Shirley, Southampton, the President, J. W. F. G. SPANGLER, C.C., in the chair. The number of members present was about forty. The committee offered two prizes for the best essays on "The Best and Most Economical Method of Heating a Greenhouse, Stove, and Pit, by Means of One Apparatus." And in response, two essays only were received; the committee awarded the first prize to Mr. J. L. MORRIS, The Gardens, Blightmont, Millbrook. The essayists read their papers at the meeting, and a discussion followed, especially in regard to the fuel, some gardeners advocating coke, and others anthracite coal. A vote of thanks was accorded the essayists at the close of the meeting.

**PRESENTATION.**—Mr. W. MCKELVIE, who some time since retired from the charge of the Duke of Roxburgh's gardens at Broxmouth Park, Dunbar, was entertained at supper on the 18th ult., on the occasion of his taking up the tenancy of Duncanlow Farm. There was a large gathering, and before the proceedings terminated Mr. W. MCKELVIE was made the recipient of a presentation marble clock, with ornaments, and bearing a suitable inscription.

Hearty wishes were expressed that the guest of the evening would be as successful in agriculture as he had been in horticulture.

**CHISWICK'S NEW SUPERINTENDENT.**—Before Mr. S. T. WRIGHT left his charge in Herefordshire, to take up the position of Superintendent of the Royal Horticultural Society's Gardens at Chiswick, occasion was taken by his many friends in that county to testify their personal esteem for him. Mr. WRIGHT was therefore entertained at dinner at the "Old Harp," Hereford, on Saturday afternoon, the 25th ult., when, in the presence of about thirty persons, he was presented with a magnificent marble timepiece, together with an artistically-executed address, in which the donors expressed their high regard for his merits, and their hearty wishes for his future welfare. Among the company, which was presided over by Mr. JOHN CRANSTON, formerly of the King's Acre Nurseries, were Mr. JOHN WATKINS, Pomona Farm Nurseries; Messrs. R. GRINDROD, Whitefield; F. HARRIS, Eastnor Castle Gardens; W. NASH, Bryngwyn; G. W. MEATS, Aylestone Hill; Chas. WHITING, of the Whitecross Nurseries; J. OUGH, Hon. Sec.; W. EARP, Guildford St. Nurseries, Hereford; J. WILLIAMS, Holmer Park Gardens; and others. Letters were also received from many who were unable to be present, including one from Mr. WRIGHT'S employer at Gleston Court (C. LEE CAMPBELL, Esq.), in which were many cordial testimonies to Mr. WRIGHT'S capabilities and genial disposition. In response to many laudatory speeches, Mr. WRIGHT returned thanks for the presentation, and acknowledged the kind feelings which had prompted them to invite him to take farewell of them under such pleasant circumstances. He was proud of the distinction that the Royal Horticultural Society had done him in appointing him to Chiswick, but the feeling was tinged with regret at taking leave of his friends and of the county. He had to succeed a most able man (Mr. BARRON), and he hoped to follow worthily in his footsteps, and to do credit to the Royal Horticultural Society and himself.

— In addition to the presentation referred to above, we have reason to know that Mr. WRIGHT was presented with a tea service by Mrs. Lee Campbell and daughter, a handsome clock by the *employés* at Gleston Court, and a reading-lamp from an *ex-foreman* at the same place.

"HEATING, AS APPLIED TO HORTICULTURAL BUILDINGS," was the title of a lecture given by Mr. H. CANNELL, Swanley, before the Chislehurst Gardeners' Association, on the 17th ult. The history of the subject, including the hot-bed system and the dangerous flue method, was exhaustively dealt with; and excellent hints upon the best system of boiler, and correct method of setting one, were given.

**NEW DIGNITARIES.**—It is desirable that the claims of all departments of knowledge and art should be recognised by the State, and this being so, the conferment of a peerage on Sir FREDERICK LEIGHTON, the President of the Royal Academy, is a matter for warm congratulation. It would in many respects, be better to institute a separate order of merit for intellectual eminence. To make such men a TENNYSON—for instance—a Lord, the same honour being conferred on a successful brewer or stockbroker, is grotesquely ridiculous. The eminent geologist, Prof. PRESTWICH, is to receive the honour of Knighthood.

**THE CHISWICK BOARD.**—We are informed that the Council of the Royal Horticultural Society has decided not to reappoint the Chiswick Board for the present year.

**THE POET LAUREATE.**—One of the most prominent characteristics of the late Poet Laureate was his sympathy with natural history, and the scientific development of the age. The newly-elected Laureate, Mr. ALFRED AUSTIN, has an equal feeling for Nature and for gardening, as witness his recent books.



**PROPOSED NEW PUBLIC PLEASURE-GROUND FOR ST. IVES, CORNWALL.**

The design which we reproduce in fig. 5, is the work of Mr. F. W. Meyer, the landscape gardener of the well-known firm of Messrs. R. Veitch & Son, Exeter. We have illustrated from time to time several of his plans, noteworthy those of Truro and Devonport Parks, from which that now given varies the absence of formality; this is due to the formation of the ground, and the number of masses of natural rocks and other irregular features which harmonise only with the irregular style of treatment.

The design was presented to the town of St. Ives by Mr. Edward Hair, jun.; and the land, together with a sum of money for seats, &c., were given by T. B. Blithe, M.P., of Trengwainton. Although the site covers but a few acres, it contains many

streamlets, which, at very little expense, will furnish irregular waterfalls, besides other desirable effects.

The native plants existing on the ground will be interfered with as little as possible. These consist mostly of Furze, *Ulex europæus*, Black Thorn, *Prunus spinosa*, Brambles, *Rubus fruticosus* and Bracken, *Pteris aquilina*, which here and there will be augmented by other species; large belts of trees and shrubs will be introduced only where it would be desirable to hide any unsightly object, such as the large water-reservoir and goods-shed, and other buildings of the railway company.

**BELGIUM.**

**SOME FINE ORCHIDS.**

THERE is now in bloom at l'Horticulture Internationale a *Catasetum Bangerothi* var. *giganteum* with an unusually large flower the lip measures

**KENTISH NUTS, COBS, AND FILBERTS.\***

This is an important crop as far as it affects the grower, and a few words may be useful from a salesman's point of view. I have no means of gauging the general crop from year to year, but it is very uncertain. The last three years' crops have been abnormal; such a fact as that of three consecutive years' crops being above the average is extraordinary. Beginning with the year 1893, 140 tons passed through our hands; in 1894, 120 tons; and this year we reckon there will be about 70, as against an average of 50 to 60 tons. I have for years been instilling into the minds of growers that the taste for stored Nuts has passed away—gone with the port-wine drinkers. The public now prefer the green fruit, and what is the result? Three blessings.

1st. The crop is extended over five months instead of three, thereby increasing the demand. We have

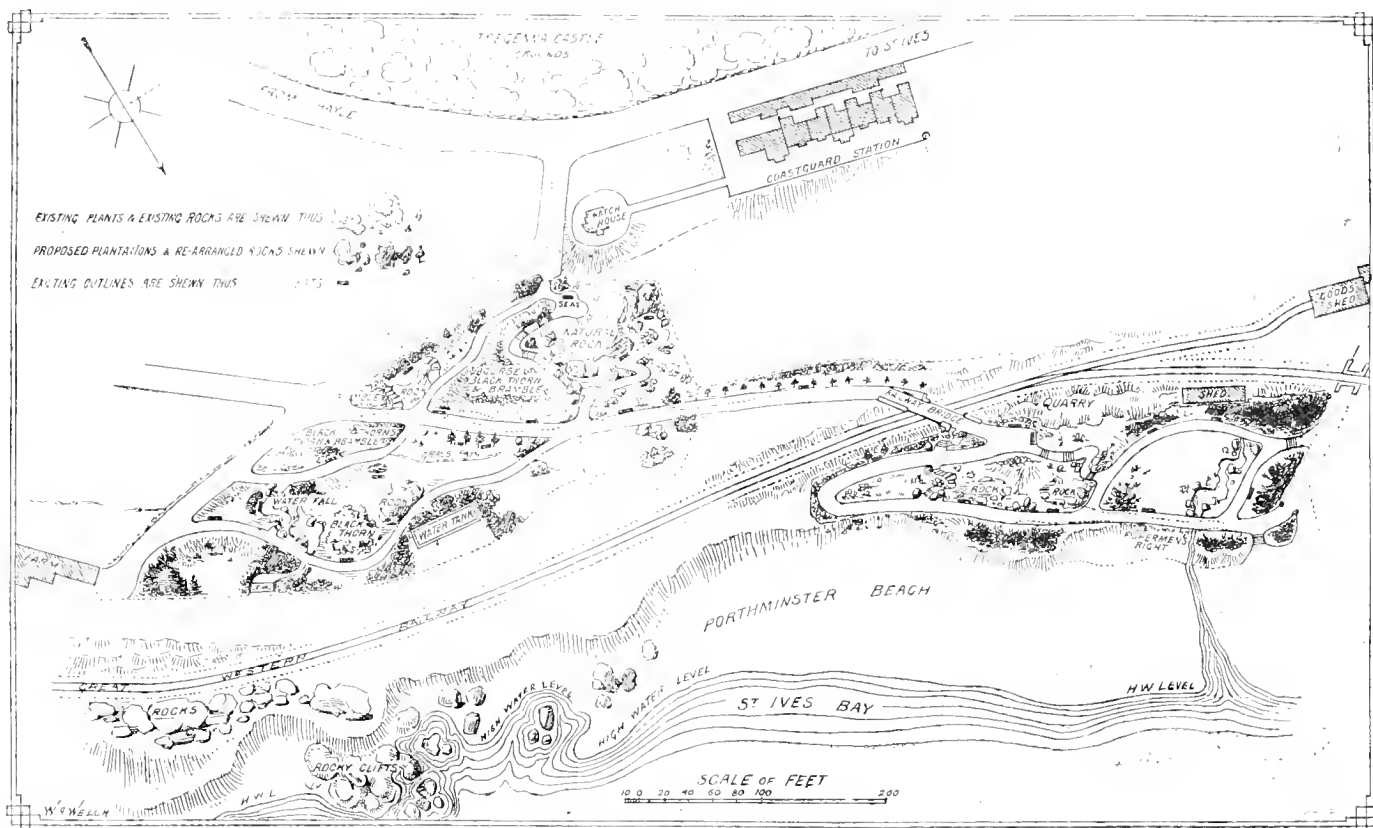


FIG. 5.—PLAN OF PLEASURE GROUNDS, ST. IVES, CORNWALL.

rugged natural beauties, to which the plan has been adapted in such a manner as to enhance them. Many of the large groups of granite are magnificent, and their huge proportions will be emphasised in some parts by means of rugged steps cut in their sides, and by zigzag paths of easy gradients carried over their steep sides. Where alterations in the present levels will have to be made, especially in places where an easy path can be obtained by means of falling ground (sanging level), it is proposed to carry out the work with granite boulders of various sizes, with weather-beaten mossy surfaces arranged in a natural manner so as to be undistinguishable from perfectly natural features. In some of the rocky recesses that command good views, seats will be placed. Amongst the views thus seen will be St. Ives Bay, and its rugged rocky shore-line and cliffs. The site possesses the advantage of two

nearly 3 inches in diameter and breadth, and the flower is very handsome. There are also a *Cattleya* × *Dominyana* var. *aurea*, with yellow sepals, the lip with a golden ground; *Odontoglossum Rossi majus*, with flowers 2½ inches in diameter; and *Vanda Hovea* (?) with twelve flowers, smaller than those of *V. savais*, the sepals and petals very clear yellow, rounded, bordered and spotted with brownish-red, the lip violet, lengthened and rounded—a very close truss. There is also an abundance of *Lælia præstans* blooming well, with large, well-coloured flowers.

**UNIVERSAL EXHIBITION AT BRUSSELS IN 1897.**

As President of the horticultural section of this exhibition, the Government have appointed Comte Oaw. de Kerchove de Denterghem; as "commissaire," Comte de Grunne; and as secretary, M. L. Lubbers. *Ch. D. B.*

August, September, October, November, and December, instead of the last three months, as formerly.

2nd. The weight comes down heavier. Green Nuts, by storing, lose one-seventh of their weight, or 14 lb. in every 100 lb.

3rd. The value is increased by these two means, for my books show that in 1893 (the heaviest year), a ton of Nuts, worth £27 10s. to £30 green, realised £35 when stored. In 1894 there was absolutely no difference from beginning to end of the season; the price kept very regular, but the grower threw away his weight, and lost the equivalent of value. In the present year the price now (in December) is less than it was in the early winter months; in fact, there is scarcely any demand. These results have been gained by three-quarters of the crop being marketed green.

\* Paper read by Mr. Webber, December 10, 1895.

What would have been the result to growers if the crop had been sent in the old way, viz., stored?

"To every ton of Nuts sold the last two months of the season, we should have had nearly 3½ tons on the market."

I leave it to you to judge the result to the grower. I think I have shown that the results for the past three years prove that the demand for stored Nuts is gradually falling away.

## HOME CORRESPONDENCE.

**GAME-COVERT PLANTING.**—Much has been written of late about this subject. I have not, however, seen a mention of three plants that are useful subjects to plant. They are Wood or Spurge Laurel, Butcher's Broom, and Periwinkle. All of these grow fairly fast under trees. The latter is especially vigorous. Fifteen years since I planted a wood with evergreen, Firs, Austrian, Corsican, and Scotch Pines, as well as Spruce. So thickly were they put in that I thought the Periwinkle would be quite killed, but no, now the bottom branches of the Firs are decaying, the ground is densely covered with the evergreen Periwinkle. This is useful, too, where hazel is grown, as the base of the stumps of the latter are soon covered, and afford shelter to game of all sorts. From seed the Wood Laurel grows rapidly, and being evergreen it should be useful. *E. M.*

**RE-ORGANISING THE ROYAL HORTICULTURAL SOCIETY.**—For some weeks past, various correspondents have given their opinion as to the future arrangements of the Royal Horticultural Society, some desiring branches in various parts of the country, assuming that if local branches were established, local talent would thereby be in touch with the Central Committee in London, and so rise to its proper level in the horticultural profession. The two letters in the *Gardeners' Chronicle* of last issue by "A Fellow" and "W. H. Divers," treating upon this subject, are worthy of much consideration by all horticulturists in the provinces. My own opinion is, that the Council of the Royal Horticultural Society should aim at maintaining its position as the authority in all matters of horticulture, and endeavour as far as possible to raise the provinces up to the highest level. Now, if at certain centres a Committee should be appointed and have the authority to award, say a First class Certificate, as from the Royal Horticultural Society, it is more than likely that the exhibit to which it was awarded would, if brought before the Committee in London, be passed over without notice, not, however, because the Committee is not honest to their brethren in the provinces, but because they are honest to horticulture. As a matter of fact, the members of the Committees at the centres are, and should be, the best judges, for two reasons, first, because if they are not men of talent, they would not be elected on the committee; and secondly, because they have constant opportunities of seeing the various degrees and shades of improvement, culture, and skill in the exhibits which are constantly brought before them. Therefore, if any award from the Royal Horticultural Society is to be of any value to its possessors, it should be confirmed, if not conferred, by the central authority. If various provincial committees once begun to make awards, as from the Royal, then there would be a general levelling down, and no true horticulturist could desire such a course. In honour of the committees who sit at the Drill Hall from time to time, be it said that they are worthy of all confidence. They have mine, certainly. Now, if there are some brighter stars dotted about in the provinces, so much the better for the local societies. Their light will shine the brighter and their influence must be the healthier for having them in their neighbourhood. If, then, any of our large societies will join hands with the Royal Horticultural in London, and send up some of their best men to sit on the committees, and pay their expenses if needed, all the provinces would be represented, and all the most capable men would make the awards, and the Royal Horticultural Society would gather strength and honour. Let the gardeners in the provinces become Fellows, and the societies become affiliated. But by all means keep the central society at the highest possible standard, and level up—not down. *N. Blandford, Moor Hill, Westend, Southampton.*

— It is to be hoped that the letters which are appearing in the horticultural journals at the

present time will be the means of bringing the Royal Horticultural Society, in some shape, into the provinces, and thus render it more truly national in its aims and movements. Its localisation in the metropolis, and metropolitan character of its membership, prevents its influence being felt in distant parts of the country. The difficulties of its doing this are serious; nevertheless, they ought to be met. An occasional move made from the centre to the extremities, so as better to gain the confidence of the horticultural community in the counties. But how, or in what direction shall the Society move? not in the form of shows, for these hitherto held have not proved successful, and doubtless they would not be more so in the future. I am old enough to remember what great things were expected when the Royal Horticultural Society first went to the country at Bury St. Edmunds, which if I rightly remember, was the only successful meeting they have ever held in the counties, a success mainly due to the laborious efforts made by your valued correspondent, Mr. D. T. Fish, and a few coadjutors. As the Society's show in country towns have not been visited by the many as was expected, we cannot blame it for not essaying another show at its own cost and on its own responsibility. I think, therefore, the committees of the larger country horticultural societies should now try what they can do. Suppose these bodies invited a deputation from the Royal to be sent to their shows accompanied by the secretary, and let the committees make it known through their schedules and by other means that the deputation from the Royal Horticultural Society will be in attendance on the first day of the show to award the Society's Medals, Certificates, and Cultural Commendations; those in possession of new, rare, or choice plants, flowers, fruit, or vegetables, and who might wish to exhibit them to the Royal Horticultural Society, would stage them on a separate table. If there is no class in the show for such exhibits to be adjudged according to the rules of the society, permission should be granted to the deputation to go over all the exhibits of the show, and make awards of a fitting character to whatever specimens of plants, flowers, fruits, or vegetables that are of exceptional merit. In the evening of the first day a paper might be read and discussed before the deputies. Something like the crude ideas above sketched out might be tried as an experiment, without any great expense being incurred to either society; and a connection having once been established, it could be strengthened in various directions. I would like to hear what other interested persons have to say to the above proposals. *J. Easter, Nottell Priory Gardens.*

**OPENING OF OENOTHERA FLOWERS.**—In reference to a note on p. 775 on this subject, I find from that wonderful work, *Index Kewensis*, that *Oenothera suaveolens* (D. et) is no other than the common Evening Primrose, *O. biennis* (Lin.). It is surely known to all observers of flowers that the flowers of this plant often expand on hot bright days suddenly, almost with a snap, about half an hour after sunset, and open as flat as a dinner-plate, far more flat than they appear the next morning, when they begin to contract. They always wither before night. I have been in the habit of taking my friends after dinner in summer to my *Oenothera* corner to witness this phenomenon, which I recommend to the attention of all who have never seen it. *C. Wolley Dod, Edge Hall, Malpas.*

— It may be of interest to note that the sudden opening of the flowers of *Oenothera* has not escaped the notice of at least one poet. In a volume of charming verse, *The Old Garden*, by Margaret Deland, charmingly illustrated by Mr. Walter Crane (1893), the following passage occurs in a description of an old New England garden:—

"Here, in warm darkness of a night in June,  
While rhythmic pulses of the factory's flame,  
Lighted with sudden flare of red the gloom,  
And deepened long black shadows, children came  
To watch the Primrose blow!

Silent they stood,  
Hand clasped in hand, in breathless hush around,  
And saw her shyly doff her soft green hood  
And blossom—with a silken burst of sound."

*Oenothera biennis* is such a weed that I am afraid its undoubted beauty of colour is often overlooked, but the name of *O. suaveolens* recalls two other little matters to me; first, how generally the generic name is mispronounced, it being forgotten that the "e" in the original Greek is long, and that; therefore the accent must be on that, the penultimate

syllable; and, second, that the fragrance of a South-American species forms the subject of a pleasing essay in Mr. W. H. Hudson's *Idle Days in Patagonia*, *G. S. Boulger, 18, Ladbroke Grove, W.*

**PEAR CATTILAC.**—I note the mention of this Pear, on p. 745 of the last volume of the *Gardeners' Chronicle*, as being well suited for growth as an espalier. I can vouch for its suitability as a bush-grown tree in the open. With us, trained in this manner, we never fail to get a full crop of fair-sized fruit of good quality. It is doubtful if there is another variety to equal this Pear in a culinary point of view. *E. M.*

**CYPRIPEDIUM BURTONI** ×.—My attention has been called by several people to the fact of *Cypridium Burtoni* being advertised for sale in the catalogue of a well-known firm. The true cross of *C. Burtoni* is between *C. Rebellini* and *C. barbatum Warneri*; and, with the exception of one plant exchanged with a friend, I have not yet parted with a single specimen to anyone, and there are very few altogether. *F. M. Burton, Highfield, Gainsborough.*

**ROOM FOR POTATOS.**—Mr. A. F. Pearson's reference to the greater crop of Potatoes furnished by outside rows of a breadth is but emphasising a well-established fact in all plant cultures, as well as in that of Potatoes. Plenty of light and air is essential, not merely to health, but to production. The important nature of the work that leafage has to perform in vegetation seems yet to be imperfectly understood by many who garden, and whose mistaken notions lead them still to assume that heaviest crops are obtained from dense planting rather than by thin planting, and thus permitting ample root and leaf development. Those who continue to plant Potatoes, especially strong growers, in rows at but 2 feet apart, have no conception of the harm they are doing to the leafage, the lungs literally of the plants, in so frequently crowding the tops that one-half the leaves are excluded from the influence of light, and largely from that of air. That is, of course, folly. What wonder is it if such their attenuated leafage not only plays no useful part in tuber production, but also, because so weakened and imperfectly developed, soon falls a prey to the attacks of the disease-sporae—those of the *Phytophthora infestans*. Where the soil is comparatively loose, these strong-growing varieties should be in rows fully 30 inches apart, and in stronger soil, 3 feet apart. Of course, in all cases the soil should be worked before planting correspondingly deep. Leafage also in the Potato helps materially in the manufacture of starch in the tubers, and the more fully it is bared to the light and air the more thoroughly is starch created. There are probably no directions in which we have so much harmed the Potato as by shameful bad storing of seed-tubers, and by too dense planting. *A. D.*

**COLGUR IN APPLES.**—On October 15 last, I sent an Apple to the Fruit Committee at the Drill Hall, describing it as a Blenheim Orange, giving also an account of my treatment of the soil during the past five years, and was awarded by them a Vote of Thanks. In the *Gardeners' Chronicle*, November 9, was a letter signed "D.," doubting the identity, and questioning the efficacy of my treatment. He closes his note by saying, "Perhaps Mr. Molyneux will solve the problem?" As Mr. M. has not yet called to see the Apple, and "D." may think I have let judgment go by default, I would beg a small space to inform him and your readers that my Apple is most unquestionably a Blenheim Orange. It is one of 5 bushels taken off the same tree, all well-coloured; and it is still in good condition in my fruit-room, and will be gladly shown to all who may favour me with a call. Having been engaged in fruit-growing from infancy, I hope it is not vanity to think that I could not mistake a *Mère de Ménage* for a Blenheim Orange. But after "D.'s" letter, lest I had erred, the Apple was shown at the Royal Horticultural Society's show at Southampton, and specially brought under the notice of the three judges, who were satisfied that it was rightly named. Afterwards it was staged at Winchester, and both Mr. Wright and Mr. Drover, the two judges, declared it true to name. I am sure "D." will accept the verdicts of the above practical gentlemen as final, with the assurance that nothing was further from my thoughts than to mislead in the slightest degree my brother gardeners. I would again repeat my firm belief in the application of soot, sulphate of iron, and potash (Kainit), as colouring agents in Apple cultures. This year I have used 300 bushels of soot to Wellingtons and Blenheims, and intend to add

the iron and potash in the spring. Mr. Molyneux would greatly oblige by giving his opinion of my trees and fruit when he saw them last autumn. I notice in the *Journal of Horticulture* that a gentleman in Yorkshire has been using the same fertilisers with a view to improve colour in the bleak North, and with success. It would be a boon to learn what he has to say on the subject. I know that in Sussex, Sarrey, and Kent there is good, ferruginous soil, where Apples will put on splendid colour without assistance. But where the essentials for this are wanting in the soil, why not assist nature by adding them as above? Would "D," kindly oblige me? When ripe, compare my fruit with his *Mère de Ménage*. Had he the two together at the same time? Or, after seeing one, did he go to look at the other? All *Mère de Ménage* grown hereabouts are heavier than Bleheims, and of quite a different shape. *Jno. Miles, Gardener, Portswood Park, Southampton.*

— Since writing my last, I have seen Mr. Molyneux's letter in the *Gardeners' Chronicle* on the above subject, and, with your leave, should like to correct one slight error, viz., pruning of Wellington (Damelow's Seedling). The trees are not closely pruned, but thinned out, and managed as freely-grown standards. The only other variety treated to the same way is the Ecklinville Seedling (Abbeyland's Pippin). All other varieties are, as Mr. Molyneux says, closely pruned. I am sending you a few samples of fruit of different varieties, taken from trees that have been treated as described, which, I think, will confirm all that I have said. The Blenheim Orange sent herewith was taken from the same tree as the one questioned by "D.," but not the same fruit, nor of so deep a colour. *Jno. Miles.* [We could not desire more finely-coloured, clean, and shapely fruits than those sent by our correspondents. The varieties were Cox's Orange, Fearn's, Blenheim orange and King of the Pippins, Bees Pool, Wellington, &c. The Blenheim, though highly coloured, was not of so deep a tint as the one exhibited at the Royal Horticultural Society. Ed.]

— I have to thank Mr. Molyneux for having so kindly enquired into the subject of the artificial coloration of Apples, by adding certain ingredients to the soil, and sought to be illustrated by Mr. Miles' sample of fruit of Blenheim Pippin previously referred to. I was led to believe that the one sample in question was *Mère-de-Ménage*, because, had it been placed in a dish of half-a-dozen of fruits of that variety shown at the Drill Hall at the same time, it would have been very possible to assert that it was identical with the rest. The fact that only one fruit was exhibited of this wonderful effect of artificial coloration also naturally led to some feeling of incredulity. If there be anything whatever in this assumption, that applications of sulphate of iron and soot tend to the production in Apples of exceptionally high colour, it seems odd that it should be just now have been discovered. As the Scientific Committee of the Royal Horticultural Society purposes dealing with the subject of the coloration of flowers and fruit, that body may also well take in hand this matter of the coloration of Apples, and experiment on a few trees at Chiswick, where there are such ample facilities. It is just possible that Mr. Miles' soil at Southampton is highly impregnated with iron, as there is a good deal of that mineral in certain strata in that locality, notably about Basset. The matter is one of too much general interest to be left in its present uncertain stage, and we may well hope to learn more facts later on. *A. D.*

**THE PHARMACEUTICAL SOCIETY** *versus* **THE NURSERY AND SEED TRADE.**—For some time I have been observing the doings of the above society and their widespread prosecutions of grocers and others who sell patent medicines. They are now prosecuting and endeavoring to prevent the nursery and seed trade from selling weed-killer and such insecticides as contain any poisonous ingredients. I consider the right to sell such articles belongs to them whose trade lies principally among gardeners and others who require and use these articles. We all know that poison sold by a chemist is just as dangerous as if sold by any one else. Neither will the Pharmaceutical Society convince us that it is in the interest of the public they undertake these prosecutions; it looks as though they were striving to obtain a monopoly for themselves, and I am astonished that the nursery and seed trade have quietly borne such petty tyranny as the society are using to deprive them of part of their

trade. They ought to combine to get petitions presented to parliament, drawing the attention of our legislators to the hardship of being prosecuted for selling articles they have hitherto been in the habit of selling, and that are no more dangerous when sold by them than when sold by a chemist, and let them agitate until they get the obnoxious 15th section of the Pharmacy Act deleted. *Stat Veritas.* [In the interest of the public some regulation is absolutely essential.—Ed.]

## PRICES OF GARDEN MANURES.

In your issue of December 14, your correspondent "Head" brings up a subject of considerable importance to horticulturists. The purchase of high-priced artificial manures in quantity, has to be carefully gone about with most gardeners, as a big bill may soon be run up, for which there may be a day of reckoning for the user, unless he can show that it was absolutely necessary. In my own practice, I have one of these well-known manures in frequent use for top-dressing, mixing with potting soils, Cucumber, Melon, or Tomato composts, and similar purposes where quick results are looked for. These manures are usually in a convenient form to use, and are sold as containing all the ingredients necessary for the growth of fruit and plants. I find they usually give good results, and for the purposes above mentioned, a moderate annual expenditure is sufficient. A good article is worth a good price, and I do not grudge the maker of a good manure, composed of the various ingredients necessary for plant-life, a fair profit on his special make of manure. For the making of new Vine and other fruit borders, however, the price is rather prohibitory. Most of these special manures are recommended by the makers to be added to composts, for new borders, at the rate of about 10s. worth of manure to the cubic yard. From several manure-dealers' lists before me, I observe the amount recommended varies from 8s. to 12s. per cubic yard, but 10s. may be taken as an average.

That there are great variations in soils goes without saying. Some soils contain naturally all the elements necessary for fruit and plant growth, others require more or less addition of manurial ingredients, while from some soils it is difficult to get good results, no matter what is added to it in the way of artificial manure. Manure dealers, as a rule, take no note of this, and recommend the same quantity to be added, whether the soil be good, middling, or bad. It is clear that what would be necessary in the case of a poor, or naturally infertile soil, would be, to a considerable extent, a waste of good things if applied in the same proportion to a soil naturally fertile. It is a well-known fact that over-manuring does not always increase the quantity of a crop, or improve its quality. This is, however, a matter of great importance to the cultivator. He has to get the best soil available in the circumstances for his purpose, and has to gauge as best he may, what additional ingredients are necessary to secure the best results. To add more than is required of expensive ingredients is a waste of money, which in the case of dealing with large quantities of soil would amount to a considerable sum. I have in my time helped to make a good many borders in large establishments, and for a considerable number of years have been from time to time making up fruit borders in gardens under my own charge, but in no case have I seen a soil used which required an expenditure for artificial manure equal to 10s. per cubic yard. In most cases, that sum would cover the cost of artificial manures, added to from 3 to 6 cubic yards of soil, according to its quality. While the results, with the necessary attention, and the usual annual top-dressing, were probably quite as good, as if a much greater expense had been incurred, in the addition of two or three times the quantity of manurial agents in the border. I believe for permanent borders, a rougher or coarser grade of manure should be used, as being likely to last longer, and not so liable to be washed out of the border by heavy waterings and the rain. Many gardeners I

have spoken to on this subject hold the same opinion. In connection with some new fruit houses, I had recently to make border space for 100 cubic yards of soil. It was decided to put in only half this quantity at once, in which to plant the Vines, the remainder being carted in when required by the Vines. The best soil available was the upper 3 inches of an old pasture, red fibry loam, perhaps a little poorer than I liked, but on that account not so liable to run too close together after the decay of the fibre as a heavier or richer soil. I added the usual proportions of broken brick, lime rubble, wood ashes, charcoal and soot—these cost us nothing, being produced on the estate or in the compost yard. The artificial manure consisted of equal parts of  $\frac{1}{2}$ -inch,  $\frac{1}{4}$ -inch bones, and bone-meal, a quantity of horn shavings, and some other ingredients. The cost for artificial manures worked out to about 2s. 6d. per cubic yard. So far as I could judge, the compost was all that could be wished for so far as manurial ingredients was concerned. The Vines made strong short-jointed growth, ripened well; they are in every way satisfactory, and have every appearance of giving good crops.

At the rate mentioned, the cost for artificial manures for the 100 cubic yards required, will be under £13. At the rate recommended by most manure-dealers, the cost of manure sufficient for the same quantity of compost would be about £50, being a difference of about £37, a sum sufficient to purchase all the top-dressing the border will require on a most liberal scale for a good many years to come. I do not pen the foregoing remarks with a view of disparaging any of the special manures in the market. As I have said before, I have one or other of them in frequent use for purposes where quick action is required, and find them most useful. My object is rather to point out:—

1st. That the proportions recommended to be added, in the case of new borders, means an expense few gardeners can incur in dealing with large quantities of soil.

2nd. That many gardeners hold, and act on, the opinion, that the bulk of the artificial manures added to composts for a permanent border should be of a coarser grade than that used for top-dressings and other purposes, where comparatively quick action is required.

3rd. That it would be to the advantage of manure-makers to introduce, at a fair profit, a manure of a coarser grade, for permanent borders, requiring a considerably less expenditure per cubic yard of compost.

4th. That it would not interfere with the sale of the present finer and higher-priced manures for special purposes; but that there is a good opening for such a manure, of a coarser grade, for fruit borders, for which there would be a considerable demand. *Sans Peur.*

## FRUIT SUPPLY OF COVENT GARDEN MARKET.\*

To commence with, I will state that it is quite impossible to get at exact figures in regard to the quantities of any one kind of fruit, or even of the whole, and I shall only give as far as I can a rough estimate. The market is supplied from many different sources, coming in at all times of the day and night; and although the authorities check goods that bear toll, a great proportion is brought in by yearly stand-holders who do not pay toll, and whose totals are not checked. I understand that the market authorities do not distinguish between fruit, vegetables, flowers, or roots in calculating tolls, so that even if I could give you the exact figures, the fruit would have to be an approximate quantity based on knowledge gained by observation. That an army of about 700 to 800 porters get a living in unloading and delivering produce, will give some idea of the quantities to be handled, besides another 150 on the average employed for foreign trade.

\* Paper read by Mr. Geo. Monro at the conversation of the Horticultural Club, on Tuesday, Dec. 10, 1885.

It is the general rule to employ a separate staff of porters to unload goods and carry in, so that those engaged in carrying out are not hindered. I employ a man at so much per score, according to the size of the package, who is responsible, and he has to employ sufficient hands to keep clearing vans as they arrive. The amount spent in this way can only be judged by the fact that the one I employ has often to draw from £20 to £30 weekly, representing 20,000 to 30,000 packages; of course a great proportion of this is not strictly fruit, but in my case would consist wholly of either fruit or hot-house produce, such as Cucumbers, Tomatoes, &c.

*Strawberries* are the first fruits of the season, and these commence in small quantities in February, and increase weekly until May, during which month I think I shall be quite within the mark in saying the daily supply averages nearly a ton, and keeps about the same during June, until the outdoors commence, when, of course, the supply from Hampshire, Essex, Middlesex, and Kent is enormous, although every year a greater proportion is sent direct to the country markets, whole train-loads being made up in Kent for the North. This also refers to all kinds of fruits, so that the quantity passing through Covent Garden by no means represents the whole crop, even around London. Strawberries particularly are also largely sold in other London markets, especially the Borough, where many Kent growers sell their own.

*Currants, Gooseberries,* and other soft fruits, at one time used all to come to the London markets, but year by year a greater proportion go direct to the North, and this last few years a great deal has been made into jam in the country without being put on the rail at all. This refers also to Strawberries and Raspberries.

The same may be said of stone fruits, especially Plums, and it certainly is much better to see the fruit while perfectly fresh than to give it an expensive ride for a day or two, and then let it go into the pot at the finish. If there were more jam factories in the fruit-growing districts, there would be less spoiled in wet or plentiful seasons.

*Apples and Pears* I will take next, and the quantity of each received varies yearly, especially the latter, and I suppose no growers are so dissatisfied with the state of trade as the growers of pears, and it is mainly their own fault. For I must repeat what I have often stated, that there is no fruit comes to our market, either home-grown or foreign, which has so little care taken with it as English Apples and Pears. While this is the case, growers must not wonder at fruiterers buying foreign articles whenever they can. But this is simply suicide, as the English Apples particularly are far better in quality than any foreign, and if sent in unchargeable boxes, well selected and graded, there would be a far more ready sale. I was in a large wholesale co-operative store in Manchester this autumn, where they had English and American Apples side by side; and on asking the quantity of each sold, was informed, about 1000 barrels (3000 bushels) American, against 100 bushels English; simply because the packing could not be depended upon. This is a point that must be taken into consideration by those planting Apples and Pears, if they want to hold their own against foreigners.

There seems this year a decided step in the right direction with English Apples; they are certainly much better on the whole. I think this is partly due to the season, and to the fact that the newer plantations of good fruit are coming into bearing, as well as the fact that only the best have paid to market.

The Great Eastern Railway are now finding boxes at a small charge to convey produce of any kind, so as to avoid the bother they always have with returned empties; and to induce growers and farmers to use them, are carrying goods packed in boxes at much lower rates of carriage. This is a step in the right direction, and should show growers the advantage of a non-returnable package; besides which, salesmen could sell for less commission, and customers would

give a higher price, as the expense and nuisance of empties are very considerable.

*Forced fruits* are of course received in increasing quantities each year, until what were at one time luxuries at fancy prices have become almost daily articles of commerce, especially Grapes, Tomatoes, and Cucumbers, and of these it is less difficult for me to judge the quantity grown.

Having already dealt with Strawberries, I will take—

*Peaches and Nectarines.*—These commence in small quantities in April, and keep on till November, the bulk coming from the beginning of June till the end of September, and by aid of a variety of sorts and different temperatures some growers will keep a daily supply during that time. Of course, this wants a great deal of management, as we all know what a change in the weather means to a Peach and Nectarine grower. This last year there were often 1000 boxes of Peaches and Nectarines on the market daily, and with the thermometer at 80°, and a close atmosphere, it is the most difficult trade to manage of any I come in contact with, as there are so few buyers compared with those of other fruits; but thanks to the energy of growers in keeping up a regular supply, the outlet year by year is widening. Growers need not fear foreign competition in these fruits, the French fruits being picked before they are ripe, being hard and small as a rule; and those coming from the Cape come in during January and February, the weather there being so hot that they cannot make the season last much over a month. The bulk of those received from there at present are Clingtones, the melting sorts not travelling well. The English Peach-growers may be assured that no foreign fruit of good quality can travel the distance and compete with them.

*Figs and Apricots* are still grown in very small quantities, the bulk of the former coming from the Channel Islands, from whence there are about 100 baskets, containing 4 to 6 dozen, daily through August and September, outdoor grown; and a good few forced ones, commencing in March.

*Melons* are still limited in supply, as they also are fancy fruit, and uncertain in price; but I daresay there are often 100 dozen daily from June to September.

*Grapes,* as you all know, have increased more than any other forced fruit, and I shall be well within the mark in estimating this year's crop of English, for market, at 1000 tons, of which about three-fourths pass through Covent Garden (besides Channel Islands and Belgium), the bulk being of late varieties, principally Alicante and Colmar, so that we have one year's crop on the market fully a month after the succeeding one has commenced, and in this way have made it very difficult to import Grapes at a profit.

From the Channel Islands I estimate that we receive quite 1000 tons, some 500 to 1000 tons being also distributed amongst the provincial markets.

From Belgium the supply, I should imagine, has reached about 200 tons, a much larger proportion coming to us during the last two or three years, owing to a prohibitive duty preventing them from going to the Paris market.

*Cucumbers* have also largely increased, the daily supply from March to the end of July being about 1500 flats, averaging 3 dozen each; and till the end of October about half the quantity, a large quantity during the hot weather being sold to go to Lancashire and Yorkshire, towns like Bradford and Leeds taking about 500 flats each weekly.

These last few years I have also opened up a large trade on the continent, especially with Germany, sending some days 300 to 400 dozen, and this trade shows signs of increasing, as fresh customers keep applying. At one time the bulk of our supply came from the continent, but our enterprising growers have in this instance turned the tables on them. This great increase has, in a great measure, been due to the care taken in grading and packing, as well as a suitable and uniform package being used. Apple-growers, take note.

*Tomatoes.*—In these, growers have surpassed themselves, and in a great many cases driven the foreigners from our markets, the supply from

March to November being enormous. I should think quite 2000 tons have passed through our market, house-grown, besides a very large quantity of outdoor ones, this being an exceptionally favourable year.

Large supplies also come from the Canary Islands, from December to April; but this fitting into the time when our home ones are off the market, does trade good by holding customers on to fresh Tomatoes until our next crop is ready.

There are also some French and Spanish, but smaller quantities year by year. I consider that the trade in these as well as in Cucumbers has been made by a regular supply of a good article, well and fairly packed.

As you all know, the acreage of glass-houses to obtain the supplies of the last three mentioned, viz., Grapes, Cucumbers, and Tomatoes, is very large, giving employment directly to thousands of hands, and indirectly helping a great many other trades, especially those connected with iron, glass, and wood, as well as the basket-makers. The firm who make most of mine keep thirty men all the year round on to my orders, besides which I use a good many made on the Continent. Go where you will, some people are earning something out of the trade; and I think it is becoming a most important national industry, and deserves the greatest encouragement both from Government and the railways.

*Foreign Fruits.*—These are an important element in our market and in the trade generally, as the continual supply from different parts of the world keeps many retail shops open which would be compelled to close if dependent solely on home-grown supplies, and in many kinds we are entirely dependent on them, as in the case of Oranges, Bananas, Lemons, and, of late years, Pine apples.

Since the Duke of Bedford opened the Floral hall adjoining the market for auction sales, the quantity of foreign produce coming to Covent Garden has very largely increased, and by bringing more buyers and concentrating the bulk of both foreign and English fruit our English trade has become stronger, as dealers can now get everything they want in one market. At the same time, there is so much of each kind coming, that many salesmen who used to sell both, have found it best to devote their attention to either one or the other; those going in for special lines generally succeeding better than other firms who attempt to dabble in everything, as was the custom years ago.

The foreign fruit and flower trade, in my early days, was regarded as a nuisance and hindrance by many market salesmen, but the provision made for it in the foreign fruit market has turned it into a blessing. We have converted a dangerous rival into a generous friend. It is useless to attempt to exclude from market, articles that the public require, and the producer can bring. The wider the basis, the more firm is the commercial edifice you build upon it. This is especially the case with such a subject as fruit, so liable to influence from climatic influence beyond our control.

*Oranges* are the most important of our imports, and come from every part of the world, wherever it is possible to grow them, commencing with Brazil, Jamaica, and Florida, and followed by Southern Europe, or the Mediterranean, also occasionally from India, and even Australia. The bulk of these arriving in the Thames used to be sold by the brokers in Pudding Lane, but every year a larger proportion comes to Covent Garden, especially the better class ones, such as Tangierines, Bloods, &c. Lemons also come to us in larger quantities every year, and they also keep coming from new countries such as Florida and Australia, and wherever they come from, whether Oranges or Lemons, and if only worth here about 2s. per bushel, every fruit is carefully wrapped in paper, so that if a certain portion get over-ripe, they do not affect the bulk so much as if they came in the way Apples are packed (save the word) in England. What would an English grower say if you asked him to wrap each Apple in paper when worth only 2s. per bushel.



The soft fruits coming from abroad commence with Strawberries, some very good ones coming from Honfleur in shallow handle-baskets, containing about 6 lb., some hundreds of baskets arriving daily in May. These are followed by red, white, and black Currants from France, which, as a rule, are very fine, and coming as they do before ours are ripe, they sell very well. Then come Cherries, commencing from Spain and the south of France, and working north as the season advances; in this way they make a long season, covering about two months, and there have been over 20,000 flats sold in one day about Whitautide. By being picked unripe to stand the journey, they are much inferior in quality to curr, and I think it is only because they come at a time when there is not much variety of fruit, as well as being very tastefully packed, that they sell.

It is when Greengages and Plums commence that the salesmen of foreign fruit get busy, as the enormous amount of those coming and the long time they cover is marvellous, an increasing quantity coming each year from Italy, so that from the time they commence, so far south, until Paris, the north of France, and Germany contribute their crops, a period of about three months is covered. And Gages are one of the fruits the foreigner can beat us at, owing to climatic advantages. As many as 10,000 to 15,000 flats are often sold daily, before our English ones are ripe. Apricots, too, thrive better abroad, and come in considerable quantities from southern France and Spain.

*Pine-apples* are now entirely a foreign fruit, as it is quite a novelty to see an English-grown one, and then only from private places. But they come in shiploads from the Azores, and although the price is much lower than it used to be, they still increase the quantity. At first they only attempted to send them while the Orange-boats were running, but of late years it pays them to run special steamers for Pines alone, the value of that crop being now much more than that of the Oranges grown there. The St. Michael Pine, too, have almost driven the old West Indian Pine from our market, as the second-class ones are sold as cheap or cheaper than the West Indian ones used to be.

Attempts have been made to send Pines from West Africa and Florida, and some coming in cool chambers arrived in good condition; but I think cool-chamber freight is at present too high to admit of it paying. No doubt Africa in time will be a great source of supply when it is opened up, but at present it is only such fruit as Grapes, and a few Peaches, Plums, and Apricots that are likely to pay the expense of cool chambers.

*Grapes* still come in large quantities from Spain and Portugal, but with the exception of Almerias, which keep for months in cork-dust, there are very few that pay to come, and I think the time is not far distant when the Almeria growers will have to turn their attention to something else. The only imported ones now finding favour are those coming from the Cape, and as these are principally black and white Muscats of fine quality, and also coming in March and April, when our home-grown ones are scarcest, they are acceptable as a good quality low-priced Grape.

*Pears* commence with those from France and Italy with such sorts as Jargonelle, Louise Bonne, and Williams', and up to two years ago our main supply was from there, but now cool-chambered ships and cool cars in trains bring such sorts as Williams, Beurré Hardy, and Doyenné du Comice by thousands of cases in perfect condition from California, and if it can be made to pay by reducing freight, the supply from there seems enormous, and will run the French very close as well as the English; but at present the freight of a case containing 40 lb. of fruit is over 4s., and unless temperature is very carefully regulated, they turn very quickly when exposed, and do not keep so long as the French. Some very fine Plums have also come from California in good condition.

California has a great advantage over England in regard to Pears which have to travel, and that is,

they seldom get rain while the fruit is ripening; and that, of course, is in favour of any fruit standing a journey, as well as the hotter climate ripening them more thoroughly. Eastern Beurrés coming in winter do not need cool chambers, and they fore come at a lower freight. A great many Peaches came from California last autumn, but were of very poor quality, being mostly cling-stones, and they were only fit for the barrow trade. In September this year there were weekly shipments received in our market of about 6000 cases of Pears and Peaches. At the present time the quantity is about 1000 weekly, principally Eastern Beurrés.

Perhaps, of all the imported fruits, Apples touch the English grower most, as they now come nearly all the year through, commencing in April with those from Tasmania, followed by those from France, Italy, and Germany, and all the winter from the United States, Canada, and Nova Scotia. But notwithstanding all these supplies, I maintain that our growers could hold their own if they would grow saleable sorts, and take the necessary trouble in packing.

From all reports, the Tasmanian growers cannot increase the quantity, as the freight and cost of case comes to about 4s., and by being so long in the cool chamber, they are not a patch on English for flavour. If larger quantities come, it will be impossible to get a remunerative price for them. American ones do not need the expense of cool chambers in transit; but to enable them to send all through the winter, they are compelled to keep them in expensively constructed warehouses, where an equal temperature is maintained, so as to protect them from heat, as well as frost, and so enable them to lengthen the period of sale as much as possible; and this, of course, adds greatly to the cost. Our climate, suiting Apples, as it does, should enable us, by adopting the right system of grading and packing, to hold the American fruit at bay till the bulk of our crop is sold, instead of this, growers seem to play with the trade all the autumn and winter, with the result that, in a full season, as many are wasted as marketed; while the foreigner, by growing saleable sorts, and putting a regular supply on the market, secures the bulk of the trade with an inferior article.

*Tropical Fruits* come in very small quantities, except Oranges and Bananas, the latter increasing in popularity each year; they come from Madeira and the Canary Islands principally, but attempts are continually being made to bring them in good condition from the West Indies, and even South America. Mangoes, Costard-apples, and Avocado Pears from Madeira; Lychee Nuts from China; and an annually increasing quantity of green Figs, Walnuts, and all kinds of Nuts from Spaito, Italy, Greece, and many other countries. To give an idea of the quantity of Bananas imported, there were received from the Canary Islands alone, at London and Liverpool during last month, 36,661 bunches, of which about 25,000 would be disposed of in Covent Garden.

Having touched briefly on our fruits and the sources whence they come, I think we must arrive at the following conclusions:—

1. That the English are becoming much larger fruit-eaters than they were, and this fact contributes largely to the decrease of drunkenness, amongst the lower classes especially.

2. That an attractive and suitable package is always a great assistance in establishing a trade, and that no trade can be made without a steady and constant supply.

3. That the demand having increased to such an extent, it now pays the growers to devote their time to fewer articles, and by giving their whole attention to them, they are more likely to succeed than by dabbling in everything. The grower who regularly sends the largest quantity of a good article, makes a large connection for his goods, and we can often sell out a large consignment to better advantage than a small one, though the quality of the latter may be equally good.

And lastly, the old parrot cry of doing away with the middleman, is, or should be, quite un-

heard, as any practical grower knows that it pays him best to devote his time at home, and to leave the selling to one who makes it his business. A very difficult business it often is, as it is often most ruinous to a trader to take advantage of an apparent scarcity, for we often find we gain a few shillings and perhaps check the trade and lose pounds in getting the customers on to them again. The distribution of fruit is a business in itself, but as the old cry still occasionally crops up in the Horticultural Press, I cannot resist a word in behalf of the importance of the "middleman."

## PENTILLIE CASTLE, SALTASH.

This fine estate, the seat of Colonel A. Coryton, round which so much of a most interesting character cling, and where the student of antiquities will find many objects that will excite curiosity, and raise pleasurable feelings, stands on rising ground, immediately on the banks of the Tamer. Though in reality in Cornwall, the view seen from the windows of the Castle is in the main that of Devonshire. These views are truly typical of that county—bold and broken, yet of a very charming character. At the edge of the horizon stretch the hills of Dartmoor, whilst immediately below the Castle the river winds in broad reaches, skirting the estate for a great distance, and rendered still more beautiful by having the bank clothed with trees and shrubs down to the water's edge. The estate is very extensive, and consists of a great many farms; still, that portion in the vicinity of the Castle is well wooded, a good deal undulated, and it seems at different times to have had much labour expended upon it in producing the fine effects now to be seen. The time at my disposal did not, however, allow me to wander over so much of the estate as I could have wished, and my rambles were confined chiefly to the glasshouse and the lawns and shrubberies, &c., close by. The houses are situated in a hollow of the ground, and are in consequence sheltered from the worst winds, a large belt of timber trees aiding in giving protection. Under the guidance of Mr. W. Johnson, the gardener, who has held the post for some eighteen months, the early Melon-house was visited, and a splendid crop of Tomatoes remarked, which had been sown in June, and planted to succeed the Melons. At the time of my visit, Nov. 11, the plants were covered with large and fine fruits, Volunteer and Satton's A1. On the shelf in this house there were good plants of seedling *Streptocarpus*, which are much esteemed by the owner. The house adjoining this one exhibited a nice lot of fruits of Tender-and-True and Lockie's Perfection Cucumbers on plants planted out in June, and which are still bearing nice fruit. Middling-sized plants of *Gardenia grandiflora*, healthy and vigorous, were on the back stage. Early and mid-season, and late vineries were visited, and in the latter I noticed a good crop of middling-sized bunches of Lady Downes seedling, Black Alicante, Gros Colmar, and Mrs. Pince. The Peach-houses were filled with Chrysanthemums and other plants. The trees were furnished with stout wood, having plump buds; the early house would soon be prepared for starting. In one of the vineries, a number of resting *Dendrobium* plants was noted, among them being large plants of *D. nobile*, *D. densiflorum*, *D. chryso-toxum*, and *D. thyrsoiflorum*, the new growths on the last-named being 2 feet long, stout, and shining. Other species were *D. Farmeri*, *D. Wardianum*, *D. heterocarpum*, *D. Findleyanum*, and *D. Devonianum*.

In the house exclusively devoted to Orchids, I noticed a plant of *D. Dalhousieanum* with splendid growths, 4 feet long, a pleasing sight, this not being one of the easiest to manage. A plant of *D. fimbriatum* possessed growths 4 to 5 feet in length. *Arpophyllum giganteum* was remarked with many sheaths of flowers, that will open in the spring; here, too, was noted a fine lot of *Calanthes*, with long flower-spikes, carrying numerous flowers, C.

Veitchii being the more abundant. *Cypripedium caudatum*, *C. Parishii* *Rozellii* were strong plants, as were many other varieties.

In the next house visited, many *Cattleyas*, *Lælia*, &c., were remarked, and amongst them plants of *C. Bowringiana* with several flower-spikes, bearing unusually dark-coloured flowers; *L. anceps*, showing well for bloom; *Peristeria elata*, stout, and giving much promise; *Lælia crispata*, *L. purpurata*, *L. cinnabarina*, with very stout short pseudo-bulbs; and many more in robust health. In this house were many large *Poinsettia pulcherrima* plants, and the roof at the back of the house was covered with an *Allamanda*, still carrying numerous blossoms. Here, too, is a plant of *Paeonia quadrangularis*, growing near the roof, and bearing fruit. These are less in size than those of *P. elata*, which we grow and fruit abundantly at Bystock, I was therefore the more pleased to see the fruit of *P. quadrangularis* at Pentlithie.

In the greenhouse flowering plants were staged of *Echynanthus splendens*, *Bonvardias* of great size, literally bushes; zonal *Pelargoniums*, *Marguerites*, *Daphne indica*, &c. In the front of the house a large number of *Marguerite Carnations*, in pots, full of flower and bud, the produce of seed sown last May in pans stood in cool frame, pricked out as soon as large enough to be handled, lifted from the open ground in September, and potted, and now they form one of the finest sights possible. The conservatory, which is gay with *Chrysanthemum*, has on the roof an immense *Bougainvillea glabra*, that was still beautiful at that time, and grand plants of *Luculia gratissima*, with such heads! Some splendid trusses of flowers from this plant were kindly sent for our inspection by Mr. Johnson. [See p. 650 of *Gardeners' Chronicle* for November 30, '95.] There are many other interesting subjects indoors, but I was obliged to view at least a portion of the grounds whilst light remained, visiting the Lime-tree avenue some 200 yards long—a very beautiful sight in high summer; the hardy fernery and rockery, in the latter hundreds of hardy species of *Cyclamen* in masses 2 to 3 feet across; the marbled foliage of these as they were embossed in their aged and decaying leaves formed a striking sight. Here were several *Dicksonia antarctica*, with stems 6 feet high; these plants are slightly protected in the winter, and no other protection is afforded.

In the American garden, which is a very extensive one, I remarked immense bushes of *Azalea indica* alba, which are at the very least 12 feet through, indicating a favourable climate and soil. *Kalmia*, *Andromeda*, large masses of *Rhododendron hybridum*, *Ghent Azalea*, *Azalea amœna*, and *Benthamia fragifera* 20 feet high, were noticeable objects. In parts of the ground stand many grand Beeches, whose pendent branches sweep the turf. Fine plants of *Camellia japonica*, *Myrtles*, *Bamboos*, *Yuccas*, and *Cannas*, were remarked; *Chimonanthus fragrans* filled the air with the delicious perfume of its flowers. Other remarkable plants were a *Chamerops excelæ*, 10 feet high; *Lapageria rosea* flowering freely on the walls of the mansion; whilst an arcade formed of *Enonymus japonicus* variegatus in variety, *Wistaria sinensis*, and *Roses*, must at certain seasons be a perfect bower of beauty.

Many other points of interest might be mentioned, including a visit to Mount Ararat, the burial place of Sir John Tilley, one of the ancestors of the family, around which lingers much of singular interest. These rambling notes, however, will give a faint idea of one of the old and still well-kept seats in the Duchy of Cornwall. *W. Swan, Bystock.*

## NURSERY NOTES.

MESSRS. W. BROWN & SON, ORMSKIRK.

In the division of Lancashire which forms the apex of a triangle, with Liverpool on the one base point and Southport on the other, there is a considerable area farmed on market-garden principles, some of the cleverer market-garden farmers doing

well because of the convenience to the great mart of Liverpool. In fact, in passing from one of Messrs. Brown's nursery quarters to another, it was pointed out that three crops had been taken off the field in the course of a season. First, a crop of Broccoli, and then early Cabbage was planted between the rows before cutting, which, with the protection of the Broccoli plants, served to shelter and carry through successfully a fine crop of Cabbages for early marketing, bringing highly remunerative prices—of course, because of the dire spring of 1895, which was so generally disastrous to every description of vegetable. Then, after that, came a crop of German Greens, which was yet to market. All this is only practicable through deep digging or ploughing and heavy manuring, and then there is a risk of a glut in the market, which tells against the receipts. It struck the writer forcibly that what is good land for marketing vegetables is good also for every description of nursery crop, and that the species of hangering which is practised for nursery work generally, not certainly in our best-managed nurseries, is neither a productive nor a paying one.

Most of the land in the nursery quarters, either owned or tenanted by Messrs. Brown, is of a peaty character, and is admirably suited for *Rhododendrons*, *Aucubas*, *Retinosporas*, *et hoc genus omne*, evergreen *Privet*, *Hollies*, and every description of fruit trees. A soil of a peaty kind requires frequent enrichment, and it appears to be well seen to in that respect in the various quarters. There are in the meantime about 46 acres under cropping, and the crops generally are highly satisfactory. The trade here is chiefly a wholesale one, and since its beginning, about thirty years ago, it has been a steadily-increasing one.

The ground seems particularly suitable for the growth of fruit trees. Apples are specially notable, as here they are to be seen growing for fruit alone, and for general market supply, from "maidens" onwards. The great run in the nursery is for Lord Grosvenor Apple, which is the best all-round one for eating and for a crop; then *Golden Spy*, *Maltater*, and *Scotch Bridget*, which seems to be a local one, resembling in character *Maltater*, which we have seen particularly good this season. This *Scotch Bridget* is more oblong than *Maltater*, and is good either for kitchen or dessert; *Grenadier* is also a desirable Apple, because it is a free bearer in this quarter; and there is one called *Gold Medal*, which is similar to *Surprise*, that takes well. *Pott's Seedling* and *Lord Suffield* are grown, but Mr. Brown says they are no use, getting cankered after twenty years. *Lord Grosvenor* never cankers, and it beats them both for general usefulness. *Ecliville* flowers freely, but does not set well.

Although Pears are grown in quantity, the one most in demand is the *Hessell*, because of its free-bearing quality, always taking the market and fetching a fair price. Plums are grown for market as trees, but these are not generally to be depended upon in this district to bring good crops. Gooseberries are very largely grown, and form one of the staple crops; *Whinham's Industry* has been a capital speculation, the firm having been early at work with this variety, and the climate suits the *Gooseberry* admirably. While some growers were waiting for a crop, this firm was making cuttings of everything that would grow, and for years the demand was fully as great as the supply of plants. *Lancaster Red*, *Crown Bob*, *Whitesmith*, *White Eagle*, are most in demand, and propagated and grown accordingly. *Warrington*, which was the favourite in the days of my youth, is scarcely asked for. There is a considerable stock of it here, and finely-formed youngsters they are. Among Raspberries, the chief one, not much known, is called *Beehive*. It is much larger and better, both in colour and in flavour, than *Faletaff*, *Carter's Prolific*, and the best of the known sorts.

*Hollies* grow well. Most in demand are the green ones, and none other than green are grown; there are a hundred green ordered for a dozen of variegated in a nursery. There are several forms of *Hodgins* which still take front rank, some of the nobles order, the black and white *Maderensis* which stands a

street of weather better than most; also a remarkable fine green, smooth almost in the leaf, lively in colour as *laurefolia* but with leaves twice the size. It is a novelty to me, but it is a good one and a rapid grower, all the better if it is "kifed." The great advantage, outside of towns particularly, is to get berried *Hollies*; now *Hodgins* will not berry, but this light green one does freely, and so do *Maderensis*, *laurifolia*, and some others of the *Aquilifolium* race—all the better however not far removed from the type.

There are quantities of *Rhododendrons* which find a suitable home in this peaty soil. The hybrid seedlings are notable, and out of which spring some highly ornamental forms. *Retinosporas*, particularly *plumosa aurea*, are grown in great quantities, and find a ready sale—they are so useful and ornamental in small pots for town and window decoration. *Retinospora squarrosa* does well, and it is one of the best Japanese *Conifers* for towns yet introduced. *Smoke* can scarcely discolour it from its normal leaf coloration. *Skimmia japonica* does well, and is one of the coming plants for town decoration on a much larger scale than we see it now. *Ivy*, particularly the Irish form, does uncommonly well, and is in large demand. One of the best small-leaved purple varieties was found here by a local botanist, *Thomas Williams*, of Bath Lodge, and at all times finds a ready sale.

*Evergreen Privet* (*Ligustrum ovalifolium*) is grown largely, and both climate and soil suits it admirably. This is one of the best plants in commerce, it is so useful for making a rapid-growing hedge, and for cover for game, as well as for ornament in the mixed shrubbery as bush plants. There is nothing in commerce in the hardy way that finds a ready sale. It has all but completely shot out the ordinary deciduous small-leaved forms, and to a certain extent the oblong evergreen forms. In some localities it loses its leaves only partially during winter, unless in such seasons of rigour like the late winter and spring of 1891-5. In ordinary winters it remains evergreen in favoured localities.

Another plant grown largely here is the *Aucuba*. It fairly revels in the soil, and a large trade is done in this chiefly in the smaller sizes of plants, which can be sent all over the country, railway carriage not afflicting the lighter bundles so much.

The few glass-houses are chiefly in use for growing indoor plants for the local trade, and for propagating some of the less hardy evergreens. The firm was making a determined attempt to propagate *Tree Ivies*, but hitherto without success. This *Ivy* has to be wrought generally, and consequently fire, labour, and housing must add to its price. It is undoubtedly one of the best ornamental plants we have for town gardens and town parks, and we would like to see more of it, because in good localities it is not only stylish as a plant, but berries freely. *Viator.*

## Obituary.

MRS. BANNISTER.—Friends of Mr. BANNISTER, gardener at Cote House, Westbury-on-Trym, will, we feel sure, sympathise with him in the great loss he has sustained in the death of his wife, at the age of fifty, after eight weeks of intense suffering. *Jas. Garaway & Co., Clifton, Bristol.*

READING GARDENERS' ASSOCIATION.—There was an unusually large attendance of members of this body at the last meeting of the early winter session, held on Dec. 30 last, to hear an address from Mr. A. DEAN, of Kington, on the work of the Sarrey County Council, in relation to horticultural instruction. The lecturer first referred to the origin of the Technical Education Grant, detailed the nature of the Sarrey work in the form of winter lectures, summer inspections of allotments and gardens, demonstrations, addresses at flower shows, vegetable trials, and not least, continuation or school-gardens, of which last year there were some 450, and these will soon be largely increased. Great regret was expressed that practically nothing in the direction was being done in Berkshire,

# GARDENERS' CHRONICLE

## 1896.

### JANUARY.

1	W	
2	Th	<i>Gardener's Chronicle</i> first issued, 1841.
3	F	
4	S	Isle of Wight Hort. Assoc.
5	S	Royal Hort. & Agr. Soc. of Ghent.
6	M	<i>Epiphany</i> .
7	Tu	Last Quar. of Moon. Sun rises 8h. 7m.; sets 4h. 0m.
8	W	
9	Th	Five Insurance expiries.
10	F	Am. Meet. of the Gard. Royal Boney, Inst.
11	S	Royal Botanic Society.
12	S	Brussels Orchidloenne Meet. Wil. Thompson d. 1866.
13	M	
14	Tu	Roy. Hort. Soc. Coms. New Moon.
15	W	
16	Th	Linnæan Society meets.
17	F	
18	S	German Engraver declared, 1871.
19	S	<i>2nd Sunday after Epiphany</i> .
20	M	
21	Tu	Sun rises 7h. 5m.; sets 4h. 27m.
22	W	
23	Th	First Quar. Moon.
24	F	
25	S	Royal Botanic Society.
26	S	<i>3rd Sunday after Epiphany</i> .
27	M	
28	Tu	Mean temp. Chiswick, 38-70°.
29	W	
30	Th	First Lifeboat built, 1790. Full Moon.
31	F	

### FEBRUARY.

1	S	Isle of Wight Hort. Assoc.; Societ� Fran- gaise d'horticulture de Londres Meet.
2	S	Roy. Hort. and Agr. Soc. of Ghent.
3	M	
4	Tu	Mean temp. Chiswick, 39-33°.
5	W	Thomas Carlyle died, 1881.
6	Th	Linnæan Society. Moon last quar. Sun rises, 7h. 33m.; sets 4h. 50m.
7	F	
8	S	Roy. Bot. Soc.
9	S	Brussels Orchidloenne Meet.; Geo. Taber d. 1895.
10	M	
11	Tu	Roy. Hort. Soc. Coms. and Ann. Gen. Meet.
12	W	
13	Th	New Moon.
14	F	
15	S	
16	S	<i>Quinquagesima Sunday</i> .
17	M	
18	Tu	
19	W	<i>Ash Wednesday</i> .
20	Th	Linnæan Soc. Mean temp. Chiswick, 39-1.
21	F	Roy. Gard. Orphan Fund; Annual Meet. at Anderson's Hotel. Moon first quar.
22	S	Roy. Bot. Soc. Sun r. 7h. 3m.; sets 5h. 25m
23	S	<i>Quadragesima. 1st Sunday in Lent</i> .
24	M	
25	Tu	
26	W	
27	Th	Kew Guild. Annual General Meeting.
28	F	Corn Laws repealed, 1819. Full Moon.
29	S	
30	S	

### MARCH.

1	S	Roy. Hort. & Agr. Soc. of Ghent.
2	M	Thomas Baines died, 1895.
3	Tu	
4	W	R. P. Laird died, 1895.
5	Th	Linnæan Society. Sun rises 6h. 39m.; sets 9h. 43m.
6	F	Moon Last Quar. Mean temp. Chiswick, 41-25°.
7	S	Isle of Wight Hort. Assoc.; Soc. Franç. d'Hort. Meet.
8	S	Brussels Orchidloenne meet.
9	M	
10	Tu	Roy. Hort. Soc. Coms.
11	W	
12	Th	
13	F	Roy. Bot. & Hort. Show, Manchester (2 days).
14	S	Roy. Bot. Soc. New Moon.
15	S	<i>4th Sunday in Lent</i> .
16	M	
17	Tu	St. Patrick's Day.
18	W	Roy. Bot. Soc. Show. Devon and Exeter Gardeners' Assoc. Show.
19	Th	Linnæan Society.
20	F	
21	F	
22	S	Moon First Quar. Sun rises, 6h. 1m.; sets, 9h. 15m.
23	M	Wm. Dean died, 1895.
24	Tu	Roy. Hort. Soc. Coms.
25	W	Early Day. Torquay (Gardeners' Soc. Show).
26	Th	People's Palace Hort. Show (3 days).
27	F	Mean temp. Chiswick, 44-50°.
28	S	Roy. Bot. Soc.
29	S	Full Moon.
30	M	Crimmen War ended, 1856.
31	Tu	

### APRIL.

1	W	
2	Th	Linnæan Society. Roy. Soc. chartered, 1633.
3	F	<i>Good Friday</i> .
4	S	L. of W. Hort. Assoc.; Soc. Franç. d'Hort. Meet.
5	S	<i>Easter Sunday</i> . Roy. Hort. & Agr. Soc. of Ghent.
6	M	Bank Holiday. Sun rises 7h. 27m.; sets 6h. 39m.
7	Tu	Roy. Hort. Soc. Coms.
8	W	Mean temp. Chiswick, 47-29°.
9	Th	
10	F	
11	S	Roy. Bot. Soc.
12	S	Brussels Orchidloenne meet.
13	M	New Moon.
14	Tu	
15	W	Northam, Durham, and Newcastle Hort. Show (2 days).
16	Th	Linnæan Society.
17	F	Benjamin Franklin die, 1790.
18	S	
19	S	<i>2nd Sunday after Easter</i> .
20	M	Moon First Quar.
21	Tu	Roy. Hort. Soc. Coms. with Anticula N Pyramida show
22	W	
23	Th	
24	F	
25	S	Roy. Bot. Soc.; Nat. Antwerp (North. sect.) Soc. Show, at the Bot. Gardens, Manchester.
26	S	Sun rises 7h. 44m.; sets 7h. 12m.
27	M	Full Moon.
28	Tu	
29	W	
30	Th	Mean temp. Chiswick, 50-7°.

### MAY.

1	F	Swiss Exhib. Geneva opens, Cl. Oct. 15.
2	S	Presen. Internat. Hort. Ex. (9 days). L. of W. Hort. Assoc.; Soc. Franç. d'Hort. meet.
3	S	Roy. Hort. and Agr. of Ghent.
4	M	Moon Last Quar.
5	Tu	Roy. Hort. Soc. Coms.
6	W	Mean temp. Chiswick, 52-2°.
7	Th	Linnæan Society.
8	F	Roy. Bot. Soc. Lecture.
9	S	Roy. Bot. Soc.

### JUNE.

1	M	Mean temp. Chiswick, 58-40°.
2	Tu	
3	W	R. Bot. Soc. Mus. Prom. Moon Last Quar.
4	Th	Linnæan Society.
5	F	Roy. Bot. Soc. Lecture.
6	S	L. of W. Hort. Assoc.; Soc. Franç. d'Hort. Meet.
7	S	Roy. Hort. & Agr. Soc., Ghent.
8	M	
9	Tu	Roy. Hort. Soc. Coms.

### JULY.

1	W	R. Bot. S. Evening Fête, Croydon Rose Show.
2	Th	
3	F	Moon Last Quar.
4	S	Nat. Rose Show at Crystal Palace; L. of W. Hort. Assoc.; Soc. Franç. d'Hort. Meet.
5	S	Roy. Hort. & Agr. Soc. of Ghent.
6	M	Sun rises 5h. 23m.; sets 8h. 16m.
7	Tu	
8	W	R. Bot. Soc. Prom.; Northam, Dur., and Newcastle Hort. Show (3 days).
9	Th	1895. WTH. Meet. 1897.

### AUGUST.

1	S	L. of W. Hort. Assoc.; Societ� Fran- d'Hort. Meet. Moon Last Quar.
2	S	Roy. Hort. & Agr. Soc. of Ghent.
3	M	Bedlington, Carlisle, and Wallington Sh
4	Tu	
5	W	Roy. Bot. Soc. Mus. Prom.
6	Th	Grimsby Show (2 days).
7	F	
8	S	
9	S	New Moon. Isaac Walton born, 1592.

# THE GARDENERS' CHRONICLE

("THE TIMES OF HORTICULTURE")

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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FAWCETT, W., Superintendent Botanical Department, Jamaica.  
FORD, C., Hong Kong.  
HART, J. H., Superintendent, Botanical Department, Trinidad.  
IM THURN, Everard, British Guiana.  
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JOHNSON, T. P., New York.  
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BULL, W., Chelsea.  
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COOMBER, J., The Hendre, Monmouth.  
CROMBIE, D., Powerscourt.  
CULVERWELL, W., Thorpe Perrow.  
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DOUGLAS, J., Great Gearies, Ilford.  
DUNN, M., Dulkeith.  
EARLEY, W., Morden.  
FINLAY, R., Manchester.  
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GILBERT, R., the late, Buryghy Gardens.  
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HUDSON, J., Gunnersbury House.  
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McLEOD, J. F., Dover House, Rochester.  
MELVILLE, D., Dunrobin Gardens.  
MILES, G. T., Wycombe Abbey Gardens. (Fruit).  
MILLER, W., Coombe Abbey.  
MOORE, F. W., Royal Botanic Garden Glasnevin.  
PARKER, R., Goodwood Gardens.  
POWE, W., Highclere Gardens.  
POWELL, D. C., Powderham Castle.  
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SMYTHE, W., Basing Park.  
TEMPLE, M., Carron House, N.B.  
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WADDS, E., Birdsall, York.  
WALLIS, J., Keele Gardens.  
WARD, H. W., Longford Castle Gardens.  
WARREN, H., Aston Clifton Gardens.  
WATSON, W., Royal Gardens, Kew.  
WEBSTER, G., Gordon Castle Gardens.  
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WILSON, D.  
WOODGATE, G., Rolleston Hall Gardens.  
WYTHES, G., Sion House Gardens. And many others.

**ROSES:—**

BENNETT, H., the late, Shepperton.  
BOSCAWEN, Hon. and Rev. J. T., the late.  
D'OMBRAIN, Rev. H. H., Westwell, Kent.  
FISH, D. T., Bury St. Edmunds.  
FISHER, Rev. O.  
GIRDLESTON, T. W., Sunningdale.  
MAVLEY, E., Berkhamstead.  
PAUL, G., Cheshunt.  
PAUL, W., Waltham Cross.  
PIPER, A.  
VIVIAN MOREL, Lyons.

**VEGETABLE PHYSIOLOGY, &c.:—**

BENNETT, A. W.  
BONAVIA, Dr. E.  
BOULGER, Prof.  
DARWIN, the late Charles.  
DE VRIES, Hugo.  
FOSTER, Prof. Michael, Cambridge.  
GARDINER, W., Cambridge.  
GLAISHER, James (Meteorology).  
GOEBEL, Prof., Munich.  
GOODALE, Dr., Boston, U.S.A.  
GRAVIS, Prof., Liège.  
HENSLOW, Rev. G., Ealing.  
MACLEOD, Prof., Ghent.  
OJIVER, Prof. F. W.  
WALLACE, Alfred.  
SOLMS, Count, Strasburg.





[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, and BRIGHT SUN. Rows include district numbers and weather data for the week ending Dec 21.

Table with columns for DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, and BRIGHT SUN. Rows include district numbers and weather data for the week ending Dec 28.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Growing, &c. Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending December 28, is furnished from the Meteorological Office:—

"The weather continued very dull and gloomy over the Kingdom generally. Exceedingly heavy rain was experienced in the south-west of our islands, especially at Killarney, Roche's Point, and Falmouth, but in most other localities the falls of rain or sleet were slight and less frequent.

"The temperature slightly exceeded the mean in 'Scotland, W.', 'Ireland, S.', and the 'Channel Islands,' but was below it elsewhere; the deficit amounted to as much as 5° in the 'Midland Counties' and 'England, N.W.' The highest of the

maxima were recorded on the 28th, when they varied from 55° in the 'Channel Islands' and 'Ireland, S.', to 43° in 'England, N.E.', and 42° in 'Scotland, E.' The lowest of the minima were registered on the 22nd, and ranged from 18° in the 'Midland Counties,' 20° in 'England, N.E. and E.', and 21° in 'Ireland, S.', to 30° in 'Scotland, N.', and to 38° in the 'Channel Islands.'

"The rainfall was less than the mean over the northern and eastern parts of the Kingdom, but slightly exceeded it in 'England, S.', and 'Ireland, N.', while in the 'Channel Islands,' 'England, S.W.', and 'Ireland, S.', the excess was unusually large. The largest amounts for the week at any individual station were 5.80 inches at Roche's Point, 5.20 inches at Falmouth, and 4.63 inches at Killarney.

"The bright sunshine was almost entirely absent during the greater part of the period. The percentage of the possible amount of duration ranged from 6 in 'Scotland, N.', 'England, E. and S.' and the 'Channel Islands,' to 1 in the 'Midland Counties,' while in 'Scotland, E. and W.', and 'Ireland, N.' the amount recorded was less than 1 per cent."

MARKETS.

COVENT GARDEN, JANUARY 2.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various plants in pots such as Adiantum, Aspidistra, Azalea, Chrysanthemums, Cyclamen, Dacrydium, Erica, Evergreen Shrubs, Ferns, Ficus elastica, etc.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers such as Arums, Azalea, Bouvardias, Carnations, Chrysanthemums, Eucharis, Gardenias, Hyacinths, Lilies, etc.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing prices for various fruits such as Apples, Grapes, Pears, etc.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for various vegetables such as Cauliflowers, Mushrooms, Cucumbers, Onions, Tomatoes, etc.

POTATOS.

Trade quiet; supplies heavy. Snowdrops, 70s. to 90s.; Hebrons, 75s. to 85s.; Bruces, 45s. to 60s.; Black lands, 30s. to 45s. J. B. Thomas.

SEEDS.

LONDON: January 1.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, as might have been expected on New Year's Day, the attendance on the seed market was exceedingly restricted, and the business doing almost nil. It is noteworthy that as regards Clover and grass seeds, the striking absence during the past few months, of the customary autumn speculative dealings in these articles, will necessarily drive all the business therein into the approaching spring, thus making the demand, when it does come, a healthy, legitimate, and consumptive one. It may be added that the trade, when it does open, will find stocks all round fairly moderate, and prices for the most part unusually low. There is no quotable change this week in the value of either Blue Peas or Haricot Beans. Birdseeds are also held for former terms.

FRUITS AND VEGETABLES.

BOROUGH: Dec. 31.—Quotations:—Savoys, 3s. 6d. to 5s.; Cabbages, 3s. to 3s. 6d. per tally; Onions, 2s. 9d. to 3s. 6d. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, 4s. to 6s. per bushel; Chestnuts, 6s. to 10s. per bag.

SPITALFIELDS: Dec. 31.—Quotations:—Bunch Greens, 1s. to 1s. 6d. per dozen bunches; Savoys, 2s. 6d. to 3s. 6d. per tally; Sprouts, 2s. 6d. to 3s. per bushel; 1s. 6d. to 1s. 9d. per half sieve; Turnips, 30s. to £2 per ton; Carrots, 22s. 6d. to 30s. (best), do.; Turnips, bunch, 1s. 6d. to 2s. dozen bunches; Carrots, 2s. to 3s. 6d. do.; Beetroot, 1s. to 1s. 3d. per bushel; Parsnips, 6d. to 9d. per score; Leeks, 1s. per dozen; Apples, cooking, Deux Ans, 3s. to 3s. 6d. per bushel; Northern Greening, 2s. 9d. to 3s. 6d. do.; Wellingtons, 4s. to 4s. 6d. do.; dessert Apples, King Pippin, 5s. to 5s. 6d. do.; Blenheim, 4s. to 4s. 6d. do.; Queenings, 3s. 6d. to 4s. do.

STRATFORD, Dec. 31.—This has been a broken week, therefore the trade has only been fair. The supply has, however, been good at the undermentioned prices:—Collards, 1s. to 1s. 6d. per tally; Savoys, 2s. 6d. to 4s. do.; Greens, 1s. to 1s. 3d. per dozen; Cauliflowers, 2s. to 2s. 6d. do.; do., 7s. to 8s. per tally; Scotch Kale, 6d. to 9d. per sieve; Beetroot, 6d. to 8d. per dozen; Horseradish, 1s. to 1s. 2d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Brussels Sprouts, 1s. 9d. to 2s. per half-sieve; do., 3s. 3d. to 3s. 6d. per bushel; Turnips, 1s. 6d. to 2s. per dozen bunches; do., 35s. to 40s. per ton; Carrots, household, 28s. to 30s. do.; do., cattle feeding, 17s. to 20s. do.; Parsnips, 6d. to 8d. per score; Mangels, 11s. to 16s. per ton; Swedes, 13s. to 17s. do.; Onions, English, 4s. 3d. to 4s. 9d. per cwt.; do., Dutch, 3s. per bag; do.; Bordeaux Port., 6s. 6d. to 7s. per case; Apples, English, cookers, 2s. to 3s. per bushel; do., American dessert, 2s. 6d. to 4s. per bushel; do., Nova Scotia, 12s. to 15s. per barrel.

FARRINGTON: Dec. 31.—Quotations:—Savoys, 4s. per tally; Cabbages, 2s. do.; Sprouts, 3s. per bushel; Leeks, 1s. 6d. per dozen; Cauliflowers, 5s. per tally; Celery, 13s. per dozen rounds; Turnips, 10s. per tally; Carrots, 2s. 6d. per dozen bunches; Parsnips, 2s. do.; Horseradish, 1s. 2d. per handle; Onions, bag, 3s. 9d.; Apples, Blenheim, 5s. per bushel; Canadian, 18s. per barrel; Ribston, 21s. do.; Newtown Pippin, 16s. do.; Greenings, 15s. 6d. do.; Stewing Pears, 8s. per cask; Tomatoes, 1s. 6d. per tray; Grapes, English, 1s. 6d. per pound

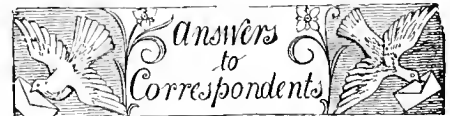
POTATOS.

BOROUGH: December 31.—Quotations ranged from 40s. to 90s. per ton.

SPITALFIELDS: December 31.—Quotations:—Sutton's Abundance, 55s. to 70s.; Main Crop, 50s. to 65s.; Bruces, 40s. to 60s.; Hebrons, 60s. to 80s.; Reading Giants, 50s. to 70s.; Druids, 55s. to 75s.; Snowdrops, 60s. to 80s. per ton.

STRATFORD, December 31.—Quotations:—Bruces, dark soil, 35s. to 40s., do., light, 40s. to 40s.; Reading Giants, 40s. to 50s.; Sutton's Abundance, 50s. to 65s. per ton.

LONDON AVERAGES: Dec. 31.—Dunbar Bruces, 50s. to 70s.; Saxons, 80s. to 100s.; Snowdrops, 60s. to 80s.; Hebrons, 60s. to 70s.; Imperators, 40s. to 50s.; Sutton's Abundance, 50s. to 70s.; Magnums, 35s. to 45s. per ton.



ADDRESS: W. B. The Tropical Agriculturist is published and printed by A. M. & J. Ferguson, at the Ceylon Observer office, Colombo. The price for small advertisements in the Tropical Agriculturist for twelve lines and under is per line of nine words, 9d.; above twelve lines, 8d.; and above twenty-four lines, 7d. London agents: John Haddon & Co., Bouverie House, Salisbury Square, Fleet Street, E.C.

BOOKS: Y. Y. Z. See answer to "J. P." and others, in our last issue.—Bookworm. Manures and their Application, by W. Dyke (Cate, Bouverie Street, E.C.) Special Manures for the Garden, by Dr. A.

B. Griffiths; Collingridge, Aldergate Street, E.C. The others may be obtained through any foreign bookseller.

CANE THAT SUPPLIES THE BOTTOMS OF CHAIRS, &c.: T. S. Calamus Rotary, C. rudetum, C. viminalis, &c., natives of Malacca and the Eastern Archipelago, and part of Eastern Asia.

CLEMATIS: J. J. The more commonly employed stock for grafting purposes is C. vitalba; although, possessing many plants of C. viticella, you might make use of those instead. Grafting is usually done on the top-end of small living pieces of the root, or in the case of small well-rooted plants in pots, on the stem, close down to the roots—tongue, whip, or bark methods will serve the purpose. Bind stock and scion together with worsted, using wax Le Homme Fort to smear the point of union, so as to keep out moisture. That part in root-pieces usually goes under the soil. Keep moderately close at a temperature between 50° and 55°, and guard against damp by occasional ventilation. Do not let the soil in which the stocks are get dry. A beginning may soon be made.

EMPLOYMENT IN THE LONDON PARKS: J. H. We know of no means of obtaining employment in the Parks, excepting by making a personal application to the Superintendents. There are no additions made to the various staffs before work becomes general in March and onwards, unless in the case of a man from any cause rendering a post vacant. Those obtaining casual employment receive, we believe, a guinea per week; and the regular hands rather higher wages, according to the nature of the employment. Your age is not against you being employed.

FOUR VARIETIES OF TOMATOS: W. G. Any of the "Perfection" strain, "Ham Green Favourite," "Chemin Rouge," "Challenger," "Duke of York."

INDIAN TEA GARDEN: A. Gardener. Advertise in some of the newspapers devoted to Indian commercial matters.

LARVENUM: D. P. The tree flowers like the Apple, on the one-year-old wood, and on spurs. Some slight amount of thinning of shoots where very numerous, and shortening back of leaders, would do good, and in the case of young trees, severe cutting till the basis of a good crown is formed. The less a tree is pruned afterward the better.

NAMES OF PLANTS: H. W. Reinwardtia trigyna (Litoum trigynum of gardens), one of the flax family—native of India.—J. S. A. We are unable to name the plant without the flower. Some weed introduced with foreign seed.

PEARS: H. Liverpool. Your Pear tree is evidently a seedling, and of very little value. The cracking of the fruit is most likely due to an over-supply of water at the roots, following dryness.

POLYGONUM SACHALINENSE: A. B. C. The plant is grown from sets or from seedlings, although the latter are not easily obtained true to name. The land should be deeply dug or ploughed, and abundantly manured. As the plant grows large, and carries a great deal of leafage and many stems, 2½ by 3 feet would not be too wide to plant.

VINES AND MEALY-BOG: Nurseryman. Having failed to eradicate the insect by the ordinary means which gardeners use, you should try Richard's XL All. It does not injure the most delicate plant, and is death to all kinds of insects. You might have to use it several times in a season.

COMMUNICATIONS RECEIVED.—A. Donaldson.—D. T. F.—R. (the paragraph has not been found).—A. P.—W. M., Perthshire.—H. W.—A. J. M.—J. D.—J. O'B.—G. A.—S. Longman & Co.—W. C. L.—H. W. W.—R. D.—E. W.—J. Backhouse (shortly)—G. H.—E. C.—W. B. H.—H. K.—G. S. B.—B. W.—R. B.—J. W.—L. R.—Jouvet et Cie.—J. H.—J. E.—T. H., Mentone.—G. H., California.—E. P., Ghent.

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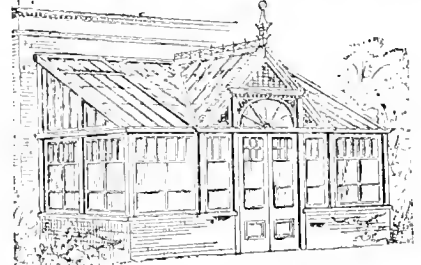
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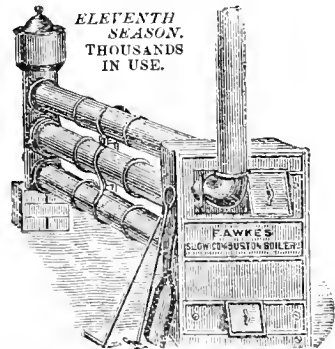
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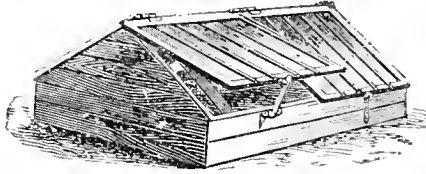


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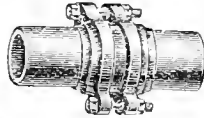
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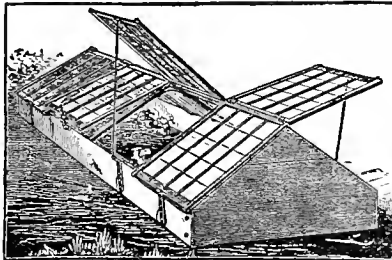
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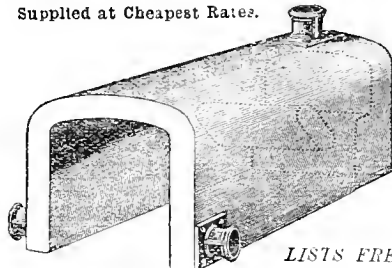
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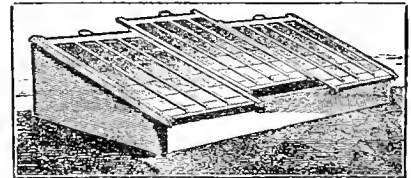
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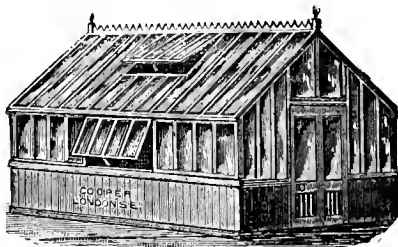
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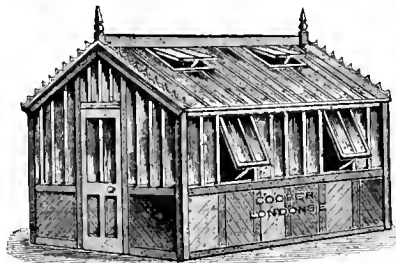
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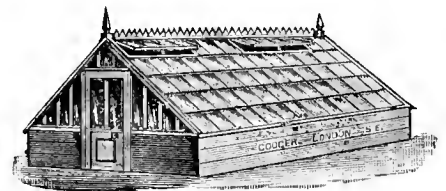
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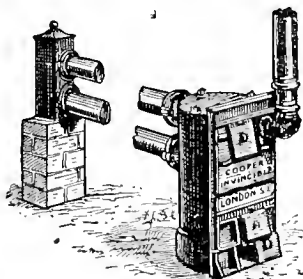
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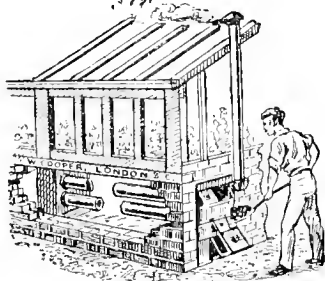
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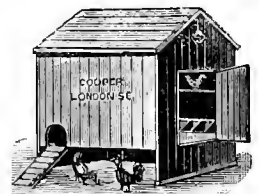
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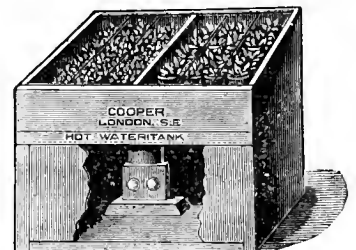
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## CONTENTS.

Altai flora of Western Siberia ... .. 45	New plants of 1895 ... 44
Amateur's Garden, an ... 53	Novelist's floriculture ... 56
Apple, the Balmore ... 56	Obituary—
Artichoke, Jerusalem ... 40	Eastwood, Chas. ... 57
Books—	Sir Juliana Goldsmid ... 48
Australian Grasses ... 52	Oil-rollers for gardens, suggested ... 56
In Veronica's Garden ... 51	Orchid notes and gleanings ... 40
Les Palmiers de Serre Froide, &c. ... 51	Orchids, double growths in ... 55
Publications received ... 51	Paris, congress and shows to be held in ... 50
Silva of North America, vol. viii. ... 52	Pears, fickleness of ... 56
Smithsonian Report ... 50	Plants, new or noteworthy—
Botanical discoveries, recent, in New Zealand ... 43	Masdevallia x Carlei ... 40
Botanical Magazine ... 50	Poisons, the vending of ... 48
Bray field, some annuals at ... 54	Societies—
British Ferns, varieties of ... 42	Devon and Exeter Gardeners' ... 56
Carnation and its culture, the ... 52	Royal Horticultural, ... 54
Cherries ... 41	Stock-taking ... 51
Cherry-trees at Scone and Cullen ... 55	Strathfieldsays ... 44
Cultural memoranda ... 46	Timber and game ... 55
Falkland Park Gardens ... 39	Tomato, Frogmore Selected ... 55
Ficus elastica, propagation of, in Belgium ... 54	Variorum: Orchards and Gardens, Ancient and Modern ... 56
Flowers as food ... 55	Week's work, the ... 47
Fruit culture by farmers ... 48	Flower garden, the ... 47
Gardeners and crows ... 45	Kitchen garden, the ... 46
Gardeners' Royal Bevoelving Institution ... 51	Orchid houses, the ... 46
Gooseberry culture for exhibition ... 55	Plants under glass ... 47
La Mortala, New Year flowers at ... 42	Wycombe Abbey, projected sale of ... 47
Marrow, George Potato ... 50	
Mushroom culture ... 41	

## ILLUSTRATIONS.

Mushrooms, gathering from a bed ... .. 41
Mu-brooms, part of a morning's picking ... .. 43
Falkland Park, view of the plant-houses at ... .. 49
View in the garden of C. H. Golding-Bird, Esq., Meopham ... 53

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*Catalogues on Application.*



## THE **Gardeners' Chronicle.**

SATURDAY, JANUARY 11, 1896.

FALKLAND PARK, SOUTH  
 NORWOOD HILL.

**T**HIS, the residence of Thomas McMeeking, Esq., commands a beautiful site on the extreme southern termination of the Sydenham range of hills, the range on which the Crystal Palace stands. The views obtained from the mansion on a clear day are extensive in almost every direction. On the west lies the Thames Valley; Brentford waterworks tower is a conspicuous object; the pagoda in Kew Gardens can be picked out; Windsor Castle is readily seen, and the hills in Oxfordshire may be viewed on the horizon. Turning further south, we have Tooting and the Wimbledon valley before us, and a beautiful stretch of Surrey; as we turn further round, Epsom grand-stand is a conspicuous object, and nearer at hand is the borough of Croydon, further on Shirley Common, and over these are the hills above Oxted. Moving round, we look across South Norwood, Woodside, West Wickham, and in the distance Knockholt Beeches are a prominent feature. Next we come on Beckenham, Hayes Common, Keston Common and its ancient windmill can be seen, and a little further to the east are the spires of the Bromley churches, and one of the church spires of Chislehurst can be seen. Shooter's Hill, a prominent feature, shuts out a view of the Thames, and between it lie Penge, Anerley, and Sydenham, and past Shooter's Hill, a view into Essex. But here we are getting into the London smoke, and as we get looking across London it is only on a clear day now and then that Harrow-on-the-Hill can be discerned. A little to the right Stanmore, Bentley Priory, and Bushey Heath shut out the view in that direction. The historical interest that can be associated with the view here hurriedly sketched would require volumes to describe, and it is doubtful if many more views so extensive and interesting can be obtained in England.

Six years ago Mr. McMeekin bought this estate (of some 33 acres), then the residence of the twelfth Lord Falkland, a descendant of the late Admiral Lord Falkland, and extensive changes have taken place in that time. He has built a mansion on the most prominent part of the estate, and what was at one time a wood has been cleared away, and the grounds laid out according to modern ideas, with the object of opening up the surrounding scenery; the peeps through the trees at prominent points being very effective, lending to the view what we have been well told is enchantment, viz., distance—the ruling idea being a beautiful informality—an attempt to break away from mere stereotype, and an avoidance, wherever possible

of flat surfaces, the whole forming a charming undulating landscape. Mr. McMeekin is a keen and enthusiastic horticulturist, possessed with the laudable ambition of seeing gardening in its most modern aspects at his place, and being endowed with good taste, he has been successful in impressing his ideas on the gardeners. The old mansion lies lower down the slope, and had evidently been built for shelter from the north and east winds. The old entrance and carriage-drive have been done away with, and a new drive made to both the mansions.

#### THE CARRIAGE DRIVE.

The carriage-drive leading from the massive iron entrance-gates winds its way through some good specimen trees that have been left from the dense wood that covered this part of the ground. The background is shut in on one side by a shrubbery of choice flowering and foliage shrubs; on the other side the shrubbery is planted with dwarf-growing shrubs here and there, so as to obtain a view of the country beyond; on the left there is a piece of rock-work covered with alpine and herbaceous perennial plants, in front of which is a small piece of water, and behind this, and facing South Norwood Hill, is the gardener's dwelling. Beyond the pond, on a prominent position, stands a round tower, which was erected long ago, for the views to be obtained thence.

As we pass the tower we come on extensive grounds on the right sloping down towards the Oak wood in the distance, through which a view of the meadow beyond is obtained, backed up by a broad belt of trees, faced with Rhododendrons, to shut out the view of houses beyond. The specimen trees along the drive consist of one or two fine Oaks, green and purple Beech, Taxodium, Cedrus decedra, Weeping Ash, Chestnuts, Walnut, a fine Mulberry tree, evergreen Oak, Hollies; and on the turf between the shrubberies and drive, many of the choicer Conifers are planted, but it will be in years to come that these will be interesting, as they were only planted three years ago.

#### THE MANSION.

The mansion is a substantial-looking building of two stories, built of white Suffolk brick with stone facings. The west or garden front is the most imposing, and on this side we have the flower parterre surrounded by a low balustraded wall. The enclosure is laid out in a series of beds, some of which are planted permanently with dwarf-growing shrubs, others are devoted to the usual summer and spring bedding-plants. Towards the balustraded wall, single specimens of different species of Cupressus, Yews, Retinosporas, &c., are planted, and here stand in the summer-time some fine tubbed specimens of Sweet Bays. On the east side of the mansion is placed the conservatory, a building of a cruciform shape, with curved roof and lantern ventilators. It is entered by a short corridor from the morning-room, and reached by a short flight of steps leading down to it, and from which a fine view of the house is obtained. With the exception of the stages round the side of the house and over the hot-water pipes, the plants are arranged on the floor; and their arrangement is frequently altered so as to give as great a variety of aspect as possible. One of the wings is devoted to a fernery sunk 5 or 6 feet below the level of the floor, and built of Derbyshire stone by Messrs. Pulham; here some plants of Begonia Rex are growing very finely.

#### THE PLANT-HOUSES.

Leading from the parterre is a broad walk with shrub-beds on either side, which joins another at right angles leading to the plant-houses. The fine range, erected by Messrs. Mackenzie & Moncri, consists of seven large span-roofed houses connected by a corridor (see fig. 8), and at the back of the division-wall are placed the young gardeners' rooms, potting-shed, tool-shed, fruit-room, office, &c. As we enter from the walk mentioned, we come first to a house 60 feet

by 25 feet, devoted to flowering and foliage plants, with a fountain in the centre; and looking straight on we have the fine corridor 265 feet long, the back wall of which is covered with all the finer varieties of creepers suitable for this kind of work; and the rafters on the other side are also covered with climbing plants, and on the border on either side are arranged plants in pots in a bed covered with Tradescantia zebrina, and a row of Streptocarpus along the front. The plant-houses are filled to overflowing, and high culture, order, and cleanliness reign throughout.

Orchids are cultivated in large numbers; but the display was getting over at the time of my visit, although some good things were to be seen. Amongst them may be mentioned the true Dendrobium nobile album, Cypripedium in excellent variety, Aërides odoratum, A. o. Dayanum, A. Lobbi, A. Honlettianum, Odontoglossum Harryanum (fine varieties), Oncidium papilio (several different forms), the handsome Dendrobium Phalaenopsis Schroderianum, Cattleya Gaskelliana, C. Mendelli, C. Lowii, C. gigas, C. granuloza, Lælia grandis, Sobralia macrantha, Dendrobium infundibulum, &c. It should be mentioned that some specially fine varieties and hybrids of Dendrobium are being collected here, of which more will be heard in the future. The rockery-house, planted with Ferns and Begonias interspersed with cool Odontoglossums, Oncidiums, &c., is a charming retreat. In the early summer 250 Orchids were in full flower here, affording a very gay sight.

In the stove various fine plants were noted, viz., that splendid foliage plant, Cycasophyllum magnificum, not so often seen in gardens as formerly, being somewhat difficult to manage. The newish Leea amabilis attracted attention, as did Strobilanthes Dyeriana; the latter does best in the shade, bright sunshine "spotting" the foliage. Caladiums are largely and well grown, and in all the popular varieties. Anthurium Warocqueanum, and A. magnificum were represented by fine specimens in the midst of health. Adiantum fragrantissimum, a noble specimen, 4 ft. across, were noted; Davallia bipinnatifida as grown here is an admirable basket Fern; Musa Cavendishii, of stately proportions; finely-developed specimens were noted of Hoffmannia Ghiesbreghtiana, and H. variegata, not often seen so well done. A fine collection of Nepenthes in admirable condition and excellent variety (suspended from the roof), is grown. Allamanda Williamsii is considered to be the finest of all the Allamandas, with flowers sweetly-scented; Acalypha macrophylla was good; Monstera deliciosa was noted in flower and fruit; Begonia corallina, a good basket-plant. Tuberos-rooted Begonias were represented by good double and single-flowered varieties. Dipladenia Brearleyana, Clerodendron Balfourianum, and Medinilla magnifica deserve mention amongst flowering subjects; whilst the beautifully marked Bertolonia (amongst the foliage) were quite worthy of notice, because they are not coddled by being grown under bell-glasses—and grown thus naturally they present charmingly effective decorative objects. A very fine strain of Gloxinia is grown—the gardener's own selection here, a light blue flower, with white throat, was very effective. Datara coronopifolia, flowering from seed sown this spring, is worthy of a note—not often seen in private gardens. About seventy of the best varieties of Azalea indica are grown, quarter and half-specimen plants in a thriving condition. J. B.

(To be continued.)

## NEW OR NOTEWORTHY PLANTS.

### MASDEVALLIA × CURLEI

(MACRURA ♀, TOVARENSIS ♂.)

A LEAF and two flower-spikes of a most elegant Masdevallia raised by Alex. Curle, Esq., Priorwood, Melrose, N.B., between M. macrura and M. tovariana, disclose a worthy addition to the garden hybrid Masdevallias. The leaf very closely resembles that of M. macrura. It is, with the stalk, about

8 inches in length; the leaf-blede 5 inches long and 1½ inch broad, leathery in texture, of a dark green colour on the upper side, with four lighter green lines, and of a light green colour on the under-side. The scape is 10 inches high, pale green, not three-angled, as in M. tovariana, and bearing the one a single flower, and the other two flowers, the base of each having an inch-long whitish-green bract. The ovary is half an inch long, the tube half an inch; the upper sepal has a triangular base prolonged into a stout tail 4 inches long; the lower sepals connate for 1 inch of their length, their faces exhibiting three raised lines on each, then merging gradually into tails nearly as long as the upper one.

To the eye the elegant flowers are white, with a pale greenish or primrose hue on the tails, and the raised lines on the sepals, with a very slight blue-pink tint at the back of the flowers, and some minute purple dots on its face. One wonders why more of M. macrura is not seen, but if the flower is dissected and examined under a lens it gives ample evidence of its ancestry on that side, for the looked-for markings appear clearly, especially on the fleshy, ligulate lip, the bases of the narrow white petals, and the under-side of the column, all of which show beautiful purple spots and stripes. James O'Brien.

## ORCHID NOTES AND GLEANINGS.

### LÆLIA ANCEPS PROTHEROEANA.

SOME two or three years ago a small lot of a very distinct type of Lælia anceps was sent to Messrs. Protheroe & Morris for sale, the vendor giving the above varietal name in honour of Mr. W. H. Protheroe. Not always is a provisional name so happily given, for in this instance the plants have proved among the most brilliant and highly-coloured of any of the now large number of varieties. A three-flowered inflorescence, from Joseph Broome, Esq., Sunny Hill, L'Anodunoo (grower, Mr. Shill), represents one of the most marked and brightly coloured; the sepals and petals are white at the base, and the rest bright rose-purple, the petals being the darker, and exhibiting a flame-like purple-crimson flush on the outer halves. The lip is yellow at the base, with purple lines, the yellow running into a ridged orange streak, extending the rich crimson-purple front lobe. It may be regarded as the greatest improvement on the old L. a. Barkeriana. J. O'B.

### CYPRIPEDIUM BURTONI ×.

I appear to have made an error respecting the cross of this Orchid in the note I sent you last week. The cross of C. Burtoni is Lawrenceanum × Rebellini; and the cross, Rebellini × barbatum Warneri, which I have not yet shown, is named C. Monica. F. M. Burton, Highfield, Gainsborough.

## THE JERUSALEM ARTICHOKE.

I was much interested in the leading note, p. 648, vol. xviii., concerning the Globe Artichoke, and perhaps a few words on the Jerusalem variety may be equally reasonable and acceptable to others. It furnishes one of our best winter vegetables, and one which, I think, by careful selection or other means, might be much improved. The article I have already referred to stated that the improved variety then illustrated was grown by M. de Vilmorin, and to this gentleman we are also indebted for a superior form of Jerusalem or bulbous-rooted variety, greatly superior to others in shape, eating quality, and whiteness of skin or flesh. Of late years I have interested myself in the selection of the best roots only for planting of the old variety, and by such means I find that much better-shaped roots can be obtained, in which there is less waste. Other means of production I have not tried, but what can be done by selection in regard to vegetables is surprising, and the work is both interesting and profitable, as shapely roots are superior in quality, take up less room, and keep better.

The chief objections to the old common Artichoke



were its rough, uneven character, and its bad colour when cooked. The tuberous Artichoke contains so much more water than the Potato that many many persons do not like it; but I think the white are more solid than the purple form. I am not sure of this, however, as I do not know the analysis, nor yet if the more shapely roots have been analysed. The old form, though it contained a large percentage of water and less starch than the Potato, was little behind that popular tuber in regard to flesh-forming constituents.

The varieties of the Jerusalem Artichoke are few. I will only briefly refer to the old form, commonly known as the Purple, which, as I have previously stated, can be improved by selection, and by increased attention during growth. The root should be grown from shapely tubers, and only those with few eyes and of good shape saved for seed. Artichokes are frequently planted in out-of-the-way corners, and often much too close together. Give them more space, better soil, and an open position.

fer, like the larger tubers, may be improved by selection. It is well to select good seed, and give good land. Plant at least 2 feet apart between the rows, and in rich land the roots love moisture during growth. To obtain size, it is well to thin the shoots to a limited number when they push through the soil. All the varieties are best in the ground until required for use, and if they are dug up in the autumn, should be pitted like Potatos. *G. Wythes.*

MUSHROOM CULTURE.

As a forcible instance of what may be done on the small-holding system of land cultivation when intelligence, perseverance, and spirit are brought to bear on the work, it may not be uninteresting to the readers of the *Gardeners' Chronicle* if I attempt to give a brief account of the successful work of a gentleman in the important and difficult task of artificial Mushroom cultivation for market. In the secluded and pretty village of Walberton, situated in

June, and July of last year amounted to 16,959 lb. of Mushrooms, or a little over 7½ tons. In case it is supposed that this crop may have been procured from an unlimited area, I may mention that such was not the case, the area being limited, and the result being mainly attributable to the enormous masses of Mushrooms on the beds.

The view (fig. 6) gives a good idea of the nature of the crop. From 4 yards run of the bed, as seen partly exposed, 5 feet over, were gathered at one picking 72 lb. of Mushrooms, or over 1 lb. per square foot. This result, I imagine, has been very rarely equalled. On another occasion, a bed 90 feet in length and 5 feet over gave at one picking 210 lb., which must be considered a splendid result, seeing that, generally speaking, outdoor ridges continue to bear more or less for a period of three months, and sometimes very much longer. The other illustration (fig. 7) represents part of a morning's pick of 1298½ lb.

It may be stated that Mr. Hartley is no lover of indoor culture, believing that greatly heavier crops are obtainable from outdoor ridges than from sheds or houses of any kind or description whatever. He also appears to fully realise the necessity of employing an adequate staff of men to perform the work of bed-making, spawning, gathering, &c., quickly, so essential to an industry of this kind. Mr. Hartley has also numerous glasshouses for the growth of Tomatos, which he cultivates with great success.

This notice would not be complete were I not to mention that the above results in Mushroom-growing are being obtained from spawn of Mr. Hartley's own manufacture. He has given this part of the business much attention and study, and does a large trade in the sale of spawn at a reasonable rate. I have myself used this spawn for some years, and must say that I have invariably found it to be good. *J. Lourie.*

CHERRIES.

Much has been written within the past few years in favour of extended Apple and Pear planting, and a more careful selection of varieties. We must not, however, overlook the Cherry as a valuable fruit, which always commands a ready sale, and is profitable. Of course, we know that in many parts of the country the trees do not grow and fruit so freely as they do in some parts of Kent. It is only where they do succeed that I would advise more trees to be planted, and I feel sure that if this is done, the grower will have no reason for regret. As a preliminary to planting, the foremost consideration is the choice of a suitable situation and soil. The next important item is the selection of good varieties, which must not be numerous. The stock the trees are grafted upon should be free, and union perfect and free from gum. I think it need hardly be said that the best soil is that of medium texture; not too heavy, but rich enough to produce a free growth from the time they are first planted. Afterwards the roots must be fed to keep the trees in a fruitful state, when from heavy cropping they show signs of weakness. The land prior to planting should be thoroughly prepared, and the sub-soil well drained. A deep loamy soil in which the roots can strike out in each direction is required. Two years ago we planted six acres of land adjoining these gardens. The ground is somewhat high, and has a slope towards the north on the north and east sides; there is a good shelter of Chestnut trees, while on the west we planted a row of Damsons at 9 feet apart of the Farleigh variety to form a screen on that side. The ground too being well out of the valley, the flowers will undoubtedly better escape injury by late spring frosts. These trees stand at 40 feet apart with Plums halfway between, which will be grabbed out when the Cherry trees require further head-room. The varieties are Black Turkey Heart or Corone, a very heavy cropper; Rivers' Early, one of the best of Cherries for all purposes; Black Circassian, Kentish Bigarreau, Napoleon Bigarreau, and Elton; these latter four being of firm texture, and not injured by travel; Plums, Rivers' Prolific, The Czar, Belgian Purple; Cox's Emperor, Victoria, Gisbourne's, and Monarch.



FIG. 6.—GATHERING MUSHROOMS FROM AN OUTSIDE BED.

As these plants reproduce themselves so freely, the smallest root being sufficient to produce a plant, more than ordinary care is required when lifting them. Last season I grew Vilmorin's New White variety, and was much pleased with it. In regard to shape, size, and colour, it is a great advance, and these points are combined with good quality. Indeed, it is a valuable addition to our winter vegetables, but it requires plenty of space, and though not so tall as the old form, it is very strong, and branches in good soil. The tubers have fewer eyes, and are more like Potatos in shape, and the growth is more regular. Sutton's White is also much better than the old Purple, the tubers being smoother, and superior in quality. In my experience, it is not so large as Vilmorin's, which is no disadvantage, and it is a very heavy cropper. There will be little need to grow the old form now we have these superior varieties. Sutton's White, like the old Purple, makes a large top, and requires ample space, quite 2 feet between the rows, and 18 inches between each plant, or even more when it can be afforded them.

The Chinese Artichoke, *Crosnes*, or *Stachys tuberi-*

the south-western division of the county of Sussex, Mr. H. Hartley, absolutely without any previous or early training in any branch of horticulture, some few years ago began Mushroom-growing for market on outdoor ridges; and notwithstanding the serious drawbacks of having to procure most of his manure by rail from London, a distance of 70 miles, and that his Mushroom-grounds were situated some 3 miles from the nearest railway station, has deservedly succeeded in making the undertaking a conspicuous and financial success.

Mr. Hartley, since entering into business, has not been invariably successful in obtaining heavy crops of Mushrooms. He has had to contend—like most other growers—with occasional partial failures from causes difficult to trace; but instead of showing faint-heartedness and abandoning the work, as many have done under similar circumstances, he has kept steadily on his way, observing and noting each feature as it arose in the difficult and somewhat mysterious culture he had undertaken, until it would seem that the season of 1895 had brought him almost unparalleled success.

His gatherings for the months of April, May,

After planting, the land was sown with grass, to be kept closely grazed by sheep, so that no digging amongst the trees will ever be practised. In pruning the young trees the heads must be kept open, preserving from the first and second pruning about five young shoots at equal distances apart. These must be shortened more or less according to the strength of the growth. Having once obtained the shoots to form the main branches, very little pruning will be required, with the exception of shortening back the side-growths, and removing any shoots which are likely to cross each other. Braising at any time frequently leads to gumming and the loss of branches. Strong, stout stakes should also be used, and pads of straw when fastening them, to prevent rubbing during strong wind.

On walls, too, we find the Cherry one of the best of desert fruits, and if planted far enough apart to allow plenty of extension, and suitable varieties are selected, the season extends over a long period. Plenty of old lime or brick-mortar is good for mixing with heavy loam and well-decayed manure. Old Mushroom-beds make the best manure, as it induces mats of fibrous roots on walls. The Duke race should be planted a little nearer to each other than the large-leaved varieties, and the branches may be trained closer together, but a space of 30 feet is none too much for the Bigarreus. *H. Markham, Mere-worth Gardens.*

PLANTS IN FLOWER IN THE OPEN AT LA MORTOLA, NEW YEAR'S DAY, 1896.

The following list of plants in the Marquis Haubury's unique garden at La Mortola, which were carrying flowers on the first day of the present year, will be doubtless perused by many of our readers with much interest, showing, as it does, the wealth of floral beauty which a well-furnished garden in Italy affords at a season, which in our own land is all but flowerless as regards plants out-of-doors:—

- Abelia rupestris, Lindl.
- Aberia cafra, Haw.
- Abutilon Darwini, Hook.
- .. striatum, Dicks.
- .. venosum
- .. vexillatum, E. Morr.
- Acacia microbotrys, Benth.
- .. brachybotrys, Benth.
- .. obliqua, Cunn.
- Achyranthes argentea, Lam.
- Aeonium arboreum, W. & B.
- Echinanthus grandiflorus, G. Don.
- Agathaceae celestis, Cass.
- Agave filifera, S. Dyck
- .. sculymus, Karw.
- .. yne-efolia, D.C.
- Ageratum caelestinum, Sims.
- Albizia lophantha, Benth.
- Aloe arborescens, Mill.
- .. var. frutescens, S. Dyck
- .. aurantiaca, Bak
- .. cilifera, Haw.
- .. purpurascens, Haw.
- Schweinfurthi, Bak.
- Anagyris foetida, Lin.
- Anemone coronaria, Lin.
- Anthoeris littorea, Labell.
- .. viscosa, R. Br.
- Antholyza seducen
- Apongeton distachyum, Sims.
- Aralia Sieboldi, hort.
- .. papyracea, Hook.
- Arbutus Andrachne, Lin.
- Arctostaphylos arborescens, Jacq.
- Aristolochia sempervirens, Lin.
- Bambusa verticillata, R. Br.
- Banksia macrocarpa, R. Br.
- .. verticillata, R. Br.
- Begonia macrophylla, Dryand.
- .. Rex, Putz.
- .. fuchsoides, Hook.
- .. Schimperiana, Rgl.
- .. semperloreae, Lk. & Otto
- Barberis glauca, D. C.
- Bignonia jasminoides, A. Cunn.
- .. australis, Ait.
- Boenninghausenia albiflora, Ait.
- Borago officinalis, Lin.
- Bougainvillea glabra, Choisy
- .. Sanderiana
- Bouvardia triphylla, Salisb.
- Buddleia americana, Lin.
- .. auriculata, Benth.
- .. madagascariensis, Lam.
- Camellia japonica, Lin.
- Campanula pyramidalis, Lin.
- Cantua pyrifolia, Juss.
- Capsicum Hamiltoni, G. Don.
- Carica atro-violetea
- Cassia coquimbensis, Vog.
- .. hirsuta, Lin.
- .. tomentosa, Lin., var. abuda, Ort.
- Casuarina stricta, Dryand
- Catha edulis, Forsk.
- Carotena siliqua, Lin.
- Cestrum aurantiacum, Lin II.
- .. diurnum, Lin.
- .. elegans, Schlect.
- .. Parqui, P.Hort.
- .. versipellum, Lin.
- .. Warsewiczii, Klotsch.
- Chamærops excolta, Thunbg.
- Chieranthus matubalis, P.H. it
- Chimonanthus fragrans, Lin II.
- Choiaya ternata, H. B. K.
- Chrysanthemum frutescens, Lin.
- .. indicum, Lin.
- Cistus crispus, Lin.
- Citrus aurantium, Lin.
- .. daucunna, Murr.
- .. Medica, Lin.
- .. myrtifolia, Rafin.
- Clematis cirrosa, Lin.
- Clerodendron fragrans, Willd.
- Clytia Richardiana, Mill.
- Cubaia scandens, Cav.
- Colletia horrida, Willd.
- .. cruciata, Hook. & Gill.
- Coronilla glauca, Lin.
- Correa cardinalis, Fr. M.
- .. Livriceana, Hook.
- Cotyledon linguifolia, Lam.
- .. lurida, Bak.
- .. macrantha
- Crassula Bolstii, Hook.
- .. hypophyllae, Lin.
- .. multicaulis, Lam.
- .. spathulata, Thunbg.
- Crataegus glabra, Thunbg.
- .. glauca, Willd.
- Cuphea emuensis, Pl. & Lind.
- .. platycentra, Benth.
- Cyperus alternifolius, Lin.
- Cyrtopetalum usigne, Wall.
- Cyrtaandra polyantha, Clarke
- Cyrtanthera magnifica, Nees.
- Dahlia Maximiliana, Hort.
- Daphne Genouium, Lin.
- .. andrea, Lin.
- .. sanguinea, R. Pav.
- Dianthus caryophyllus, Lin.
- .. superbus, Lin.
- Dioon edule, Lindl.
- Diplopappus filifolius, D.C.
- Dolomia triquetra, Andr.
- Duranta inermis, Lin.
- Echeveria gibbiflora, D.C.
- .. imbricata, Desill.
- .. retusa, Baker
- Elaeagnus macrophylla, Thunbg.
- .. reflexa, Morr. Deene.
- Encephalartos Lehmanni, Lam.
- Enuli flammae, Cass.
- Epacris impressa, Labell.
- Ephedra alusima, Desf.
- Epiphyllum truncatum, Haw.
- Erica barbata, Andr.
- .. blanda, Andr.
- .. mediterranea, Lin.
- .. multiflora, Lin.
- .. polytrichifolia, Salisb.
- Eriobotrya japonica, Lindl.
- Eriocephalus africanus, Lin.
- .. var. tenuior
- Eucalyptus globulus, Labill.
- .. unguis, F. M.
- Eupatorium adenophorum, Spr.
- .. grandiflorum, Hook.
- Euphorbia Caput-Meduse, Lin.
- .. clandestina, Jacq.
- Euryops spathaceus, D.C.
- Ficus stipulata, Thunbg.
- Freyliuia cestroides, Colla.
- Fuchsia alba, Camb.
- .. corymbiflora, R. Pav.
- .. gracilis, Lindl.
- .. splendens, Icee.
- Gasteria verrucosa, Haw.
- Grevillea basifolia, R. Br.
- .. longifolia, F. M.
- .. romarinifolia, A. Cunn.
- Grewia flava, D.C.
- Hakea eucalyptoides, Meissn.
- .. gigantea
- .. pugioniformis, Cav.
- .. suaveolens, R. Br.
- Halleria lucida, Lin.
- Hardenbergia monophylla, Benth.
- Hedera Helix, Lin., var. algeriensis, [Lin.
- Heliotropium peruvianum, Helleborus lividus, Lin.
- Hexacenton cocinea, Nees.
- Hyacinthus romanus, Lin.
- Hypericum Androsimum, Lin.
- Iberis sempariferus, Lin.
- Iochroma fuchsoides, Miers.
- .. lanceolata, Miers.
- .. grandiflora, Benth.
- Ipomea Learii, Paxton
- Isomers arborea, Nutt.
- Iris stylosa, Desf.
- .. ap.
- Jasminum nudiflorum, Lindl.
- .. officinale, Lin.
- .. odoratissimum, Lin.
- .. revolutum, Sims.
- Justicia adhaeda, Lam.
- Kalanche rotundifolia, Haw.
- Kerria japonica, D.C.
- Kleinia articulata, Haw.
- .. antephorbium, D.C.
- .. creruleifolia, D.C.
- .. pterocera, D.C.
- .. repens, Haw.
- Lantana Camara, Lin.
- .. Sellowiana, Lk. & Otto
- Lardizabala bternata, R. Pav.
- Lasiandra marantha, Lindl., Seem.
- Lavania dentata, Lin.
- .. multifida, Lin.
- Leontis Leonurus, R. Br.
- Ligonia floribunda, Koch.
- .. pterocera, D.C.
- Lium t. igyuum, Kxb.
- Lopezia miniata, D.C.
- Lophospermum erubescens, D. Don.
- Luculia gratissima, Sw.
- Mabonia japonica, D.C.
- Mileca maritima, R. Br.
- Malvastrum arborescens, Cav.
- Matthiola annua, Sw.
- .. incana, R. Br.
- Melanthus Trimenianu, Hook.
- Mesembryanthemum barbatum, Lin.
- .. lingue-formis, Haw.
- .. rubricule, Haw.
- .. spectabile, Haw.
- Mina lobata, Cerv.
- Morina obtusifolia, H. B. K.
- Muhlenbeckia complexa, Meissn.
- Musa Essete, Gmel.
- Narcissus papyraceus, Ker.
- .. Tazetta, Lin.
- Nicotiana glauca, Grab.
- Odontospermum maritimum, Sch. Bip.
- Olea undulata, Jacq.
- Opuntia monacantha, Haw.
- .. subulata, Engelm.
- Oreodaphne californica, Nees.
- Oreopanax capitatum, D. & Pl.
- .. dactylofolium, Hort.
- .. Epremsilianum, André
- .. Thibautii, Hook.
- Osmantus Aquifolium, Sieb.
- .. fragrans, Lour.
- Othonna Athanasiae, Jacq.
- .. carnosa, Less.
- .. denticulata, Dryand.
- .. trinervia, D.C.
- Othonnopsis cheirifolia, B. & H.
- Oxalis ceruua, Thunbg.
- .. pubescens, H. B. K.
- Palafoxia texana, D.C.
- Panax aculeatum, Dryand.
- Panicum palmifolium, Poir.
- Passeria hirsuta, Lin.
- Passiflora alata, Ait.
- .. corulea, Lin.
- .. minima, Jacq.
- .. princeps, Loid. = race-
- Pavonia apiafex, Cav.
- Pelargonium odoratissimum, Sol.
- .. alchemilloides, Ait.
- .. peltatum, Ait.
- .. zonale P.Hort.
- Pentzia virgata, Less.
- Pentzia violacea, Lindl.
- Peucephylla canariensis, Hort.
- .. axylon, R. B.
- Phygellus capensis, E. Mey.
- Phytica ericoides, Lin.
- Phyllos peruviana, Lin.
- Plocarapus mucrofolius, Lem.
- Pisum sativum, Lin.
- Plectranthus tomentosus, Benth.
- Plumbago capensis, Thunbg.
- Polygala myrtifolia, Lin.
- Polygonum repens, Wall.
- Pomaderris candidans
- Primula Forbesii, Franch.
- .. sinensis, Lindl.
- Raphiolepis indica, Lindl.
- Reinwardtia tetragyna, Dum.
- Reseda phytanum, Linn.
- .. olorata, Lin.
- Rhus integrifolia, Benth. & Hook.
- .. tomentosa, Lin.
- .. viminalis, Vahl.
- Ricinus communis, Lin.
- Rosa Banksiae lutea simplex, R. Br.
- .. indica, Lin.
- .. var. birboiana, Desp.
- .. var. viridiflora
- .. Thea, Hort.
- Royena lucida, Lin.
- .. pubescens, Willd.
- Ruscus hypophyllum, Lin.
- Ruscus juncea, Zuccer.
- Salvia caeruleifolia, D.C.
- .. discolor, H. B. K.
- .. frutescens
- .. gesneriflora, Lindl.
- .. Grahami, Benth.
- .. Heerii, Rgl.
- .. leonuroides, Glor.
- .. leucantha, Cav.
- .. obtusata, Mart. & O'ill.
- .. paniculata, Lin.
- .. pseudo-coccinea, Jacq.
- .. purpurascens, Mart. & Gull.
- .. involucreta, Cav.
- .. regina (?)
- .. semiatrata, Zucc.
- .. splendens, Sellow
- Saxifrag crassifolia, Lin.
- Schinus Molle, Lin.
- Scatellaria cordifolia, Benth.
- .. peregrina, Lin.
- Sedum dendroideum, Less.
- Senecio angulatus, Lin. fil.
- .. deltoideus, Less.
- .. gran biflorus, Less.
- .. Heritieri, D.C.
- .. longifolius, Lin.
- .. oxycarpus, D.C.
- .. radicans, Sch. Bp
- Solanum atro-purpureum, Schrank
- .. bataveum, Cav.
- .. acanthotrupum, Poit.
- .. giganteum, Jacq.
- .. diphyllosum, Lin.
- .. jasmoides, Paxt.
- .. lanceolatum, Cav.
- .. marginatum, Lin. fil.
- .. Melongena, Lin.
- .. pseudo-capsicum, Lin.
- .. robustum, Wardl.
- .. triquetrum, Cav.
- Sparmannia africana, Lin.
- Sphaeralcea umbellata, Spach.
- Sutherlandia pubescens, R. Br.
- Taesonia m. uicata, Juss.
- Tagesia corymbosa, Leg.
- Tecoma capensis, G. Don.
- .. Stans, Juss.
- Templetonia retusa, R. Br.
- Tropæolum pentaphyllum, Lam.
- Thuj gigantea, Nutt.
- Tubægia violacea, H. W.
- Ulex europæicus, Pourr.
- .. europæus, Lin.
- Verbena tenera, Spr.
- Veronica Andersoni, X. Lindl.
- .. spaciosa, Cunn.
- Viburnum Tinus, Lin.
- Vinca media, Lk. Hoffm.
- .. minor, Lin.
- Viola odorata
- Visnea Mocarera, L. fil.
- Vittadenia triloba, D.C. (= Erigeron macranatum)
- Westringia rosmariniformis, Bar.
- Yucca filamentosa, Lin. var. gloriosa, Lin.

INDIGENOUS PLANTS.

- Alyssum maritimum, Lam.
- Andropogon birtus, Lin.
- Antirrhinum Orontium, Lin.
- Arum Arisarum, Lin.
- Asperula cynanchica, Lin.
- Bellis alysteris, Cyr.
- Calamintha Nepeta, Savi.
- Calendula arvensis, Lin.
- Cestranthus ruber, D.C.
- Chenopodium murale, Lin.
- Cucurbita tricoicum, Lin.
- Diploxaxis erucoides, D.C.
- Euphorbia seguakali, Lin.
- Foeniculum pipitium, D.C.
- Fumaria major, Bad.
- Globularia Alyssum, Lin.
- Helianthemum glutinosum, Pers.
- Heliebrus foetidus, Lin.
- Juniperus Oxycocca, Lin.
- Moricandia arvensis, D.C.
- Picridium vulgare, Desf.
- Rosmarinus officinalis, Lin.
- Scabiosa maritima, Lin.
- Solanum maritima, Bernh.
- .. agrum Sm.
- Sonchus oleraceus, Lin.
- Thymia tuberosa, D.C.
- Thymus vulgaris, Lin.
- Tunica Saxifraga, Scop.

BRITISH FERN VARIETIES, THEIR RARITY.

I HAVE naturally read with very much pleasure the communication of Mr. C. B. Green in your issue of December 21, as evidence that a thoroughly British fernery, as illustrated by you, meets the appreciation it merits as a collection of native plants, such as no other country in the world could furnish for the varietal point of view. This is saying a great deal, but it is not said rashly, as everyone who has looked into the matter and is capable of forming an opinion will readily admit. It is, however, unfortunate that your correspondent's quest for these varietal forms in their wild state should have been so entirely fruitless (especially when he names such likely hunting-grounds as South Dorset and North Wales), that he, apparently, has come to the conclusion that further search is useless. Let him not, however, lose faith, but try again, bearing in mind the curious fact, that these varieties are almost invariably solitary specimens of their class, though their individuality may be obscured by the crowd of common ones with which they are associated. To be successful, therefore, implies generally a careful plodding search among the multitude, keeping a sharp and indefatigable eye open for the tiny crests or other abnormality which may alone be visible, though the plant when extricated may be a well-developed specimen. I well recollect my first good find, when after a whole day's fruitless hunt on Exmoor, Blechnum Spicant concinnum, Drury, rewarded a last despairing scrutiny along an old stone dyke at Simonsbath. Every chink was crowded with small plants of various species, Lætare, Athyrium, and Blechnum; and in a clump of this latter species I perceived about an inch of what appeared to be a slender string of small green scallop shells. Pouncing breathlessly upon this, I traced the 6-inch frond to a centre from which radiated half-a-dozen others, all as true as a die to the type. A shout of triumph brought my companions to my side, and a "gem of first water," was the verdict. A short crowbar lifted the stone, the whole clump came neatly out, and in a few minutes the gem was disentangled from the crowd with roots intact, and installed in damp moss for its journey to London. One such experience is worth a ton of assurance, and if Mr. Green will only persist, I am sure he will alter his mind. Let him consider that two of our most noted hunters, Mr. J. Moly and the late lamented Dr. Wills, reside, or resided, in one of the very counties he has been unsuccessful in, viz., Dorset. Mr. Moly's own finds, i.e., the good ones, numbered years ago over 600, mostly discovered within his own locality; and Dr. Wills, not many miles distant, found a very large number in addition. Singularly enough, notwithstanding the keen eyes of both, two unique Ferns, Polystichum angulare Pateyii, and P. aculeatum pulcherrimum, were found close by their houses, the former by Mr. Patey, a visitor, and the latter by a labourer, who took it to Dr. Wills to see if there was anything in it. But Mr. Green will naturally say, these gentlemen were residents, and had daily opportunities which the limits of an ordinary vacation reduce a hundredfold. True! but leaving out of the question my own hunting experience, which now involve a fair number of good "finds" within such time limitations, I may cite that of my friend Mr. Barrard, who, without being a Fern specialist in any sense, called upon me one day with an album of fronds he had collected in his annual rambles. Among these were a number of



very good finds, one being actually the only known cristata form of *Lactrea rigida*, which unfortunately only exist as a memory, the plant having died. Stimulated by my expression of opinion, he found on his succeeding outing a very fine *P. ang. grandiceps* by the roadside, just out of Barnstable, and a pretty proliferous form of the same species. This was followed by a handsomely-crested Hart's-tongue, quite distinct, and that again by one of the neatest little crested *Blechnum* I have seen (found by his sister), a constant crested form of *P. vulgare*. In all these cases, I am told, the finds resulted not from the "plodding" search I have suggested, but by keeping a good look-out while walking along in likely places. Several of my own "finds" have cropped up in this manner, but obviously the element of luck comes in too much in these cases for me to alter the counsel I have given. A good deal, of course, depends upon whether the district is frequently searched. Perhaps Mr. Green has been

"souvenirs" a host of pleasant memories, of pleasant places, and, above all, of pleasant people whose "fellow-feeling" for a mutual hobby has made them "wondrous kind." *Chas. T. Drury, F.L.S.*

RECENT BOTANICAL DISCOVERIES IN NEW ZEALAND.

For botanical activity New Zealand stands in the front rank of our colonies, but it still wants a general descriptive account of its flora to succeed Sir Joseph Hooker's *Handbook* of thirty years ago. *Transactions and Proceedings of the New Zealand Institute* is the title of the organ of an incorporation of the principal learned societies of the islands; and it is in this that we find a record and description of the novelties brought to light by numerous explorers and investigators. This publication has now reached its twenty-seventh volume, and contains a number of communications interesting to botanists and horticulturists. Bot

where it is provisionally referred to the Boraginæ. New or old species of a very few Australian genera have been added; *Actinotus*, *Liparophyllum*, *Caleana*, and *Calochilus*, are interesting examples. The bulk of the new species belong to such well-known and widely-spread genera as *Ranunculus*, *Senecio*, *Veronica*, and *Carex*; and such characteristic Australasian genera as *Coprosma*, *Olearia*, *Carmichaelia*, *Celmisia*, and *Astelia*. I employ the term Australasian in the wider sense.

Returning to the last volume of the *Transactions*, the most attractive article is from the pen of the veteran, Rev. W. Colenso, F.R.S., who has spent sixty years in the islands, and who was lately the recipient of a testimonial, in the form of a portrait of himself, in recognition of his services to science in founding the Hawke's Bay Philosophical Institute. This article is entitled "Notes and Reminiscences of Early Crossings of the Romantically-situated Lake Waikaremoana, County of Hawke's Bay, of its Neighbouring Country, and of its Peculiar Botany; performed in the years 1811 and 1813."

Every line of this is good reading, and food for thought too; but it will not bear dismembering, and cannot be said to come within my heading of "Recent Botanical Discoveries."

Nearer the mark are Mr. A. Hamilton's *Notes on a Visit to Macquarie Island*. This is the most southerly of the islands in those waters, being about 510 miles south-west of Stewart Island, N.Z., and in no higher latitude than 54°, yet it is the limit of phanerogamic vegetation in this region, and a very sparse flora it has, away down in this stormy sea. Mr. Hamilton has added a few species to those previously known, including three grasses regarded as new. The total number of species is so small that I may give the list, as it will convey more than a brief description:—*Lanuncolus crassipes*, *Cardamine hirsuta* var. *corymbosa*, *Colobanthus muscoides*, *C. Billardieri*, *Stellaria decipiens*, *\*Stellaria media*, *\*Cerastium triviale*, *Montia fontana*, *Acena sanguisorbæ*, *A. adacendens*, *Callitriche antarctica*, *Tillæa moschata*, *Epilobium nummularifolium*, *E. linnæoides*, *Azorella Selago*, *Stilbocarpa polaris*, *Coprosma repens*, *Cotula plumosa*, *Pleurophyllum Hookerianum*, *Uncinia nervosa*, *Luzula crinita*, *Deschampsia Hookeri*, *D. penicillata*, *Poa foliosa*, *P. Hamiltoni*, *\*P. annua*, *Agrostis antarctica*, *Festuca contracta*, *Aspidium aculeatum* var. *vestitum*, *Polypodium australe*, *Lomaria alpina*, *Lycopodium Billardieri*.

This is a small flora for an island between 20 and 30 miles long, and 5 to 6 miles in its widest places. A quarter of an acre of ordinary meadow or heathland in this country would furnish more. But the bleakness of Macquarie Island is described as something that one must experience to fully realise; and then the immense number of penguins of various species are another scourge to vegetation. The foregoing list comprises three categories of plants. Those preceded by a star are certainly introduced—recently introduced—and possibly some others. The genuinely indigenous plants consist partly of species common to New Zealand and the extreme South of America, and the intermediate "antarctic" islands, including South Georgia, Kerguelen, and others, in the same latitude, and partly of such as are peculiar to the New Zealand region. Prominent among the latter are *Stilbocarpa polaris* (Araliaceæ) and *Pleurophyllum Hookerianum* (Compositæ); which are noble and handsome plants. The genus *Pleurophyllum* is confined to the small islands south of New Zealand, and the species are remarkable for their bold silvery foliage, and large bright purple flower-heads.

Our valued correspondent, Mr. Thomas Kirk, contributes monographs of the New Zealand species of *Gunnera*, *Gentiana*, and *Colobanthus*, besides descriptions of new species of various other genera. The genus *Gentiana* is almost as universally dispersed as *Ranunculus*, and it is more numerous in species, recent explorations in Western China having brought to light a very large number of exquisitely-beautiful forms. Most gardeners are familiar with the brilliant colours of some of the species; and on this point Mr. Kirk has put on record some curious obser-



FIG. 7.—MUSHROOMS: PART OF A MOB'S PICKING. (SEE P. 41.)

unfortunate in this respect. Obviously, notwithstanding the cases of Mr. Patey and the labourer above cited, one has little chance of success on ground which has repeatedly been gone over by an expert, and hence some out-of-the-way spot forms a better centre of operations than one on what may be considered a beaten track. Nature, however, it must be remembered, is constantly at work, and hence, wherever seedlings are numerous, there is always a chance of a "find." In short, the moral of all this is, "persevere," and if Mr. Green adopts it, I am sure he will alter the opinion he holds at present. Personally, I have never returned to London from a week or two's Fern hunting without bringing with me one or more boxes of varietal forms. Some of these, it is true, have proved inconstant and worthless, but a good number have fully justified the first feeling of elation they evoked when discovered. These naturally have been multiplied, either by spores or division, and by exchange have not only enriched my collection materially, but often on my visits to Fern-loving friends at a distance, greet me as old acquaintances, occupying the places of honour to which their beauty entitles them, and recall as

before giving an account of their contents, a few words respecting the progress of botanical discovery by the colonists themselves. For purposes of my own I have indexed the whole of the descriptions of reputed new flowering plants, published in the *Transactions*, and it is not a little surprising to find the number amounting to about 550, or very considerably more than half the number contained in Hooker's *Handbook*! This does not include the new Ferns, be it remembered. Whilst there is no doubt that a large proportion of these "new species" are really new and distinct, and the results of the exploration of previously-unvisited districts, there is also no doubt that a large number of them have by no means the same value as those of the *Handbook*, for instance. Considering that the new plants include the gatherings from large tracts and districts previously unexplored, it is surprising that only one new genus has been added to the flora of the islands. This is a small and inconspicuous plant, resembling a *Tillæa*, and yet of great botanical interest on account of its structure and obscure affinity. It has been named *Tetrachondra Hamiltoni*, and it is figured in Hooker's *Icones Plantarum*, t. 2250,

variations on the New Zealand species. He distinguishes ten species, and several varieties of two or three of them. Four of the species, namely, *G. saxosa*, *G. cerina*, *G. antipoda*, and *G. antarctica*, "are never found out of the reach of the sea spray," and the genus is represented in all the Antarctic Islands in the New Zealand region, except Macquarie Island. "All the New Zealand species primarily produce white flowers, although *G. antipoda*, *G. cerina*, and *G. antarctica* var. *imbricata*, exhibit also various shades of red, purple, and violet, or occasionally white, with vertical streaks of red; the other species are pure white, or rarely exhibit a pale lemon or sulphur tinge, which, however, never merges into a true yellow." So it seems there is neither a true blue nor a pure yellow among the southern species. Mr. Kirk brings the number of New Zealand *Gunneras* up to nine species. There are various other equally interesting communications, but this article is already long enough. *W. Botting Hemsley.*

## NOVELTIES OF 1895.

(Continued from p. 10.)

STOVE AND GREENHOUSE PLANTS. — These have been recruited in a general way, after the manner customary of late years, by additions in tuberous-rooted Begonias, from Mr. Thos. Ware, Mr. R. B. Davis of Yeovil, Messrs. H. Cannell & Sons, John Laing & Son, and others; *Caladiums* by Mr. John Laing and Mr. Peed; and the usual improvements in florists' flowers from all the best firms. Messrs. Jas. Veitch & Son, continuing their good work of improving popular plants, have sent out several superb *Hippeastrums* (*Amaryllis*), of which *H. Mrs. Montefiore*, the finest light variety yet raised; *H. Prince Edward*, dark crimson; *H. Dore*, a large and richly-coloured flower; and *H. Chimère*, a pretty red and white variety, are the best. Their new strain of *Streptocarpus* has *S. gratus* (Veitch's hybrid × *Duani*), which lasts in flower several months, and sometimes bears thirty flowers on a stem; their improvements in *Phyllocactus* culminate in *P. Excellent*, a gorgeous salmon-coloured flower; their new dwarf strain of *Caladium* has produced *C. Henry Irving* and *C. Lord Derby*; their perpetual and winter-flowering Begonias make distinct advances in *B. × carinata*, *B. Mrs. Heal*, and *B. Success*, the two last being showy crimson hybrids between *B. socotrana* and tuberous-rooted Begonias, and their fine flowers, produced in winter, are gains to gardens. Among the showier new greenhouse *Rhododendrons* is one of special interest, *R. Numa*, a complex hybrid, whose pedigree runs into five generations, and includes in its ancestors *R. jasminiflorum*, *R. javanicum*, *R. Brookeanum*, and *R. multicolor Curtii*; also, in the fourth generation, *Azalea indica* var. *Stella*.

Messrs. F. Sander & Co. have continued both the raising and importing of novelties with considerable success. At the Manchester show one of the great attractions consisted of their fine Begonias, of which the new strain of foliage and flowering pillar Begonias, entitled the Royal Set, received Certificates of Merit, and four new foliage Begonias, viz., *Lady Annesley*, *Sander's Masterpiece*, *Duchess of Sutherland*, and *Trentham Beauty*, were perhaps the most remarkable. The hybrid *Sonierias* and *Bertolonias* raised at St. Albans also show distinct advances, and among their imported Palms, Cycads, Ferns, *Alocasias*, &c., are many which, although known to botanists, will be acceptable novelties in gardens.

### FLORISTS' FLOWERS

still continue to be worked on as intelligently as ever by those who make specialties of the respective classes. In developing the Chinese *Primula*, a very remarkable instance of extremes is given by some of the noble new varieties of Messrs. Sutton & Son, and notably their Fern-leaved "Giant Rosy Queen," and Giant White, which may be regarded as two of the highest and most beautiful examples of the florist's art in producing large freely-coloured flowers, of fine form and substance on the one hand, and the

*Primula sinensis*, "The Lady," of Messrs. Cannell & Sons, Swanley, on the other, the latter being after almost an age of working and selecting, still in the main very close to the original *P. sinensis*, with its small elegant white flowers, which show up so well above the purple-tinted flower-stalks. In *Cyclamen persicum*, too, Messrs. Sutton & Sons have made remarkable strides, the Purple Queen and Salmon Queen being charming things, the constancy of which they have tolerably well fixed, so that they come true from seeds. How faithfully specialists stick to their specialties may be seen in the fine new *Clivia* model of Messrs. B. S. Williams & Sons, and *Clivia The Right Hon. Jos. Chamberlain* of Messrs. John Laing & Son, both of which are decided improvements in a class of plants which do not admit of much variety in colour, although the yellow and orange, as in these instances, have been still further advanced towards scarlet.

The *Chrysanthemums*, *Roses*, and other favorite flowers, have all been recruited by so many novelties that they demand special notice, for although but a portion of those advanced as novelties ever stand the test of time, still there are a large number of sterling good new varieties. The following novelties and rare plants have been illustrated in the *Gardeners' Chronicle* in 1895:—

*Eichynanthus Hildebrandi*, September 21, p. 333.  
*Anthericus villosa*, March 30, p. 591.  
*Begonia* × "Mrs. Heal," November 16, p. 585.  
*Begonia Fiebeli incomparabilis*, Dec. 7, p. 651.  
*Brachyglottis repanda*, June 15, p. 737.  
*Chlorocodon Whiteii*, August 31, p. 234.  
*Chrysanthemum M. Cheou Leché*, Dec. 7, p. 683.  
*Chrysanthemum* × *Princess May*, Sept. 14, p. 295.  
*Clematis Countess of Onslow*, May 25, p. 647.  
*Daisy*, "The Bride," August 3, p. 131.  
*Dautzia Lemoineii*, October 5, p. 398.  
*Dahlia* (*Cactus*), Mrs. Wilson Noble, Sept. 28, p. 367.  
*Eucharis* × *Stevensii*, March 23, p. 365.  
*Gooseberry*, New Spineless, July 27, p. 100.  
*Gloxinera* × *Brilliant*, February 2, p. 145.  
*Hamercallis aurantiaca major*, July 20, p. 71.  
*Mignonette Golden Gem*, February 2, p. 147.  
*Nasturtium Liliput*, December 14, p. 709.  
*Primula* "The Lady," March 16, p. 327.  
*Rheum Moorcroftianum*, June 22, p. 765.  
*Rose* "Echantress," December 7, p. 673.  
*Streptocarpus*, Laing's *Multiflora*, Aug. 21, p. 211.  
*Sweet Pea*, New Dwarf, June 29, p. 793.  
*Soncio Galpini*, March 9, p. 295.  
*Tchihatchewia isatidea*, August 10, p. 151.

## STRATHFIELDSAYE.

(Continued from p. 8.)

Crossing the tennis-green, the eye at once rests on a fine group of about twenty specimens of the *Wellingtonia* (*Sequoia gigantea*), evidently at home, and growing fast into fine trees. At a little distance is noticed another fine thriving *Wellingtonia*, planted by the Prince of Wales in 1875, a companion tree to that in the pinetum planted in the same year by the Princess of Wales. Many fine old trees—Oaks, Elms, Limes, Cedars, and such like, adorn this part of the grounds; and numerous young trees of the best ornamental varieties have been recently planted under the direction of the Duke and Duchess of Wellington, who take a personal interest in the welfare of their grand old trees, and the hosts of rare and beautiful younger subjects, that lend a charm and interest to the landscape around their ancestral home, an example that might be followed with great advantage by many others throughout the country. In passing along, admiring the rare and beautiful trees on either hand, we were astonished above all to find such a unique specimen of the Tupelo tree, *Nyssa silvatica*. This beautiful North American tree appears to have established itself better at Strathfieldsaye than in most other places in this

country. It is a fine tall tree, 72 feet in height, with long slim branches drooping gracefully to the ground. Its glossy *Gardenia*-like foliage, and graceful habit, render it at all times particularly striking, but it is in the autumn, when the tree has assumed its richest mantle of crimson foliage, that it is to be seen in its greatest beauty.

Forming a conspicuous feature in the foreground in looking out from the principal front of the mansion towards the deer park, are three noble Elms, girthing respectively, at 4 feet from the base, 16 feet 6 inches, 14 feet 8 inches, and 14 feet 6½ inches. A little farther off, and between the terraces and the river Loddon, which widens into lake-like expanses as it flows through the deer park, are two grand old Oaks, with girths of stem, at 4 feet up, of 17 feet 8 inches and 16 feet 6 inches respectively; but the top of one of them has been badly broken by the western gales which sweep across this portion of the park with great force. A pair of large Oriental Planes, with fine umbrageous heads, stand right and left of the view of a charming expanse of the Loddon from the end of the terraces, and frame it in living green.

Moving along the terrace towards the conservatory, a beautiful Cedar was noted, gracefully clothed with branches to the ground, and bearing a fine crop of cones. What may well be termed "the gem" among the beautiful trees in the grounds, is a queenly specimen of the deciduous Cypress, *Taxodium distichum*. Its tall, spreading, well-balanced head, richly clothed with small soft foliage of a delicate Pea-green, now beginning to assume the rich brown tints of autumn, was a sight to remember when first seen at a distance of about 50 paces. With a clean stem of 9 or 10 feet, it affords a grateful shade in a warm summer afternoon, which is often taken advantage of by Her Grace the Duchess of Wellington for an open-air tea. From beneath the tree a charming view is obtained over the terraces, the Loddon in the foreground, and a wide expanse of well-wooded landscape beyond. A short distance to the west of the mansion by the walk leading to the quiet pretty church, there stands another grand Cedar, measuring at the surface of the ground 25 feet 6 inches in girth; and at 4 feet up 17 feet 3 inches; but a terrible storm in 1886 sadly defaced the splendour of its head, although it is still a notable tree.

Leaving the grounds, and driving for about a mile across the picturesque and beautifully undulating park, and up the slopes of a well-wooded ridge, we arrive at the Wellington Avenue, which sweeps along near the crest of the ridge, with a slight dip to the right, till it terminates at the Wellington Monument. The monument is a tall handsome column, surmounted by a statue, erected to the memory of the great Duke, and standing on the highest point of the ridge, it overlooks a wide extent of country towards Windsor, the Surrey hills, and Aldershot, and forms a prominent object in the landscape. The avenue was planted about thirty years ago, and is formed entirely of *Wellingtonia* (*Sequoia gigantea*). Many of the trees have attained to a fine size in the time, considering the thin soil and the elevation at which they are growing. They have all the fine symmetrical habit of those already noted in the grounds, and, with a few exceptions, where they have been set in sour soil or stand much exposed to the blast, they present a fine healthy appearance, with an average height of near 40 feet, and form a particularly characteristic avenue leading up to the great Duke's monument. For most of its length the avenue is sheltered from the strong westerly gales by a high plantation; and meses are now

being taken to shelter the exposed parts, and to renovate or renew the few trees that have suffered from wet or exposure. In the ornamental plantations in the vicinity of the monument are seen many fine vigorous specimens of the newer Conifers, including some handsome trees of the Wellingtonia, all thriving admirably in the thin meorish soil and deep gravelly subsoil in which they are planted. Much skill has been displayed in laying-out the plantations, and in selecting the most favourable spots for the effective display of the choicest trees and shrubs, the latter chiefly Rhododendrons, which naturally grow and flower well in such a soil.

We return through the woods by another drive, and note many fine examples of forest and ornamental trees; the Conifers, in particular, being generally pictures of health, and much care is now being taken to prevent their less ornamental neighbours from intruding upon the space required for the full development of their natural beauty. Entering the deer-park and crossing it for some distance, we come to perhaps the most interesting historical tree in all this richly-wooded domain. On a tablet placed at the foot of the tree it is recorded that this Cedar of Lebanon was brought by the Duke of Wellington from Knight & Perry's nursery, Chelsea, in his carriage, and planted on this spot at the same time, when he came to take possession of Strathfieldsaye in 1817. In the seventy-eight years that have elapsed since it was planted, it has grown well, and developed into a sturdy and characteristic example of the Lebanon Cedar. The massive stem of about 10 feet in height, has the substantial girth of 13 feet 6 inches at 5 feet from the ground, and carries a wide-spreading head of branches to a height of about 50 feet. The tree is in vigorous health, with the branches thickly dotted with a fine crop of cones, and although it stands in a rather exposed spot, and has suffered damage to its branches by the strong gales, it bears all the appearance of lengthened vitality, and may be expected to carry down to distant generations the historical reminiscence connected with the planting of it on the spot where it is growing. It is a conspicuous object in the landscape of the park, and is well seen, across the Loddon, when looking south from the mansion. With this notable Cedar, our remarks on the trees at Strathfieldsaye may close, as by this time a most enjoyable and interesting day was well spent, and we were soon on our way to the station for London, feeling thoroughly satisfied with our visit to this fine historical domain, with its numerous objects of great interest to the lovers of rare and noteworthy trees. D.

### GARDENERS AND CROWS.

GARDENERS, no less than farmers, are wont to regard the crow [rook] as their enemy rather than as their friend, for while the farmers charge him with pulling sprouting corn, and with injuring corn "in the milk," gardeners complain that he destroys cultivated fruit; while the housewife adds her plaint to the general chorus of reproach raised against the common crow, when she avers that the bird feeds on the eggs and young of the poultry.

The United States Department of Agriculture some ten years ago decided to investigate these charges, and accordingly in 1885 a general request for stomachs was made. As a result of this investigation, there has just been published a very interesting pamphlet of some ninety pages entitled "The Common Crow of the United States." It has been written by Messrs. Walter B. Barrows and E. A. Schwarz, and it is based on the examination of the contents of nearly a thousand stomachs. The quantity

and quality of the evidence seem sufficient to justify a final conclusion respecting the economic status of the crow, and in summing up the benefits and losses to farmers and gardeners resulting from the food habits of this bird, Mr. C. Hart Merriam, the Chief of the Division of Ornithology and Mammalogy, is able to say that he regards it as clear that the good exceeds the bad, and that the crow is a friend rather than an enemy to those engaged in agricultural or horticultural pursuits.

The vegetable food of the crow amounts to about 59 per cent. of the whole food. About one-sixth of the food appears to consist of fruits, wild and cultivated, of which less than one-fourth is of any consequence to man.

Judging from the results of stomachic examinations, the cultivated fruits most often attacked are Grapes, Cherries, Strawberries, Raspberries, Blackberries, Apples, Pears, and Water Melons. Although the crow, no doubt, does destroy cultivated fruit to a certain extent, it must be remembered that as an offset to his bad habits he is to be credited with the good done in destroying noxious insects and other injurious animals. Insects form 26 per cent. of the entire food of the common crow, and the great majority of these are grasshoppers, May-beetles, catworms, and other injurious kinds. To the same side of the scale must be added the destruction of mice, rabbits, and other injurious rodents by the crow. This report on the food of the crow is an excellent example of the admirable and thorough method adopted by the United States Department of Agriculture, which has proved itself of very great service to the American agricultural and horticultural interests. Many of the notes and stomachs that have formed the basis of this report were collected by voluntary assistants in various parts of the country.

Our County Councils should pay more attention to the subject of agricultural zoology, and let us hope that the day will not be far distant when we shall be able to look with pride on our Board of Agriculture, and shall be able to affirm that it is second to none in the world. H. C. F.

### THE ALTAI FLORA OF WESTERN SIBERIA.

THE high ranges of the Altai, known by the native name of "belki," which exactly corresponds to the term "Alps," rise far above the snow-line, and extend for a great distance almost parallel, separated from each other by the deep ravines of the mountain streams. Over the whole of this vast mountainous area, situated between the limitless and relatively moist plain of Western Siberia, sloping to the Arctic Ocean, and the almost equally unlimited and parched steppes of Central Asia, a struggle is constantly going on between the north and north-west damp aerial currents and the southern and perfectly dry winds in the lower layers of the atmosphere. Consequently, polar forms, or an isolated and high alpine vegetation prevail on the northern slopes of the Altai; whilst its southern slopes are climbed by the flora of the Central Asiatic steppes, differentiated into a whole series of original high steppes varieties. To such forms belong, for example, the peculiar species of Astragalus and Oxytropis of the Altai meadows of the alpine zone.

The flora of the polar tundra zone presents very little difference from that of the European tundras of Russia, Lapland, and Samoyed. In European Russia, scarcely any of the low-growing stunted shrubs characteristic of this zone are met with, as, for example, one species of Arbutus (Arctostaphylos alpina, Ad.), the Heathers, or Andromedas (Cassiope tetraneura, Don, and C. hypnoides, Don.), Pajllodoce taxifolia, Salix, Loiseleuria procumbens, Don, a species of Ledum latifolium, Ait., also belonging to the European flora, and only one species of the polar Azulea (Osmothamnus fragrans, D.C.), and one polar Willow (Salix arctica, L.).

The mountain flora of the Altai uplands, on the other hand, is of quite a different nature. Here, beginning already at a height of 8000 feet, the vege-

tation is extremely peculiar, and gradually passes into the alpine flora proper to that of the Asiatic Alps. Of course, this flora includes not a few plants pertaining to the arctic zone of the Old World which also climb the European Alps, but an enormous proportion of the plants are the typical and peculiar property of the alpine and sub-alpine zones of the Altai Sian mountainous region. Among the shrubs characteristic of the latter zone may be noticed a few species of Caragana, C. microphylla, Lam., C. Bungei, Led., C. pygmaea, D.C., C. spinosa, D.C., and C. tragacanthoides, Poir.; two Dog Roses (Rosa platyacantha, Schr., and R. Gableriana, Schr.); the Galten tree (Cotoneaster aniflora, Bge.); some species of Carant (Ribes aciculare, Sm., R. saxatile, Pall., R. caneatam, Kar.; R. heterotrichum, Moq.; and R. procumbens, Pall.); two species of Tamarisk, Myricaria alopecuroides, Sch., and M. dahurica, Ehr.; three Honeysuckles (Lonicera humilis, Kar.; hispidula, L.; and Bungeana, Led.); one species of Azulea (Osmothamnus pallidus, D.C.), and two Rhododendra (Rhododendron chrysanthum, Pall., and R. davaricum, L.). Among acicular-leaved shrubs are the Ephedra stenoperma, Schr., and E. intermedia, Schr.; Juniperus pseudo-sabina, Fisch., and J. davarica, Pall.; and two kinds of Birch (Betula microphylla, Bge., and B. tortuosa, Led.).

Much more characteristic is the herbaceous vegetation of the alpine and subalpine meadows and slopes which enchant the eye with the richness and brilliancy of their flowers. The following may be indicated as among the species most characteristic of the Altai Sian mountainous system; a few beautiful Anemones (Anemone umbrosa, Mey., A. Fischeriana, D.C., and Palastilla Bungeana, Mey.); peculiar kinds of Crow's-foot (Ranunculus altaicus, Laxm., R. longicaulis, R. pulchellus, R. natans, R. lasiocarpus, R. propinquus, R. grandifolius, Mey., and exceptionally interesting Oxygraphis glacialis, Bge., and Callianthemum rutae-folium, Mey.); a Ranunculus with pale lilac flowers (Hegemone [Frolline] lilacina, Bge.); the Larkspur, Delphinium laxiflorum and dictyocarpum, D.C.; three Fimitories (Corydalis nobilis, Pers., stricta, Pers., and inconspicua, Bge.). As many as thirty Altaic species of C. cuciferae belonging to the high alpine zone (of the genera Mathiola, Arabis, Parrya, Macropodium, Pailotrichum, Draba, Ho-largidium [Draba], Chorisporum, Oionotetium, Braya, Eatrema, and Ha'chinsia); charming species of Violets (Viola altaica, Pall., V. macrocarpa, Bge., V. imbricata, Led., and V. acuminata, Led.); about fifteen peculiar species of Caryophyllaceae and Stel-laria; Altaic varieties of flax (Linum violaceum, Bge.); St. John's Wort (Hypericum G. bleri, Bge.); some forty beautiful and variegated sorts of Legu-minosae, among which are especially prominent the numerous species of Astragalus and Oxytropis, which extensive genera climb from the Central Asiatic steppes to the eternal snows of the Asiatic mountain ranges. Next follow the quaint high alpine forms of Rosaceae (Sibbaldia adpressa, Bge., Dryadantha Bungeana, Led., [Potentilla], Potentilla altaica, Bge., and Comarum Salesnowi, Bge.). There are also a few characteristic Saxifragae, among which, in particular, is the so-called Chagyr tea (Saxifraga crassifolia, L.), the large leaves of which serve the natives as a substitute for tea. There are some twenty species of Altaic Composites among them several species of Saussurea, S. pygmaea, Spr.; pycnocephala, Led.; latifolia, Led.; acuminata, and foliosa, Led.). Finally, the Primulaceae largely contribute to the adornment of the alpine meadows of the Altai (Primula longicaapa, Led.). There are charming blue and yellow Gentians (Gentiana atrata, Bge.; G. azurea, Bge.; G. tenuis, Bge.; G. altaica, Pall.; G. Karelini, Fries.; G. frigida, Haenk.; and G. macrophylla, Pall.) Irises (Iris glaucescens, Bge.; I. Blondowi, Led.; and I. tigris, Bge.). Among the bulbous plants are Tulipa altaica, Lillium tenuifolium, Fisch., and L. spectabile, Link.; Eritrillaria verticillata, W., and many other charming varieties. J. St. Vincent Corporan Ojessa, South Russia.

## CULTURAL MEMORANDA.

## ON PRUNING GOOSEBERRY BUSHES.

No greater error prevails in the culture of this fruit than the practice of cutting back individual shoots to within a bud or two of their base, with the result that a thicket of shoots and small fruits are produced. To obtain fine large berries as well as handsome bushes heavily laden with large fruits, thin out the shoots freely just before growth commences in spring, and any which are very long and weak shorten back a little, so as to promote a balance of growth in the bush, and prevent the fruit-laden shoots from dragging the ground. Thus treated, the bushes, in consequence of the weight of the crop, will assume a pendulous habit, and the centre of each being partly open, the crop can be gathered conveniently. If the pruning operation be deferred until growth is imminent, the cultivator may retain shoots which have not been "disbudded" by the birds, and cut out any which are denuded of buds. When the prunings have been removed, draw with a rake 1 inch thick of the surface-soil back about 3 feet from the stem of each bush; and when the branches are damp, dust them well with a mixture of fresh lime and soot; this will kill the moss, as well as destroy the larvæ of the Gooseberry caterpillar; then apply a good surface-dressing of short manure, and point it into the ground with a five-tined fork. *H. W. Ward.*

## THE WEEK'S WORK.

## THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**BLACKBERRIES** are not grown nearly so much as they deserve to be; yet the fruit makes a first-class preserve, and is very good in tarts when mixed with Apples. It is available, too, when most other bush fruits are past. The two chief varieties grown here are *Rubus laciniatus*, and the American variety, *Wilson Junior*. Both of them have a robust constitution, and bear excellent crops of fine large fruit. The first-named makes yearly growths of from 8 to 10 feet in length, and requires the support of a trellis. A light and useful one may be made with iron standards 1 inch in thickness and 7 feet long, and which would, after being driven into the ground, be from 4 to 5 feet high. Those for the ends should be a little stouter, and have a stay fixed to them. A small hole through the standards is required about an inch from the top, and sufficiently large to take a wire about one-eighth of an inch thick. The holes in the end posts should be large enough to take an ordinary straining eye with a nut attached, for the purpose of tightening the wire. The standards should be about 8 feet apart, and a Blackberry root planted against each, so that the growths may be trained up the standards, and then along the wire. *Wilson Junior* has a more stocky habit, growing from 5 to 6 feet high, and requires no support. A warm sloping border suits this variety exactly. The culture of the Blackberry is much the same as that of the Raspberry, and all that should be necessary to be done at this season is to cut away all the old fruiting-canoe, and tie up the young growths loosely to the supports. Four strong canes to each stool are sufficient to leave of *R. laciniatus*, but six or eight may be left to each root of *Wilson Junior*, cutting out the remaining ones. Afterwards give a good dressing of rich farmyard manure, which may be dug in lightly with a fork if desired, but the work must be done carefully, as the roots ramble near the surface.

**STRAWBERRY BEDS**, which may not yet have had their annual trimming and top-dressing, should be attended to at once. Take up all runners that have established themselves between the rows, remove all dead leaves from the old plants, and then afford a good dressing of fresh lime, or lime and soot mixed, dusting it well in around the crowns, where it will reach any slugs that may be there. If the soil is heavy, the space between the rows may be broken up a few inches deep with a fork, but if not, the surface need not be loosened at all before giving it a good mulch of half-decayed farmyard manure, which, if put on now, will be washed clean by rain before fruit ripening commences.

**RASPBERRIES**.—All the old fruiting canes and weakly growths should be cut away, leaving from six to eight of the strongest canes to each stool for next season's fruiting. Tie the remaining ones neatly to their supports, and give the whole of the space between the rows a good dressing of manure.

**BUSH-FRUIT**, such as Currants and Gooseberries, should be pruned as soon as convenient. Gooseberries require the side growths spurred back to within an inch of the main branches, and the young wood should be shortened to about 4 or 6 inches; some varieties have a pendent habit of growth, but all shoots that are in contact with, or likely to produce shoots that will touch the ground, should be cut clean away. Red and White Currants require much the same pruning as the Gooseberry. Keep the side growths spurred in, and the main branches sufficiently few to admit plenty of light and air when the trees are in full foliage. The black varieties only require to have the dead wood taken out, and all superfluous growths removed to prevent crowding. If any of the trees are infested with moss or lichen, a dusting of fresh lime, when the trees are damp, will soon clear them.

## THE ORCHID HOUSES.

By W. H. WHITE, *Burford, Dorking.*

**SCHOMBURGKIAS**.—The species *Schomburgkia undulata*, *S. Lyonsii*, and *S. thibetica*, although not generally held in much favour, are interesting plants, whose flowers are produced upon scapes nearly 1 yard in length. The flowers, when fully expanded, form striking objects in the houses, lasting several weeks. The flower-spikes of these species are at the present time pushing up, and the plants require careful watering to preserve the new pseudo-bulbs and the inflorescence from decay. At this particular season only a moderate amount of water should be afforded, the plants being allowed to become thoroughly dry at the root before applying it. It should be remembered that it is not good practice to afford water as soon as the surface of the compost merely appears to be dry, but sufficient time should be given for the moisture that gathers about the confined roots to evaporate. A closely-allied species to *Schomburgkia* is *Lælia superbiens*, our plants of which are showing for bloom. The scandent habit of its flower-spikes, which often grow to 4 feet in length, renders some amount of training necessary, and in doing this, the point of the spike should be kept well up towards the roof-glass. Either of the above-mentioned species succeeds in pots in the Cattleya or Mexican-house.

**PLATYCLINIS GLUMACEA**.—Plants of the graceful *Platyclinis glumacea* show their rosy-coloured growths at this season, and when this is remarked, they should be removed from their resting quarters in the intermediate-house to the cooler part of the East-Indian house, and brought up as closely as possible to the roof, which will have the effect of causing the breaks to start freely away. When these young growths begin to push upwards, and the new roots that quickly follow enter the soil, the quantity of water afforded should be gradually increased, and on sunny days the under-side of the leaves syringed in order to check the increase of red-spider. The plants may be repotted immediately growth has begun, or within a short space of time after flowering. *Platyclinis* root and grow freely in a compost consisting of good fibrous peat and sphagnum-moss, intermixed with a moderate quantity of clean crocks. Another species well worthy of a place in collections is the pretty *P. uncala*, with graceful threadlike racemes which are almost similar to the well-known *P. filiformis*, but the flowers are of a greener shade, and individually smaller. After the flowers have faded, the plant may be repotted if this be necessary, and kept fairly moist at the root till growth is complete. The best place for this species the whole year is the intermediate-house. At the present season *P. filiformis* is at rest, but it should not be allowed to become too dry, as then the leaves are apt to become yellow and fall off, a state of things that may be averted by an occasional syringing overhead. The Cattleya or intermediate-house is the best place for it till growth begins.

**CYPRIPIDIUMS**.—Plants of *Cypripedium Spicerianum* and *C. Charlesworthii*, which have recently ceased flowering, may be repotted. Neither species require much root space, and they should be slightly raised above the rim of the pot, the pots being three-fourths filled with crocks, &c. The compost should consist of equal parts of lumpy peat and chopped sphagnum-moss, crocks or broken limestone about

1 inch square mixed with it. *Cypripedium insigne* is a general favourite amongst gardeners, because of its easy culture, the handsome flowers remaining fresh for some weeks, and their value for cutting and for other decorative purposes. Plants of the type and its varieties may be re-potted as fast as they pass out of flower. Fortunately, *C. insigne* requires no special kind of compost, and the ordinary Orchid potting-mixture suits it. Other varieties of *Cypripedium*, as *C. Leeanum* ×, *C. Arthurianum* ×, *C. purpuratum*, *C. venustum*, *C. Crossianum*, *C. Williamsii* ×, *C. Amesianum* ×, &c., if they have become pot-bound, should be re-potted into larger pots, healthy plants being shifted into pots two sizes larger. Water must be freely afforded at all times. Any of the above-named *Cypripediums* thrive in a shady part of the intermediate-house. When grown in a very light position, they frequently lose more leaves than is desirable, and are more subject to be infested by insects.

## THE KITCHEN GARDEN.

By C. HERRIN, Gardener, *Droghmore, Maidenhead.*

**MUSHROOM-HOUSE**.—If the earliest bed is showing signs of exhaustion, manure for a new one should be obtained, and when a good heap of it is collected, it must be turned over and well mixed together at least every other day until a sufficient quantity has been prepared. An open shed, from which the rain only is excluded, is the very best place for the preparation of Mushroom-bed materials. It is advisable to keep it in the shed until it is in a proper state to wheel into the Mushroom-house, spawning it at once. By thus carrying out the preparation, the formation of rank steam in the latter is avoided. Our Mushroom-beds are doing remarkably well this year; the earliest-spawned bed, from which Mushrooms were gathered the first week in October, is still producing excellent Mushrooms. Much of the success achieved is due to the thorough preparation of the manure before spawning the bed, and the good quality of the spawn.

**SEAKALE, CHICORY, AND RHUBARB** are usually forced with the least amount of trouble at the warmest end of the Mushroom-house, and in the case of our house part of one end is enclosed, so as to keep it closer and warmer than the other part. The roots of Seakale should be brought in at intervals of four or five days in batches according to requirement, it being advisable to force it in small quantities and often, the heads of Seakale not improving by being kept, becoming spidery, and less tender when cooked. Chicory forms a very useful adjunct to winter salads, and is easily produced without much trouble in the same manner as Seakale. Rhubarb forces easily after this date, and a few roots should be introduced to the Mushroom-house as often as may be required to ensure a constant supply.

**HOT-BEDS**.—Presuming that preparations have been in progress for some weeks past by collecting and frequently turning fresh tree leaves and stable-manure, the former in double or treble the proportion to that of the latter, hot-beds may now be made up. These will be required to heat frames in which to grow early Carrots, Potatoes and Radishes. If stable-manure is scarce, the beds intended for Carrots may be made almost entirely of good Oak or Beech leaves, taking care to well tread them in small quantities as they are put on. It will be necessary to work-in some long litter—or bracker, which will answer the same purpose—all round the sides of the bed to prevent the leaves falling out, and keep the sides secure when the frame is placed on it. The bed should be made large enough to allow at least 1 foot of space all round outside the frame intended to be used, and after making to the height of not less than 4 feet, the sides should be trimmed with a sharp hook or shears, which will leave a workman-like finished appearance. When the surface has been levelled, and the frame placed on it, a thin layer of leaf-soil should be added, and then the soil may be put in. The latter should be a sandy loam, and be 5 inches in depth after having been lightly trodden to make sufficiently firm, and left a few days before sowing to become warm. A small quantity of wood-ashes and soot may be added with advantage.

**CARROTS**.—I find a three-light frame will supply sufficient early Carrots for a moderate establishment, until those sown out-of-doors are ready, the kinds grown being Parisian Forcing, Early Nantes, and Sutton's Early Gem. We have one light of each, and sow broadcast, covering slightly with finely-sifted soil. I usually sprinkle a few seeds of Early Paris Market



**THE FLOWER GARDEN.**

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**BEDDING PLANTS.**—All of these should be frequently looked over, removing all dead or decaying leaves or stems, and on the first appearance of green-fly, thrips, or other insects, the plants should be fumigated, Pelargoniums and Verbenas especially demanding attention in this particular. *Lobelia fulgens*, *Lyalmachias*, *Pentstemons*, *Violas* and similar plants that are being wintered in frames will need very careful watering; in fact, very little water is required at this time of year, the plants being almost dormant, but they need free ventilation on all favourable occasions, so as to disperse superfluous moisture that may be present. Layers of border Carnations which were potted and placed in frames will also require similar treatment until there are signs of active growth. Where it is intended to use for bedding purposes during the coming season such kinds of plants as Golden Privet, variegated and green Veronicas, it would be well to buy in the number required without delay, which, if potted up and placed in cold frames, will be in good condition for planting out in May or June. These plants, if used with crimson-coloured Pelargoniums, *Iresines*, or *Begonias*, make a very pretty and showy display. The stock plants of *Fuchsias* may now be pruned slightly and placed in gentle heat, so as to produce shoots fit for making cuttings, which, if gently grown-on after being struck, make excellent plants for summer bedding. The spring propagation of bedding plants will shortly commence in earnest, so that the preparations should be made for having everything in readiness. The propagating pit or frames should be put into good order, and pots, boxes, pans, labels, stakes, soils, and sand in sufficient quantities, be got in readiness—in fact, every preparation made so as to avoid delay when the time comes.

**TUBERS, ETC.**—Examine *Dahlia* roots, *Gladiolus* corms, tuberone-rooted *Begonias*, and others that are in store, and see to the labelling, labels being very apt to get displaced owing to the shrivelling of the stems to which they were attached. Guard against rooks, rats, mice, or other vermin which often destroy the Dutch and other bulbs planted out in the flower-beds, rooks especially doing much harm in some gardens at this time of the year. The birds are readily scared by the gun, and if it be used once or twice they will generally do but little further damage. Against mice, &c., use baits of phosphorus or other paste. Bulbs that are showing through the soil should be mulched with cocoa-nut fibre refuse, putting on additional fibre should severe weather set in.

**ROSES.**—The bushes still retain in many places a quantity of foliage, and in some instances the shoots appear to be unripe. Long straggling shoots may be shortened so as to give a tidier appearance to the plants, but no regular pruning should be done at the present time.

**SHRUBBERIES.**—All beds and borders should be made clean and tidy by removing all superfluous decaying matter, and if necessary the surface of the ground lightly pricked over with a digging-fork. Where an undergrowth is desired, plant *Mahonia aquifolia*, *Cotoneaster microphylla*, *Aucubas*, *Ivies*, *Periwinkle*, and *St. John's Wort* in variety, either of the three latter making also very pretty edgings to walks through shrubberies where grass will not thrive, and their use dispenses with the too often used but most inappropriate tile-edging. In selecting plants for the above purpose, see that they are strong and well-rooted. If procurable on the estate, gravel may be dug and sifted in readiness for repairing walks and drives, which may now be attended to, when other outdoor work may be at a standstill.

**FRUITS UNDER GLASS.**

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**EARLY PEACHES.**—Peach-trees started at this time will need careful attention, observing that the borders have been well supplied with water, dryness at the roots being a frequent cause of failure in Peach-culture. Close the house with a temperature of 45° at night, and 50° in the day-time with fire-heat. Syringe the trees twice a day, and when the buds begin to push a little, air may be given daily in favourable weather. Shut up early with sun-heat, so as to see as little fire as possible at this stage.

**STRAWBERRIES IN POTS.**—Put a number of plants into heat about once every fortnight, according to the space at command, and the probable demand for fruit. Keep them near the glass, and give them a

Cabbage Lettuce with the Carrots; these are up, drawn out, and transplanted to other frames or boxes before the Carrots attain any great size. Radishes may be grown in a similar manner.

**EARLY POTATOS.**—Where available, good brick pits are preferable for Potatos. They should now be filled 4 feet in depth with hot stable manure, well trodden. On this place 9 inches of moderately light soil, but allow at least 1 foot of space between the surface of the soil and the glass. Defer planting for a week until the heat has risen, and the soil is slightly warmed. The sets for this early planting should be but slightly sprouted. Any dwarf-growing Ashleaf variety may be used for planting; Sharpe's Victor, Ringleader, and Veitch's Ashleaf are three good ones. All pits and lights should be thoroughly cleaned before using; the glass especially must be quite clean. If a few dishes of very early Potatos are required, prepare a few 8 and 10-inch pots, and fill them two-thirds full of nicely-prepared soil, a few partially decayed leaves being placed in the bottom for drainage. Plant one good tuber in each pot, and keep them at present in a Peach-bone recently started.

**PLANTS UNDER GLASS.**

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

**TEMPERATURES.**—The winter, so far, has been open, and temperatures have been maintained without firing. During the winter months, in plant structures, it is much better, during severe weather, to allow temperatures to fall a little below usual heat than to make the pipes severely hot. High temperatures obtained by such means, when moisture cannot be given in quantity without injury, induces red-spider, thrips, and other insects in abundance, especially on stove plants. Make preparations for the approaching growing season by thoroughly cleansing the houses. Take down the creepers from the roof and well wash all wood and ironwork with soft-soap and water. If the work be thoroughly done now, before the plants commence to grow, it will save much labour when pressure of work is great in all departments. Carefully examine all plants, and clean them from pests. Though it is tedious to sponge specimen plants by hand, where it can be done it is the most effective method of cleansing, and should be adopted. Those which are not too large, but can be easily handled, may be dipped in one or other of the various insecticides, it being a much quicker way of cleansing plants. Hand sponging of all plants gives a clean healthy appearance that no other method of cleansing does.

**GLOXINIAS.**—Very good results may be obtained by raising *Gloxinias* from seed; indeed, if seeds are obtained from the best source, they are quite equal, so far as usefulness is concerned, to named varieties. Sow seeds now to produce flowering plants about June or July. Sow them in thoroughly clean and well-drained pans, and use a rich light, compost that contains one-third of silver-sand. Lightly cover the seeds with sand, and place a sheet of glass over the pan until they have germinated. If any watering be done, be careful not to disturb the seed in any way.

**CROTONS.**—Any scarce varieties it is desired to increase should now be propagated. Take cuttings and insert them singly in 2½-inch pots in equal parts silver-sand and sifted loam. Such early propagation is only advisable in the case of novelties.

**LILIUM LANCIFOLIUM** will require looking to now if the plants have not already been attended to. The plants should either be given a good top-dressing or repotted, as the case may require. In potting *Lilium* it is proper to keep them well down in the pots, leaving at least 2 inch space above the soil for a top-dressing when they have thrown out roots from the base of the stems. Soils for *Lilies* should be rich and of a lasting nature. Use two parts rich fibrous loam, one part peat not too finely broken, one part good river-sand, and one part charcoal or wood-ashes. When potted, plunge them in coal ashes or other light material until they commence to grow. For decorative work *Lilies* are indispensable, and no amount of trouble should be spared to grow them well.

**FORCING-HOUSE.**—Pot up a few hundred imported crowns of *Lily of the Valley* into cocoa-nut fibre refuse, which have been well exposed to the weather for the last two months. The Mushroom-house will suit them well if it be dark, and there is a temperature of 60° to 65°. Remove to the light a week or so previous to the blooms expanding. Introduce a batch of *Lilium longiflorum Harrisii* for furnishing the earliest blooms.

temperature of 45° to 50°. Previously-started plants should have the temperature raised to 55° at night when they come into flower, with a corresponding increase in the day-time. Ventilation must be given whenever possible, taking care to avoid currents of cold frosty air blowing on the plants.

**CUCUMBERS.**—Where these plants have been fruiting through the winter, and they are showing signs of exhaustion, afford the beds a top-dressing of fresh loamy soil, of not too heavy a texture three parts decayed manure and leaf-mould one part, with a sprinkling of Thomson's Vine Manure. When the warmth inside falls below 65° or 70°, coverings should be employed wherever practicable, and these may consist of canvas, *Frigi Domo*, or mats, placed over the glass, to keep in the heat, which is better practice than to drive the fires hard. The day temperature may reach 75°, when air may be given, a little being given every day when there is no frost. Shut up the house, &c., early with sun-heat, and sprinkle the bed with warm water once or twice daily. Avoid, however, making much vapour by sprinkling the hot pipes. Allow the plants to carry only a moderate crop of Cucumbers at any one time, and remove all the male blossom, whose preservation only tends to produce weakness. If Cucumbers are required in the spring, seed may be sown forthwith, putting two or three seeds each into 48-sized flower-pots, clean, and half-filled with light loamy soil; press down the soil before sowing, and cover lightly without pressing. Place a bit of glass over each seed-pot, and plunge in a bottom-heat of 85°. When the plants come up, keep them near the glass, and earth-up with a little previously-warmed soil when the plants top the sides of the pots. For the earliest sowing, none is better than a good strain of Rollison's Telegraph.

**MELONS.**—Melon seeds may be sown at this date, to furnish plants for an early crop at the end of April or beginning of May. The seeds should be sown singly in small 60s, and plunged in a bottom-heat of 85° to 90°, with an air temperature of 70° to 75°. This is best afforded by the fermenting hot-bed. As soon as the Melon plants appear, keep them near the glass, to prevent etiolation, putting a stick and tie to each plant when 6 inches high. If the ordinary hot-bed is to be used for growing and fruiting plants as well, fresh materials, as Oak and Beech-leaves, and stable-dung, mostly the straw, should now be thrown together into a heap, to sweeten and get rid of the rank heat engendered by fermentation at first; turning and mixing all thoroughly once or twice before making them up into a hot-bed. Make the bed 1 foot broader and longer than the frame that will cover it, beating or treading it regularly and firmly as it is built up. Four feet at the back and a little less at the front will be a suitable height. The heat should be maintained by linings of fresh manure, partially or wholly renewed when their warmth has declined. Straw-covered hurdles, or bracken confined by hurdles, will do much to keep the linings warm. See that no rank steam gets into the frame, either from the bed itself, or by the slight opening it is prudent to leave at the back of all freshly-made hot-beds. The steam is easily drawn into the frame at this point if the mats reach beyond the frame.

**WYCOMBE ABBEY.**—It is stated, says the *Builder*, that Lord CARRINGTON, who recently purchased Gwydyr Castle,\* has decided to sell his seat in Buckinghamshire, Wycombe Abbey, with its timbered park of about 300 acres, or the sporting estate, extending over 3000 acres. Wycombe Abbey represents the manor-house of Loakea, which had been demised to the Templars by ROBERT DE VIFONT. The manor-house was rebuilt in the reign of James I., and greatly improved by HENRY (PETTY), Lord SHELburne, who in 1700 had acquired the property. The house underwent further changes, and indeed was practically rebuilt of local stone, for the first Lord CARRINGTON by, it would seem, JAMES WYATT. The Abbey is included in a list of works attributed to JAMES WYATT in the *Dictionary of Architecture*. The *Beauties of England and Wales* (1801) describes the house as about to be repaired and enlarged by WYATT, and to be cased with a hard sandstone found in the neighbourhood. This stone, it adds, is dispersed over the ground in single masses, similar to the grey wethers on Marlborough Downs, but have never before been applied to the purpose of building. The cascade was made by J. LANE, who made also the cascade at Bowdoin.

\* Gwydyr had belonged to the Baroness Willoughby de Eresby, whose sister married the second Lord Carrington.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETINGS.

SATURDAY,	JAN. 11—	Royal Botanic Society.
TUESDAY,	JAN. 14—	(Royal Horticultural Society's Committee, at the Drill Hall, James Street, Westminster.
THURSDAY,	JAN. 16—	Linnean Society.

## SHOW.

SUNDAY, JAN. 12—Russels Orchidéenne.

## SALES.

MONDAY,	JAN. 13—	Fruit Trees, Greenhouse Plants, Begonias, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 15—	Japanese Lilies, Tuberoses, Hardy Bulbs, &c., at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 16—	Ferns, Begonias, Clematis, Hardy Bulbs and Plants, at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 17—	Hardy Perennials, Pæonies, Dahlias, &c., at Protheroe & Morris' Rooms; Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36.7°.

It is desirable to call the attention of vendors, and of purchasers too, to the extremely poisonous character of many of the substances used as weed-killers, insecticides, or for purposes of spraying. When locked up in a safe place, apart from all substances likely to be used as food for man and beast, where mischievous or ignorant people are not likely to get at them, when duly labelled POISON, and cautiously used by intelligent and responsible practitioners, no harm but much good may arise. The consequences of a mistake or an oversight are, however, so extremely serious, that we cannot but urge the utmost caution in their use; and we are not disposed, as some of our correspondents are, to decry the action of the Pharmaceutical Society in undertaking the responsible duty of prosecuting persons who infringe the law by selling these substances when not expressly authorised so to do. It appears not to be generally known by seedsmen and nurserymen that they incur great risks in dealing with these substances. According to the Pharmacy Act of 1868, no person, not being a duly registered pharmaceutical chemist, or a chemist and druggist within the meaning of the Act, can legally sell certain poisonous substances, or those which contain poisonous substances.

The object of this enactment is obvious enough—and every sane man will say it is reasonable. The operation of the law is another matter. Certain of our correspondents complain bitterly against the action of the Pharmaceutical Society. They urge that a poison is no less poisonous if sold by a druggist, and no more poisonous if retailed by a seedsman, which is indeed true. It must be remembered, however, that the pharmaceutical chemist has passed through a course of education to fit him for his duties, and has passed various examinations. He is therefore presumed to

have a fuller and more intimate knowledge of poisonous substances than a grocer or a seedsman, who has given no such public pledges that he is a responsible person, and one competent to handle and dispense such dangerous ingredients. Others of our correspondents declaim against the Society as the possessor of a monopoly, and of being influenced by avaricious motives in securing for their members these exclusive privileges. Aspersions of this character are not only in bad taste, they are untrue. The Society would, we expect, gladly be relieved of what must be a very unprofitable and an extremely disagreeable duty. On the other hand, the general public would have ample right to complain if the Society did not execute the commission entrusted to it by the State. So far from being too active in the matter, we are inclined to think, it is not active enough. Of course, we are speaking of the law as it stands. That law may be capable of amendment. A seedsman's assistant is just as competent to hand over to a customer a tin of weed-killer as is his brother at the chemist's shop. Nevertheless, for the public safety, he ought, in our opinion, to exercise his calling under the same sort of restriction as the druggist does. We do not say that the druggist should necessarily have a monopoly, but we do say that he whosells such substances should be subjected to similar restrictions as the druggist is. At present, in practice, the druggist is more hampered than the seedsman, for the druggist must keep a register detailing the amount sold, the name of the person to whom given, and other particulars. The grocer, oilman, or seedsman, so far as we know, takes no such precautions. As matters now stand, a child may purchase a packet of vermin-killer or fly-paper from an oilman enough to poison half a parish. In a case alluded to by one of our correspondents, the Society seems to have made the mistake of instituting a prosecution against a seedsman's assistant, who is admitted to have sold a bottle, duly labelled poison, and with the following inscription:—"It is a poisonous compound; keep it out of the reach of dogs; cork the bottle, and lock it up when not in use." So far the assistant was not to blame, and the prosecution should have been directed, if at all, to the employers, who failed to comply with, or who infringed the law. Those interested in the subject will find a full report in the *Pharmaceutical Journal* for December 21 last. We think the conclusion of the matter is, that no one, druggist or otherwise, should be allowed to deal in these dangerous substances without in some way giving a voucher to the public that he is a responsible and a competent person.

Surely the facts of the case demand not lessened but increased restriction. The restriction, however, should operate fairly and equitably to all classes of vendors.

Fruit Culture by Farmers.

ONE is always harking back to this topic, and no wonder, when the enormous amount of foreign importations is remarked; but the only persons who seem to comprehend the situation and take advantage of the law of tenancy as it is, are the men who grow for market, and who, going into the business as a means of living, have of necessity to make their ventures remunerative if they can. The first thing these wide-awake men do is to select land quite suitable for fruit culture, and then make their investment safe from possible disturbance by a long lease. And this is the gist of the matter. Let the farmer, if he can, counsel his landlord to give him a lease of sufficient length to enable him to reap the profits of his investment of capital, be it in fruit-trees,

nut-bushes, small fruits, or what not that takes some few years to grow before full returns can be looked for, and then, if his capital and his credit be not entirely exhausted, he will, or his sons will, provided they have the requisite knowledge of the business, be able to grow good crops of fruit. The farmers' sons inspire us with much hope; some of them, we believe, are attending the various lectures inaugurated by the County Councils, and some are receiving the much-needed special instruction in the art of fruit-growing in the various horticultural schools established under the same auspices. From these young men, when not wholly given up to hunting, coursing, shooting, and billiards, we may obtain a percentage who will lift the old farm wain out of the rut. To learn to plant a fruit-tree properly, to prepare the site of the future orchard, be it of Cherries, Apples, Plums, or Pears, and to select the best varieties; to prune or superintend the pruning operations of others, and apply preventive dressings to the trees, and top-dressings when needed to the land, does not involve so severe a course of study as to prevent a young man of average ability from becoming a competent practitioner in a few years.

There was, in the beginning of the present century, and at an earlier period, a system of leases, now generally extinct, when farmers and other cultivators, feeling sure of remaining on the land for lengthened periods, planted orchards of Apples and Pears. The remains of these orchards exist at the present day, often serving to point a moral, but their present state is simply the result of age, and the substitution of very short leases and yearly tenancies for the more favourable conditions of hiring land in bygone times. These orchards being old, naturally present the appearances of age, and have reached that stage when grubbing up would be the best policy; but being under grass, they are useful to the tenant in many ways. The few fruits obtained, indifferent it may be in regard to quality, are useful in the farm kitchen, and the farmer will not, as a yearly tenant, plant new trees. Who can blame him?

The yeoman farming his own land, and the big landowner, were seldom in times gone by famed for fruit culture, except perhaps in the older-making counties; and some of the latter, we are willing to believe, are now making efforts—tentatively, as is proper—to meet the growing demand for fresh fruit, exciting hopes that we may yet see this demand well met in a few years, with the certain result that the foreign producer will not find it to his advantage to send so much of his fruit to this country as he does at the present time. The day of high prices, as a rule, is passed, although first-class fruit, packed in boxes or barrels (instead of the fruit-spoiling willow-baskets and hampers), and sent into the market in its proper season, will always fetch remunerative prices.

We think that nothing one sees in the southern and western counties is so eloquent of the need of change in farming tenancy as the numerous worn-out orchards.

SIR JULIAN GOLDSMID.

THE news of the death of this gentleman will be received with deep regret by the gardening community. In spite of his multifarious labours as a politician, the claims of charity, independently of creed or race, were by him considered paramount. This judicious magnificence was as prominent a feature of his character as were his culture and practical sagacity. SIR JULIAN took high honours at the University of London, practised for a short time at the Bar, and then devoted himself to political affairs, managing to

secure the respect and confidence of all parties. When, in 1887, the Gardeners' Orphan Fund was established in connection with HER MAJESTY'S Jubilee, Sir JULIAN GOLDSMID, in spite of his many engagements, became the first President of the Institution, and those who were associated in starting this beneficent Society will remember with gratitude the valuable aid which his great experience enabled him to give, and the warm support he always extended to the young Association. On many occasions he

- B.—The best Hardy Plant not previously shown at any of the Society's Meetings (Narcissus excluded)—Open.
- C.—The best Stove or Greenhouse Plant (Orchids excluded), not previously shown at any of the Society's Meetings—Amateurs.
- D.—The best Stove or Greenhouse Plant (Orchids excluded), not previously shown at any of the Society's Meetings—Open.
- E.—The best Orchid not previously shown at any of the Society's Meetings—Amateurs.
- F.—The best Orchid, not previously shown at any of the Society's Meetings—Open.

II. PLANTS OF HOME PRODUCTION.

- G.—The best Hardy Plant (raised and shown by an Amateur).

The above Prizes may be competed for at any meeting of the Society in 1896 except at the Temple and Crystal Palace Shows.

The Judging will be by points, which will be duly kept and recorded, and the winner will be announced at the end of the Season.

The Council reserve the right to withhold all or any of the Prizes if none of the exhibits are considered worthy of marked honour.

As many details as possible should be given about the exhibits, as fullness and exactitude of information may decide the Prize in case of equality of points.

All entries for the above Special Prizes must be made before 11 A.M. on the morning of the Show on a Special Form, which may be obtained of the Clerk at the table.

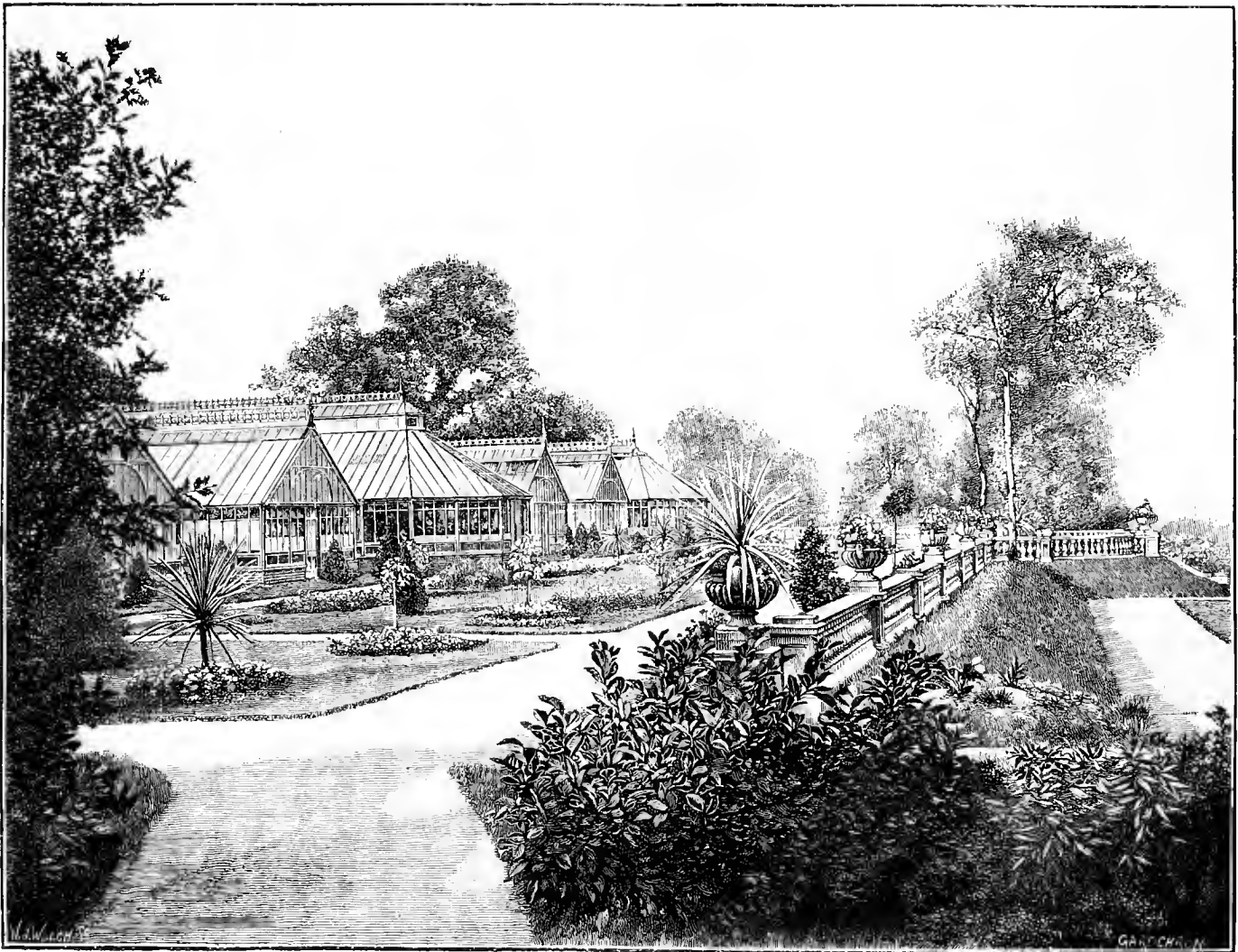


FIG. 8.—VIEW OF THE PLANT-HOUSES AT FALKLAND PARK, NORWICH. (SEE P. 39.)

presided at the annual and other public meetings of the Fund, and his loss will be severely felt. Sir JULIAN'S country residence was at Semerhill Park, near Tunbridge, a fine Tudor mansion, in the midst of delightful scenery.

**THE ROYAL HORTICULTURAL SOCIETY.**—We have received the following circular, to which we gladly give publicity:—"With the hope of encouraging individual effort and original research, the council of the Royal Horticultural Society offer Medals, Silver or Silver-Gilt, according to merit, for the following:—

I. INTRODUCED PLANTS.

- A.—The best Hardy Plant not previously shown at any of the Society's Meetings (Narcissus excluded)—Amateurs.

with record of parentage, &c., not previously shown at any of the Society's Meetings (Narcissus excluded)—Amateurs.

- H.—The best Hardy Plant raised in this country, with record of parentage, &c., not previously shown at any of the Society's Meetings—Open.
- I.—The best Stove or Greenhouse Plant (raised and shown by an Amateur), with record of parentage, &c., not previously shown at any of the Society's Meetings (Orchids excluded)—Amateurs.
- K.—The best Stove or Greenhouse Plant raised in this country, with record of parentage, &c., not previously shown at any of the Society's Meetings (Orchids excluded)—Open.
- L.—The best Orchid (raised and shown by an Amateur), with record of parentage, &c., not previously shown at any of the Society's Meetings—Amateur.
- M.—The best Orchid raised in this country, with record of parentage, &c., not previously shown at any of the Society's Meetings—Open.

**NARCISSUS COMPETITIONS—AMATEURS ONLY (except L).** Tazettae (Polyanthus Narcissus) excluded.

Exhibitors wishing to stage Narcissus foliage with the blooms may use that of commoner kinds.

None of the Seedling Prizes will be awarded unless the new variety shown is a distinct improvement in some way on any at present in commerce.

MARCH 24.

- A.—Six varieties of Narcissus, distinct, five blooms of each, grown in the open air without protection. 1st Prize, 10s.; 2nd Prize, 5s.
- B.—Seedling Narcissus, not yet in commerce, raised and shown by an Amateur, and not having yet received a Prize at any Royal Horticultural Society Show. 1st Prize, 10s.

APRIL 7.

- C.—Twenty-four varieties of Narcissus, distinct, five blooms of each. 1st Prize, £1 10s.; 2nd Prize, 15s.
- D.—Twelve varieties of White Ajax, distinct, not less than three nor more than five blooms of each. 1st Prize, £1; 2nd Prize, 10s.

E.—Twelve varieties of Yellow and Bi-colour Ajax, distinct, not less than three nor more than five blooms of each. 1st Prize, 15s.; 2nd Prize, 7s. 6d.  
F.—Seedling Narcissus, as on March 24.

## APRIL 21.

G.—Collection of Narcissus, not exceeding fifty varieties, distinct, five blooms of each. 1st Prize, Silver Cup; 2nd Prize, £2.  
H.—Eight varieties of White Ajax, distinct, not less than three nor more than five blooms of each. 1st Prize, 15s.; 2nd Prize, 7s. 6d.  
J.—Eight varieties of Yellow and Bi-colour Ajax, distinct, not less than three nor more than five blooms of each. 1st Prize, 10s.; 2nd Prize, 5s.  
K.—Eighteen varieties of Narcissus, Ajax excluded, distinct, not less than three nor more than five blooms of each. 1st Prize, £1; 2nd Prize, 10s.  
L.—The best stand of new Seedling Narcissus, not yet in commerce, raised from seed by the Exhibitor, not less than twelve varieties, distinct, not more than six blooms of each, and not more than one-third of the total number of varieties shown to be of the Ajax section—Open. Prize given by Miss WILLMOTT, £5.  
M.—Seedling Narcissus, as on March 24.

## MAY 5.

N.—Collection of Narcissus, not exceeding fifty varieties, distinct, five blooms of each. 1st Prize, £2; 2nd Prize, £1.  
O.—Fifteen varieties of Narcissus, distinct, Ajax excluded, not less than three, nor more than five, blooms of each. 1st Prize, £1; 2nd Prize, 10s.  
P.—Five varieties Narcissus poeticus, distinct, not less than three nor more than five blooms of each. 1st Prize, 10s.; 2nd Prize, 5s.  
Q.—Seedling Narcissus, as on March 24.  
R.—Extra Prize for the best Seedling Narcissus, raised by an Amateur, and shown at any Royal Horticultural Society's meeting from March 24 to May 5 inclusive, not yet in commerce, and not having received any Royal Horticultural Society award previously to 1895. Silver-gilt Flora Medal."

— We are requested to state that the publication of the Royal Horticultural Society's Rules for Judging is unavoidably delayed a week or ten days, owing to the unfortunate loss in the post of the final corrected proof for the printer, the week before Christmas. The loss has only just been discovered, and will cause a great deal of work to be done over again, besides the actual delay.

**LINNEAN SOCIETY.**—On the occasion of the evening meeting to be held on Thursday, January 16, 1896, at 8 P.M., a paper will be read:—I. "On the Flatose Polymorphitæ and the Ramalina," by Prof. T. ROBERT JONES, F.R.S., and Mr. F. CHAPMAN.

**NATIONAL ROSE SOCIETY.**—Committee meetings will be held on Tuesday next at 2 P.M. and at 3 P.M., in the rooms of the Horticultural Club.

**GEORGE WASHINGTON'S CYCAS.**—At a recent sale in New York, a plant of *Cycas revoluta*, said to have belonged to GEORGE WASHINGTON, was sold for 340 dollars. A figure of the plant is given in our excellent contemporary, *American Gardening*.

**BERLIN GENERAL HORTICULTURAL EXHIBITION.**—The Society for the Promotion of Horticulture in the Prussian States is preparing for a great exhibition in 1897, to commemorate the seventy-fifth year of its establishment. The General Secretary is Dr. WITTMACK, 42, Invalidenstrasse, Berlin.

**PARIS HORTICULTURAL CONGRESS.**—This will be held at the same time as the great exhibition to be held in May. The meetings of the Congress will be held in the "Hotel" of the society, Rue de Grenelle 81, at half-past 2 P.M., on Thursday, May 21, and following day. The Congress is open to members of any nationality, whether fellows of the society or not. The questions proposed for discussion are:—1, the grafting of Potatoes; 2, the apparatus to be employed for heating hot-houses with reference to the nature of the fuel made use of—wood, charcoal, petroleum, gas, &c.; 3, the part played by electricity in vegetation; 4, the influence of selection in making cuttings; 5, history and cultivation of Cattleya and Lælia; 6, summary of conditions favourable to vegetation; 7, choice of the most suitable trees for avenues in towns.

**PARIS.**—The great show of the National Horticultural Society of France will be held in Paris, in the garden of the Tuileries, from May 20 to May 25.

As the show opens one day later than the opening of the Temple Show, it will be possible to visit both exhibitions in the same week.

"**BOTANICAL MAGAZINE.**"—The plants figured in the January number of this famous periodical are:—

*Stanhopea Haseloviana*, Rehb. f.—A Peruvian species, with large cream-coloured flowers, thickly marked with ring-like markings of a reddish-violet colour. In the lip the spots are smaller circular and more deeply coloured; t. 7452.

*Dendrobium Hildebrandi*, Rolfe.—A Burmese species, with white flower-segments, and a primrose-yellow lip (see *Gardeners' Chronicle*, 1895, ii., p. 93); t. 7453.

*Alberta magna*, E. Meyer.—A Natal shrub, belonging to Rubiaceæ. The leaves are ovate-lanceolate glabrous, and the very numerous red tubular flowers are borne in much-branched loose panicles; each flower is about 1 inch long, clear red, narrow, tubular, with a small limb.

*Guzmania pygmaea*, Sander.—A native of S.E. Africa, with linear serrulate or nearly entire leaves, grey on the under surface. Flower-heads on long purplish scapes; ligulate florets, white, flushed with pink or blue.

*Asarum maximum*, Hemsley.—A Chinese species, with bold cordate leaves, and large, bell-shaped, three-lobed, purplish-brown flowers, with a cream-coloured centre. Described in our columns, 1890, vol. i., p. 422.

**SMITHSONIAN REPORT.**—We have received the Annual Report of the Board of Regents of the Smithsonian Institution, showing the operations, expenditures, and condition of the Institution to July, 1895. This bulky volume gives some idea of how considerable was the work done during the year in question; not only that work officially connected with the Institution, but also that relating to exploration and research. The general appendix, which occupies the majority of the pages of this book, will prove more interesting to ordinary readers. Among the subjects treated of may be mentioned the following:—"The Wanderings of the North Pole," by Sir Robert Ball; "Photography in the Colours of Nature," by T. E. Ives; "Photographs in Natural Colours," by Léon Warnecke; "The Problem of Flying," by Otto Lilienthal; "How Maps are Made," by W. B. Blake; "Field Study in Ornithology," by H. B. Tristram; "Deep Sea Deposit," by A. Daubrée, &c. This by no means exhausts the list of contributions, which is a very varied one, and well carries out its intended purpose, as described in the Report before us:—"It has been a prominent object of the Board of Regents of the Smithsonian Institution, from a very early date, to enrich the annual report required of them by law, with memoirs illustrating the more remarkable and important developments in physical and biological discovery, as well as showing the general character of the operations of the Institution; and this purpose has, during the greater part of its history, been carried out largely by the publication of such papers as would possess an interest to all attracted by scientific progress." Suffice it, then, to say, in conclusion, that this important book is a worthy representative, not only of the series, but also of the important body whence it is issued.

**A1 CAMPHOR.**—This is a Chinese product, obtained from a composite shrub called *Blumea balsamifera*, D.C., by distillation of the leaves. A full description of the process, together with an illustration of the plant, is given in the November number of the *Kew Bulletin*.

**COURGE PATATE.**—M. COBBEYON writes, "I am pleased to see in the *Gard. Chron.*, Dec. 28, 1895, p. 764, an appreciative account of the "Courge Patate" from M. NARDIN. I received some seeds of the plant last year from a friend at Montpellier, and my gardeners sowed and planted them without bestowing any extra pains upon them. When the seeds were ripe in a stray corner of the nursery which I have, my

head gardener tried some and found them delicious; he brought some to me, and they were tried cooked in various ways, and more particularly fried, and like Potatoes. This vegetable is delicious, and all who have tasted it consider it worthy of attention and extensive cultivation. The flesh, as you say, is firm and very good when cooked. I will add that when fried, they have a peculiarly delicate flavour resembling that of a Pumpkin, and which lingers long upon the palate."

**HORTICULTURAL CLUB.**—The usual monthly dinner and *conversazione* will take place on Tuesday, January 14, at 6 P.M. The subject for discussion will be, "Some Notes on the Arrangement and Furnishing of Rock Gardens," to be opened by Mr. H. SELLE-LEONARD.

**M. PUNAERT.**—Those of our readers fortunate enough to know M. PUNAERT, and they are not few, will bear with pleasure that he has been made a member of the Order of St. Stanislas of Russia. Our colleague, Mr. MARTINET, the editor of the *Paris Jardin*, has also received the same compliment.

**THE SCHOOL OF HORTICULTURE AT VERSAILLES.**—A bust of M. PIERRE JOIGNEAU has been placed in the garden of the Versailles School of Horticulture, of which JOIGNEAU was the founder.

**HYBRID POPPIES.**—Some doubt as to the existence of such hybrids has been expressed. At a recent visit to Verrières, however, we were assured by the raiser himself, and by M. HENRY L. DE VILMORIN, that such a hybrid had been raised there between *Papaver bracteatum* and one of the double-flowered varieties of *P. somniferum*. The seedlings were annuals, and bore single carmine-coloured flowers. At first the plants were nearly all sterile but subsequently seed was freely produced.

**MARCHESE HANBURY.**—H.M. the King of Italy has conferred on Commander HANBURY, of La Mortole, the title of Marchese, or Marquis. Our valued correspondent will henceforth be known as Marchese HANBURY.

"**THE ROSARIAN'S YEAR BOOK.**"—We shall have other opportunities of speaking of this little volume, but in the meantime we may indicate among its principal contents a notice of the career of Mr. ALEXANDER DICKSON, of Newtownards; a very interesting paper on hybridising Roses, by Lord PENZANCE; and Mr. MAWLEY's very valuable account of the weather and vegetation of the past Rose year.

**INSECT-CATCHING PLANTS.**—Mr. BURBIDGE has been delivering two lectures on this subject, under the auspices of the Royal Dublin Society, and which proved very attractive.

**A WINTER BOUQUET.**—Messrs. SANDER, of St. Albans, send as the materials for a very beautiful winter bouquet. It consists of two long spikes of hybrid *Calanthes*, which by their length and the slenderness of their stalks fall gracefully over the sides of the vase, whilst they are backed up by the somewhat stiff spathes of *Anthurium Saederianum*. The contrast of form is very striking. The *Calanthes* are *C. Bryani* ×, in which the flower segments are creamy-white, and the lip white with a reddish-purple blotch at the base, and *Calanthe William Murray* in which the segments are snow-white, the large lip white shaded with light rosy-purple, and with a deep purplish-crimson blotch at the base. Both these are seedlings from the garden of N. COOKSON, Esq. The *Anthurium* is in the way of *A. Andraeanum*, with large leathery, cordate-acuminate, puckered spathes of a scarlet colour, the two-rounded basal lobes bronzy-green. The way in which the scarlet colour passes gradually into the green of the base is very beautiful.

**THE BRISTOL AMATEUR HORTICULTURAL SOCIETY,** says the *Western Press* of the 7th inst., has now entered upon its third season, and in compiling the programme for the year the committee have abandoned their former practice of set lectures, and introduced some features which ought to prove

of interest to all amateurs, inasmuch as most of the subjects in general favour are dealt with at the time when attention should be directed to them. A large influx of new members is expected as the result, and there is every indication of a successful season. The first of the new series of meetings was held at Colston Hall, and the President (Mr. T. D. SIBLY) gave a New Year's greeting to a large number of members. Mr. G. WADE gave some interesting hints on the culture of the Chrysanthemum, and being the first of a series on this subject, his remarks were confined to the preliminary stages of treatment. He also gave some advice to those intending to grow Tomatos. Mr. W. J. POLLARD gave the plans and details of a scheme of hot-water propagators for amateurs, and dealt with the various methods in vogue. A paper on "Lilies" was also contributed by a member. The year's prospectus is of a comprehensive character, and the objects of the Society are kept well to the front.

**STOCK-TAKING: DECEMBER.**—An increase of some £2,153,000 in the revenue account for the quarter ending on December 31—an increase in the three quarters of the year of £6,100,000—to some extent prepared us for a favourable report on the Board of Trade Returns of imports and exports for the last month of the year now passed into history—in spite of an unquiet feeling respecting foreign relations, and a tendency to scenting villainous salt-petre in the air around us and abroad. But the laden atmosphere will, let us hope, clear up, and there is not a single decrease recorded in the month's list of imports, and a gain of £3,897,025, as compared with December of the year preceding. It may be noted also that the imports of 1895 show an increase over 1894 amounting to £8,342,820! The following are our usual extracts from the "Summary" table for December:—

IMPORTS.	1894.	1895.	Difference.
Total value of imports	£ 33,074,400	£ 36,967,505	+3,897,025
(A.) Articles of food and drink—duty free ... ..	11,030,331	11,672,910	+642,579
(B.) Articles of food and drink—dutiable	2,259,925	2,328,222	+68,297
Raw materials for textile manufactures ... ..	7,252,954	8,203,741	+950,787
Raw materials for sundry industries and manufactures ...	2,780,024	3,423,517	+643,493
(A.) Miscellaneous articles ... ..	1,155,569	1,315,159	+159,590
(B.) Parcel Post ... ..	48,239	68,922	+20,683

As we have said, there are no items under the heading "decrease"—the total value for the month being £36,967,505. As to fruit, roots, and vegetables imported in the past month, the following figures will interest:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples ... .. bush.	723,951	398,019	−325,932
Cherries ... .. "	...	...	...
Plums ... .. "	50	...	−50
Pears ... .. "	16,123	5,588	−7,540
Grapes ... .. "	1,819	2,058	+239
Unenumerated ... ..	37,170	47,173	+10,003
Onions ... .. "	318,297	448,727	+130,430
Potatoes ... .. cwt.	160,291	33,595	−126,696
Vegetables, raw, unenumerated ... .. value	£ 55,181	£ 57,903	+2,722

The imports for the year demand separate notice at an early day—space will not permit of our doing so now. Turning to the—

**EXPORTS**

for December, we have a favourable report to make with a total of £19,179,535, or an increase of £1,678,953 over December, 1894, the total for the year being £226,169,174 (an increase of £10,314,841

over the year 1894). There are but two items under the "decrease" heading—one in raw material to the amount of £192,377, whilst the other is represented by £6,430; the items of decrease on the twelve months' account being in raw material, chemicals, and medical and chemical preparations—represented by the sum of £1,651,515.

**FLOWERS IN SEASON.**—We have before us a few blooms of seedling varieties of Chinese Primulas, raised by Messrs. JNO. LAING & SONS, Forest Hill, London, S.E. They are pretty, and the colours are distinct and good, varying from pure white to rich purple-crimson. In regard to size, no special remark is needed.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—A general meeting of the members of the Gardeners' Royal Benevolent Institution will be held at SIMPSON'S, 101, Strand, in the county of Middlesex, on Thursday, the 16th day of January, 1896, at 2.15 P.M., to consider and adopt partial alterations and additions to the existing rules of the Institution recommended by the Committee of Management. And the fifty-seventh annual general meeting of the members of this Institution will be held at the same place and on the same date at 3 P.M., for the purpose of receiving the report of the Committee and the accounts of the Institution for the present year, electing officers for the ensuing year, and other affairs; and also for the purpose of placing fifteen pensioners on the funds, five under rule III. 5, and the remaining ten by election. The voting papers have been issued. Any subscriber who has not received one should communicate with the Secretary, GEORGE J. INGRAM, 50, Parliament Street, London, S.W. After the annual meeting, the usual friendly supper will be held, also at SIMPSON'S, when PETER C. M. VERTCH, Esq., of Exeter, will preside. Friends who desire to be present should communicate with the Secretary at the above address.

**PUBLICATIONS RECEIVED.**—We have received the following:—*Transactions of the Massachusetts Horticultural Society for the Year 1894*, Part II., containing reports upon the work done, investigations undertaken, and exhibitions superintended during the time mentioned.—*Annual Report from the Botanic Garden, Grenada*, by Mr. W. E. BROADWAY. "The grounds, nurseries, walks, drains, and various cultivations have been maintained in as satisfactory a manner as can be expected out of the small annual vote set aside for this purpose." Mr. Broadway notes that "crabs still remain a formidable drawback, but do not reach the higher parts of the garden. By a method in use we have exterminated great quantities of them, yet 'still they come.' Their holes all about the entrances are numberless, each hole runs down into the earth until it reaches water, no matter at what depth, and digging down, one is sure to come across its inmate. Proving this, we have tried blocking up the hole, after inserting a mixture of food and poison, and found it efficacious. The garden site being a reclaimed swamp, with a lagoon a few yards off it, makes the prospect of exterminating them entirely an impossibility—one can only reduce the number from time to time. Human invaders are even harder to keep out. We read that barbed wire, which is used at the Botanic Garden for fencing, is so frequently cut by persons wishing to trespass, that it is proposed to strengthen it by a thick hedge of Governor Plum (*Flacourtia Ramontchii*) and other thorny and prickly plants. The report treats of the trees and plants of the garden, which are in a satisfactory condition and yielding well. Good accounts are given of the plantations of Cacao, Nutmegs, Liberian Coffee, Kola, Black Pepper, Eucalyptus, and other plants—in fact, 1894 seems to have been a fruitful and in all ways a satisfactory season.—Another publication lately received is the *Annual Report of the Gardens of His Highness Maharajah Fatah Singhji, G.C.S.I., of Oodeypore, for the Year 1894-95*. These grounds include a nursery, Rose-garden, vegetable and rock gardens, as

well as a deer park, menagerie, cricket-field, and other departments. All seem in a thriving condition, well managed, and in every way creditable to the superintendent, Mr. T. H. STONEY and his assistants.—*Bulletin of the Botanical Department, Jamaica*, November, 1895, edited by WILLIAM FAWCETT. The contents of this publication this month include papers upon the Orange Tree in Jamaica, Selected Yeasts, &c.; the Cultivation of Vegetables, Bermuda Lily, Synoptical List of Ferns (continued), and list of contributions to the department.—*The Journal of the Board of Agriculture*, Vol. ii., No. 3, for December, 1895. Among the contents this month we note papers on Evaporation of Fruit, Wages of Agricultural Labourers, Beet-sugar Industry on the Continent, Injurious Insects and Fungi, General Agricultural Notes, Imports of Agricultural Produce, and similar subjects.

**NOTICES OF BOOKS.**

**LES PALMIERS DE SERRE FROIDE, ETC.** (Greenhouse Palms). By Raphael de Noter. (Paris: Octave Doin, 8, Place de l'Odéon.)

WELL within the memory of middle-aged readers, Palms were a luxury of the wealthy; now they are grown under glass, one might say by the acre in some of the Belgian establishments as well as in some of our home nurseries. The result is, that they may be seen in abundance on the costermongers' barrow, and the most modest drawing-room has its Palm equally with the west-end boudoir. Equally perhaps, more marked has been the extension of Palm-culture in the Riviera along the Mediterranean coast. A quarter of a century ago, the Date Palm was almost the only Palm to be found on those shores, but now the forms are as numerous and varied as they are striking and beautiful, so much so, that the coast from Toulon to Mentone and beyond, is now one vast garden.

The little book before us is an excellent treatise, dealing with the climate and soil of the Mediterranean region, and then of the houses and appliances that are necessary for the raising Palms from seeds for their culture in a young state, and the care necessary for their transplantation. A descriptive list of the species suitable for cultivation in the south of Europe or in northern countries under glass is given, illustrated with woodcuts, showing not only the "habit" of the plants illustrated, but also the details of its structure. It is a most useful little book, forming an excellent introduction to more detailed and pretentious treatises.

**IN VERONICA'S GARDEN.** By Alfred Austin. (London: Macmillan & Co.)

This elegant little volume has been lying on our table for some little time, waiting its turn, till the pressure on our space should permit us to supplement our notice of its publication by more extended reference. Another reason for delay may be found in the fact that *Veronica's Garden* and the *Garden that I Love*, are pretty much one and the same, so much so, that he who has perused the one need not, unless he be so inclined, read the other. But the fact that, since its publication the author has become Poet Laureate, entails the necessity for a prompt notice of this his latest work. Elegance of diction, refined taste, and dainty fancy, are equally characteristic of this work, as of the previous one. Tennyson, in his early days, had pre-eminently caught the scientific spirit of the times in which he lived. He was a born naturalist, and numberless citations might be made in illustration of his feeling for natural truth, and even of his detailed knowledge. True, in later years, the hero of our younger days deserted his earlier faith, but that may have been the inevitable result of physical changes consequent upon advancing age. Whether this be so or no, it is pleasant to find in the new Laureate's book, if not the same grasp of the philosophy of natural history and development



that his predecessor had, yet an abundant love for those things that naturalists in general, and gardeners in particular, hold dear. What the author's views of a garden are may be gleaned from the following passage, p. 62:—

"A garden, to my thinking, is neither a museum nor a laboratory, a place neither for learned collections nor for ingenious experiments. I am deeply grateful both to the collectors and to the experimentalists, and I avail myself to the best of my ability of their needful labours, but only in so far as these subserve the supreme purpose of a garden, which is Beauty. Collecting rare plants, and growing specimen flowers, are something quite different from cultivating a garden. When I am shown so many square feet of Love-in-the-Mist, then a bare patch of soil, then some furlongs of Salpiglossis, then more bare soil, and so on, I am disposed to inquire if the flowers are grown for market, and am compelled to observe that the cultivation of them in this fashion is no more difficult than the cultivating of Radishes or the sowing of Carrots. They bear the same relation to a real garden that the words in the dictionary bear to a beautifully-written book. They are the materials out of which a garden may be made, but of themselves they do not constitute a garden. With the exception of the beds of Tea Roses and Violas, you doubtless observe that I expect almost every flower, due regard being had to height and colour, to flourish side by side with every other flower. I ask my flowers, the annuals as well as the perennials, not to be too exclusive, nor selfishly to demand a space all to themselves, but rather to be amiably sociable, to consort considerably with their kind, and, if necessary, which it often is in this world, to subordinate something of individual pretensions to the common good."

So, too, the memorable summer of drought, 1894, called forth all the energy of the gardener, and his labours are clearly reflected in the pages before us. This was the result:—

"I had no idea the garden was looking so lovely till they came and told me so, and told it with an effusion to which I am not accustomed. You see, I had been living and working in it day after day, contending with difficulties, and trying to ward off impending perils, and had, therefore, come to pay more attention to weak places than to strong ones, to be more vexed at supposed shortcomings than to exult over self-evident beauties. In ordinary times I am fully alive to the danger of cultivating overmuch the fastidious spirit, and of acquiring the habit of noting defects instead of observing merits. This is a foible I think in any occupation of life, but one easily falls into it if one is in pursuit of perfection."

We should like to quote some of the pretty verses with which the volume abounds, but we have not the space; moreover, to take them out of their setting would be to do them an injustice. Recent circumstances, however, give exceptional significance to the last few stanzas of the Christmas Carol, which practically concludes the book, and which, of course, were written long before the appearance of the war spectre:—

"But not alone for those who still  
Within the Mother-Land abide,  
We deck the porch, we deck the sill,  
And fling the portals open wide.

"But unto all of British blood,—  
Whether they cling to Egbert's Throne,  
Or, far beyond the Western flood,  
Have reared a sceptre of their own,

"And, half-regretful, yearn to win  
Their way back home, and fondly claim  
The rightful share of kith and kin  
In Alfred's glory, Shakespeare's fame,—

"We pile the logs, we troll the stave,  
We waft the tidings wide and far,  
And speed the wish, on wind and wave,  
To Southern Cross and Northern Star.

"Yea! Peace on earth, Atlantic strand!  
Peace and good-will, Pacific shore!  
Across the waters stretch your hand,  
And be our brothers more and more!

"Blood of our blood, in every clime!  
Race of our race, by every sea!  
To you we sing the Christmas rhyme,  
For you we light the Christmas-tree,"

The book is well got up and charmingly illustrated, the proofs have been carelessly read in places, but on the whole the work is one to be read with placid enjoyment and sympathetic assent.

**AUSTRALIAN GRASSES.** By F. Turner, F.L.S., F.R.H.S., &c. Vol. I. (Sydney: Charles Potter.)

The author has had ample opportunities of studying the grasses in their native localities, and has, moreover, grown upwards of a hundred of them experimentally. The results of this comparative study have shown the author that the indigenous herbage is better suited to the climate than many of the exotics which have been recommended for cultivation. Mr. Turner has not only put forth the botanical details which are of importance, especially to the botanist, but he has also given particulars relating to the mode of growth, and to the "habit" of each species. These latter details are often ignored—at least, to a great extent—by the botanist, who has to deal with herbarium specimens, mainly, or exclusively; but they are of pre-eminent importance to the cultivator and grazing-farmer. It is by a study of these points, rather than of systematic details, that the observer is able to form an opinion as to which grasses are the most suitable to particular localities, or particular requirements, and which are most likely to be victorious in the struggle with adverse conditions, competitors, or rivals. The illustrations are faithful, and therefore helpful. Each one should have borne a number for convenience of reference, and an index would be an improvement. The ligules, and the way in which the leaves are folded, need amplifying; but, on the whole, the work is excellent, and highly creditable to all concerned. *Sporobolus Lindleyi* would be quite worth while cultivating for decorative purposes.

**THE SILVA OF NORTH AMERICA:** a description of the trees which grow naturally in North America, exclusive of Mexico. By Charles Sprague Sargent, &c. Vol. VIII. (Boston and New York: Houghton, Mifflin & Co.)

The very important publication, whose title is above cited, has now reached its eighth volume. The regularity and promptness of publication are not the least among its many merits. This eighth volume is dedicated to the memory of André and François Michaux, pioneers in the knowledge of American trees. The entire volume is devoted to the Oaks of North America. First, we have a botanical description of the genus, with a brief history of the group in geological as well as in present times. The uses to which the trees or their products are put, the insects and fungi which attack them, and other incidental points are dealt with, and numerous interesting notes are added, notes which are so encyclopædic in their character, that in future, when any information is needed about Oaks, it is to this monograph we shall turn. We may note in passing, that the Fulham Oak is said to have originated in the Fulham Nurseries in Exeter (p. 7, note). This is of course a slip, and English readers would substitute London for Exeter. Then follows a conspectus of the American species, fifty in number, a conspectus only available when the observer has complete materials before him—a rare event, unfortunately. In this portion of the work, Professor Sargent follows in the main the arrangement proposed by the late Alphonse de Candolle. Each of the fifty species is described in detail, its history narrated, its peculiarities and uses set forth. More than this, each species is illustrated by plates, wherein without loss of effect, utility, and botanical accuracy are secured. To give an idea of Professor Sargent's work, we append the following quotation referring to the Red Oak, but omitting the description and the numerous notes:—

"*Quercus rubra*, which is the most boreal of the Oak-trees of eastern America, generally inhabits rich uplands, growing to a large size on glacial drift and the well-drained borders of streams and swamps. It ranges from Nova Scotia and southern New

Brunswick through Quebec, where it reaches the banks of the St. Lawrence in about latitude 47° 50' north, along the northern shores of Lake Huron to the neighbourhood of Lake Namekagon on the divide west of Lake Superior, southward to middle Tennessee and Virginia, and along the high Appalachian Mountains to Northern Georgia, and westward to Eastern Nebraska and central Kansas. Rare and of small size toward the northern limits of its range, the Red Oak is abundant in Nova Scotia, Southern Quebec, and Ontario; it is one of the largest and most common trees in the forests of the northern States with the exception of those which cover the mountains of northern New England and New York, and reaches its largest size in the States north of the Ohio River. Further south it is less common and usually small, and on the southern Alleghany Mountains it is exceedingly rare. The wood of *Quercus rubra* is heavy, hard, strong, close-grained, and liable to check badly in drying; it is light or reddish-brown, with thin, darker-coloured sapwood, and contains remote conspicuous medullary rays and bands of several rows of large open ducts marking the layers of annual growth. The specific gravity of the absolutely dry wood is 0.6621, a cubic foot weighing 41.25 lb. It is used in construction for the interior finish of houses, and in the manufacture of cheap furniture. *Quercus rubra* was introduced into Bishop Compton's garden near London before the end of the seventeenth century, and the earliest account of it, prepared from those cultivated trees, was published by Plukenet in 1692. Endowed with a constitution which enables it to withstand climatic conditions unlike those of its native land, *Quercus rubra* has succeeded in Europe better than any other American Oak, and individuals more than a century old may be seen in England, France, and Germany. No Oak of the northern States grows more rapidly or can more easily be transplanted, and few trees are better suited to ornament the parks and roadsides of the northern United States."

## THE CARNATION AND ITS CULTURE.

IN a paper read before the Massachusetts Horticultural Society on "The Carnation and its Culture," by Mr. Richard T. Lombard, a noted grower of these plants, the author stated that the Carnation by reason of its real merit, has, since 1860, rapidly forced itself into an important place in the flower trade of the Northern and Central parts of America, and that nearly 4000 florists are engaged either wholly or in part in growing this plant for cut flowers; and he estimated that fully 200,000,000 blooms are sold yearly in that country, yielding over 1,000,000 dollars to the growers. The great variety of colour, fragrance, beauty of form, and keeping quality of the Carnation have made it a decided favourite, and it may justly be termed the "flower of the multitude."

A flower of so much importance in trade, and one so generally loved by all who possess a garden, is certainly of sufficient importance for us to give it careful study. We gladly, therefore, avail ourselves of the valuable information afforded by Mr. Lombard's excellent paper on the Carnation as grown in America, and also of various facts obtained by the writer from Mr. Martin R. Smith, of Warren House, Hayes, Kent, and from Mr. C. Blick, the gardener at Warren House, to whose courtesy he is indebted for permission to use the results, which will be referred to in the course of this article.

The wild species of the Carnation from which our cultivated varieties were derived is *Dianthus Caryophyllus*. At the time of its introduction into England, its prevailing colour was a very light shade of pink—or more properly, "flesh-colour;" and from this fact it received its name of "Carnation." There is no doubt that, under the influence of English soil, climate, and culture, its colour became darker, and we find a few years later it was called "Pink."

The wild Carnation was single, having but five petals, and its native habitat was extremely limited, being found only in parts of France, Italy, Austria, and in the north-west parts of India, and always upon high, well-drained lands, where limestone was found. It has never been known to thrive in its wild state, except near the habitation of man. The



general construction of the plant, and the character of its foliage, are such, that it withstands drought wonderfully, and recovers from it rapidly when water is supplied.

From one or more of the places named, but more probably from Italy, the wild variety has been naturalised in various countries, and more particularly in England; but wherever naturalised as a wild plant, it has only succeeded in limestone districts, or near old buildings, and on well-drained soils. As we know the plant, it clearly shows the climatic influence of Southern Europe.

The peculiarities of the Carnation are such, that under cultivation it has taken almost any character, as to colour, or form, or flower, which the careful cultivator has desired. It has been popular in one generation, and unpopular in the next. When it was in favour, the flowers were increased in size, and the varieties were numbered by hundreds; and when the "Carnation fever" abated, it quickly lapsed to its ordinary size, and the varieties were few.

and upward in development, by the well-established law of evolution, until we have the perpetual varieties of to-day. And it is a matter of history, that this development has been brought about by the careful and intelligent labour of such men as Fairchild, Hogg, and Dodwell, in England; Schmitt and Alegatière, in France; and Sewell Fisher, Charles T. Starr, and others, in America—all have contributed to the result, and the credit is not due to any one in particular, but each is entitled to a share of the honour.

Between the years 1860 and 1870, floriculture took a great start in America, and especially around Boston, and between these dates it is believed that importations of Carnation plants were made, chiefly from France. The importations were of the varieties called Perpetual, and from the time of their introduction, the old half-hardy varieties seem to have almost disappeared.

The first varieties sent to America were La Purité and Edwardii, and a little later President

pleasing effect to the eye. Any flower whose petals grow well above the calyx before expanding is not likely to burst the calyx."

The plant should be vigorous, strong, healthy, freely branching, from 2 to 3 inches from the soil; foliage of a rich blue-green, and not over one-fourth of an inch in width; flower-stems well branched, giving a stem to each flower from 8 to 12 inches long, and with sufficient strength to hold the blooms erect.

The Carnation will succeed in any ordinary soil; from light, sandy loam to a firm clay. It prefers a fairly rich loamy soil—well-rotted turf with one-fourth its bulk of old manure, with a bushel of air-slacked lime, and a bushel of hard-wood ashes to every two loads of soil. Mr. Lombard finds the following formula the one best adapted to growing Carnations: He cuts and places on the ground a layer of good sod or turf, face down; upon that a layer of hard-wood ashes, over that coarse gravel he puts a layer of well-rotted horse-manure, and lastly, a layer of air-slacked lime. The proportions of the materials are three parts sods, one part of manure, and one-fiftieth part of ashes and lime, one-half each. If the turf is from a clayey soil, horse-manure is recommended; if from a light, sandy soil, cow-manure. The whole history of the Carnation shows that it is fond of lime—this is a very important point.

Turning now to the practice and experience of Mr. Martin R. Smith in Carnation culture, he says: "Fresh loam, top spit; nothing in the world can beat this for Carnations." Alas, he states, "I find in growing Carnations in the border, that after planting them in a bed of fresh virgin loam they grow splendidly, but if I attempt to grow another lot of Carnations next year in the same soil they do very badly, and are not worth growing. This shows that the first lot have taken some properties out of the soil that are essential to obtaining the best results."

Mr. C. Blick, in reference to the same subject, says, "One thing is certain regarding the Carnation, and that is, it thrives and does better in every way in new soil. No matter how much horse or cow-manure is put into the soil the second year, we do not get such a good result, showing clearly there must be something the Carnation takes from the new soil that cannot be obtained in any ordinary manure; in fact, the Carnation will do better with less than a quarter of the manure the first year. If the true cause of this could only be got at, or in any way worked out, it would prove a boon indeed, and would be a great saving in every way." J. J. Willis, Harpenden.

(To be continued.)

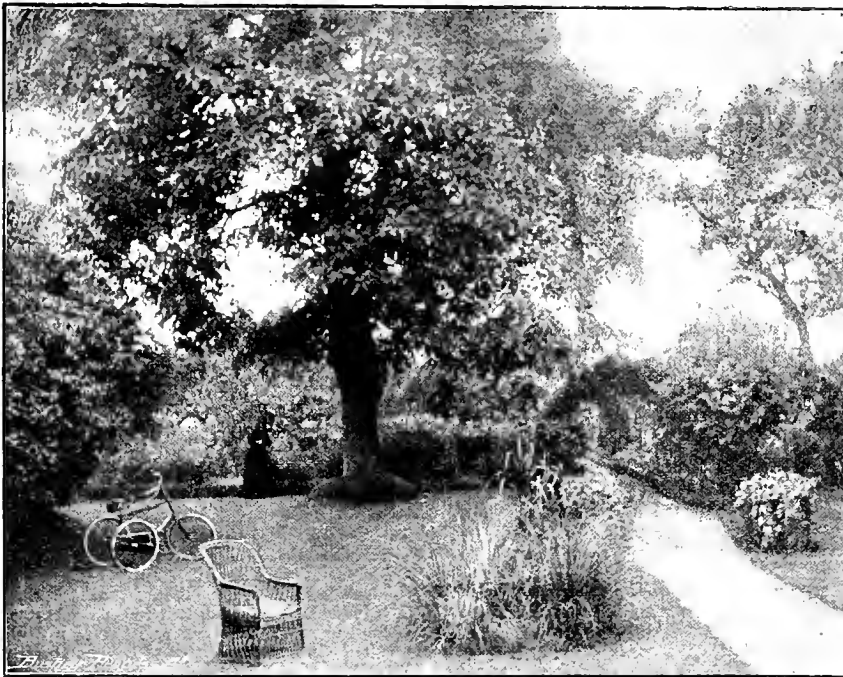


FIG. 9.—VIEW IN THE GARDEN OF C. H. GOLDING-BIRD, ESQ., MEOPHAM.

At one time fringed petals were sought for and obtained, and at another time, smooth-edged or "rose-leaved" petals were wanted; and this desire was gratified. The gardeners of 200 years ago thought the flower imperfect if it did not split its calyx, and on refractory flowers the knife was used on the calyx that did not burst. But for the last 150 years great effort and care have been taken to prevent the bursting of the calyx, which to this time has not been wholly successful.

From the earliest cultivation of the Carnation to about the year 1810, this plant was entirely grown from seed, or propagated by layers. At this time a new system was begun, the propagation by cuttings; the only difference in this work between then and now, is that the growers of those days obtained bottom-heat by the same method we use in preparing our hot-beds, while we use steam or hot-water pipes, or a flue.

It may be stated that the seed of the Carnation of long past ages contained the latent power which, for more than 600 years, by culture, selection, hybridisation, and crossing, has marched onward

Degrand and Crimson King; these formed the foundation of those now grown.

In the States of America, from that time, the interest in the Carnation has been on the increase. New varieties are grown from seed, and the chances of getting one equal to or better than the parents is estimated to be as 1 to 500. Mr. Lombard is fully convinced that no advance can be made in the Carnation, without taking the best types for parents, and giving them the best possible conditions. Very rarely can a good variety be obtained by chance, for, as a rule, in this as in everything else, hereditary influence and environment will impress the new plant, and if success is sought—these must not be disregarded.

Mr. Lombard's idea of a first-class Carnation flower is thus expressed:—"It should be symmetrically formed; its petals fringed or serrated, and of good substance; if a self, the colour should be evenly distributed throughout its petals; its calyx non-bursting; it should be fragrant; its centre full, well-raised, yet not crowded; and it should measure from 2 to 3 inches across—the whole flower giving a

## AN AMATEUR'S GARDEN.

FORTUNATELY our island abounds with gardens—of limited extent very often; they are not the less enjoyable, and many are the hours, at almost all seasons, in which the owner, who happens also to be an amateur in gardening, can devote to his plants, getting more and more interested in them as time goes on. It goes almost without saying, that an amateur must be an observant person, otherwise he would run near to lose half the pleasures of his garden, besides doing irreparable injury unwittingly to his plants. If he have water in the form of natural ponds, or ponds made natural-looking, an artificial basin, or a brook, he can indulge in many fancies of a piscatorial nature, or when trees and bushes abound, as they naturally will in a well-planned garden, Nature's choristers will seldom be long silent. And to ensure increase in the numbers of the song-birds, he has only to give strict orders in regard to nesting, always having regard to the sparrow population, that it does not increase over much. But he must protect all jackdaws, jays, owls, hawks, and rooks, very useful in their various ways as vermin-destroyers—although our friend the game-keeper thinks differently. The larvæ and insect-eating small birds should receive protection also. In the garden of C. H. Golding Bird, Esq., Pitfield Cottage, Meopham, Kent, the subject of our illustration

(fig. 9, p. 53), our readers will, we believe, think that this gentleman, as an amateur, will be enabled to find much pleasure and amusement, together with no little bodily exercise of the right kind if he desires it.

The mounded-up tree in the middle distance, and the banked shrubbery on the left, suggest an alteration of level in the small lawn; and evergreen and deciduous shrubs, doubtless flowering ones, appear in orderly confusion beyond, with just a glimpse of an arched opening through a tall hedge still further off. The trees on the right suggest Apples; and the walk, probably the chief one, is broad and nearly straight as befits its importance.

### PROPAGATION OF FICUS ELASTICA.

It may be of interest to some of the readers of the *Gardeners' Chronicle*, to describe the way this plant is propagated in Belgium. The results obtained are so encouraging, that it is almost a duty to give publicity to the method. The season when propagation is begun, is the end of the month of October and early in that of November, and the best plants to select for the purpose are those in which the vegetation has for the present stopped or slackened. Any plants which were planted in the outside-beds and taken inside in the month of September, will furnish an especially good stock of cuttings. The tops of the plants make nice plants with large leaves on the surface of the pot directly they are rooted, making therefore the best cuttings. The stalk is cut down to the part where its substance becomes too hard to be likely to emit roots, every portion having two leaves representing a plant, which will develop from the eye at the base. When cutting the india-rubber plant, make use of a very sharp knife. The cutting should be cut obliquely half an inch above the extreme eye, and the leaves of the part which are covered with soil should be removed; the base must be incised round. These "bleeding" parts are inserted forthwith into charcoal-dust, in order to arrest the flow of the juice, and when this stops, they are put under a hand-light in the propagating-house for two or three days. When they get flabby the leaves are rolled round, or the upper half of the leaves is taken off, in order that the cuttings may not occupy too much space, and avoid damping.

Every cutting is placed in a deep thumb-pot with sandy leaf-mould, pressed hard. The surface of the soil is left rough. These pots are then plunged in coal-ashes in a case in the propagating-house, with 25° to 28° Centigrade (80° Fahr.) bottom-heat, and covered with a layer of coal-ashes 1 inch deep, well watered, and the light placed over them. In six weeks or two months the cuttings will all be rooted, and it is very curious to see the numerous roots running on the top of the ashes. When the buds begin to open, it is time to pot them in small 60's, using two-thirds leaf-mould and one-third loam; replace the plants in the coal-ash bed, and close the light. When the plants have pushed roots through the soil, remove them out from the case to the front stage near the glass.

At the end of May or beginning of June, these young plants are planted at a sufficient distance apart to allow of good development in soil upon a hot-bed which has been used for other purposes, and still has a moderate degree of heat. Here they remain for the summer months.

The mild bottom-heat and the fertilising products of the bed, together with regular watering during the hot weather, enable splendid plants with a dozen or more large leaves to be produced by the month of September, at which they must be potted in 48's or 52's, according to strength. The cuttings made from the tops will make specimen plants, as they become in one year almost too tall for the usual saleable plants. *Louis Gentil.*

[*Apropos* of this subject, it may be mentioned that, cuttings taken from strong plants which have been introduced into a strong heat for a few days, so

as to induce a beginning of growth, in the months of January and February, and simply laid on a pan or tray filled with coarse, clean sand, in a temperature of from 63° to 78° of warmth, and frequently syringed or sprinkled, will emit perfectly healthy roots, and it will not matter in the least if the butt-end of the cutting touches the sand or not. The higher the temperature the more syringing. Under this kind of treatment, only such cuttings fail as are not suitable, and which yet the gardener may not care to put aside. Plenty of roots having formed, potting-up may be done, using finely-sifted compost of loam, leaf-mould, and sand, dribbling it in amongst the very tender roots, and not pressing it much, but shaking it down. Afford water, and keep in a close case till the roots push freely, when they may be removed and treated as above described. En.]

### SOME ANNUALS AT BRAYFIELD.

LAST September I walked round an old garden; its venerable proprietor told me it was at least 200 years old. There were two oblong plots about an acre each in extent, bounded by a 10-foot wall. Borders, 5 yards wide, run by the walls, and 5 feet asphalted paths, tile-edged, enclose the oblong beds, but a wider path traversed the centre, leading from one garden to the other; it is here the chief display was. About 5 feet from the path on both sides was a row of espalier Apples, forming a background to the flowers, Hollyhocks, and Dahlias. Then there was a brilliant display of annuals, of three kinds only, double Zinnias, Asters, and Stocks. What a variety of colours! and the Zinnias were splendid—many of the flowers 4 inches across, of dazzling colours, and beautifully imbricated; one grand flower in the centre, and a dozen smaller, nearly of the same height. Like most flowers with a predominance of reds and yellows, the Zinnia has no blues; but the shades of crimson, scarlet, magenta, pink, orange, primrose, and white are almost interminable. The flower lasts a considerable time too; the petals being of great substance, and lying flat, are but little exposed to the wind and rains.

Next to the Zinnias come the Asters, which have improved so greatly of late years; and here, fortunately, there is blue of many shades—selfs and fancyes, as the florists say. The Aster is a capital flower for the young amateur to commence with. The Crown Asters, those with a white centre, are charming—so, indeed, are all the tribe: the incurved, the reflexed, and the Anemone-flowered. The Asters which formed the second row below the Zinnias, were what the reporters would call a "beautifully even lot," a mass of bright colours, relieved here and there with snow-white blooms. In front of the Asters next to the path were the deliciously-scented Stocks, none the less charming from their profusion of bloom and lax habit. The individual flowers were double as Roses, and in several shades of crimson and blush. Then came the purples, then the faintest lavender-coloured ones. The dear old Brompton Stock; what has become of it? Well do I remember its great spikes of deep-red bloom in its glory, just in early June, when white Pinks are flowering, and the buds of Cabbage Roses are opening.

Brayfield Gardens are well worth a visit when these long borders are covered with such a wealth of glowing colour. The gardens kept by such an experienced manager as Mr. Nichols, are in excellent order. "Then you sow early?" "Yes, in frames, February; prick-off and harden in boxes under lights." There are scores of other annuals suitable for display in the garden, but none that I have seen so effective as the above kinds, and as if of them should be included in the orders now being prepared for the seedsmen. It is a singular circumstance that the commonest of all the annuals grown in the flower garden, or rather cottage garden, is the homely Nasturtium which, according to the nurserymen's catalogue, produces novelties every year, but as with the scarlets and yellows, we are met with the mystery that bars the blue. Those grimy London

streets! What a relief and charm it would give them if each occupant bought a pennyworth of Nasturtium seed and planted it in a box or pot and placed it on the window-sill! Something to cheer the heart when looked at from within, and rest the eye as its streamers waved without. How much could be done towards cheering and beautifying London streets by the outlay of a few pence on flowers or flower-seeds! I often think of the old shoemaker, who metamorphosed his little back-yard into a charming garden, 12 feet by 9 feet. Walls north, east, and west lime washed, a little boxed-in bed at the foot. Then sixpennyworth of seeds, Nasturtium, Convolvulus major, Scarlet Runner Bean, Tropæolum peregrinum, the Canary creeper, Cuscuta scandens, and a patch of Sweet Peas, and an extra pennyworth of Mignonette. Here my old friend would sit to smoke his pipe in the summer evening, starting up suddenly now and again to train a rambling shoot or pick off a dying blossom. *T. W. H.*

### HOME CORRESPONDENCE.

THE ROYAL HORTICULTURAL SOCIETY.—I do think something might be done, amongst other things, to enable Fellows to attend the Royal Horticultural Society's meetings at less expense; the railway companies meet other societies, and no doubt they would ours, if the powers that be would take the trouble to approach them on the subject. Gardeners who would be only too glad of the chance to see something more than is grown in their own neighbourhood, invariably give the expense of attending the meetings as a reason for not joining the society. I certainly think they might be given the chance of, at the least, seeing the Temple and Crystal Palace shows. *H. J. McDonald.*

The thoughtful letter of "A Fellow," recently in the *Gardeners' Chronicle*, suggests a few more observations, which I would like to add to my former remarks. First, then, I would suggest that unless the proposed provincial committees are likely to popularise the Society, extend its usefulness, and augment its funds, especially the last, the Society had better drop the idea. Secondly, I do not see the need of having a committee in every county; there would be danger in making them too common. Third, given responsible committees in a few centers, let them have as full power to bestow awards as the central committee where the funds of the society are involved—as in the case of medals, for example; such awards might take the form of a recommendation to the Council, but any "second fiddle" business to other committees would not, I think, be tolerated by any judiciously-selected, self-respecting provincial committee, and that such committees can be got together equal in any respect to London committees, I have no doubt whatever. "A Fellow" fears the Society's awards being made "too cheap and abundant." I rather think the proposed committees would keep a check on one another, and at any rate I can assure your readers that many of us provincials have long thought that the London committees bestowed awards without much discrimination or judgment. I have not the latest lists in my possession of the awards given during one year by the Royal Horticultural Society, but I have one before me only a few years old, of the awards given by the Royal Horticultural Society, the Royal Botanic, the Auricula, the Carnation and P.cotee, and the Dahlia Societies, amounting together to about 350 for one year, of which over 200 belong to the Royal Horticultural Society, all, or mostly all, "First-Class" (F.C.). The committees have been specially "weak" on Begonias, Chrysanthemums, Dahlias, and mere varieties of other things. It would be interesting to know what has become of most of the subjects that have never been heard of since, or which having been tested, have gone to the rubbish-heap. One example will suffice, for a committee that will make one gross blunder will make many. In the year I am writing of, the Strawberry Noble was awarded a First-class Certificate, which led many gardeners to give it a trial, only to find that it was probably the coarsest and worst-flavoured Strawberry ever raised, an indifferent cropper—to be discarded as soon as tried, and expunged from catalogues, or only put in at the tail end of lists, and all reference to its taste suppressed. I gave it a good trial, and saw it elsewhere, and in

my case it was not only coarse and bad in flavour, but positively nasty. It had only one recommendation—the blackbirds and thrushes shunned it while anything else was to be had to eat. I said at the time, and I shall always believe, that the persons who bestowed a First-class Certificate on that Strawberry, did not know a good Strawberry from a bad one, or did not care. The only difficulty, I fear, is the getting up of committees of private gardeners, nurserymen, and market gardeners of sufficient experience, and free from pre-conceived ideas and prejudice. Fruits, flowers, vegetables, and arboriculture should be represented, and they should certainly be members or associates of the society. How are these branch committees to understand the nature of the standards set up by the central committees? asks "A Fellow." "What is to hinder them, I rejoin?" I am curious also to see the standard that certificated "Noble" and all those mediocre Dahlias and Chrysanthemums, &c., without any means of comparisons of existing varieties or other data. *J. S. W.*

#### GOOSEBERRY CULTURE FOR EXHIBITION.—

The decline which is sometimes perceived in the cultivation of certain flowers once very popular occasionally extends to fruits, and it is noticed that the Gooseberry is much less cultivated for exhibition purposes than formerly in some of the north Midland counties. Recently I had occasion to enquire if there were any Gooseberry growers in the Rochdale district of Lancashire, and was informed on reliable authority that the propagation of Gooseberries by cuttings in that district had become difficult of late, the atmosphere being so vitiated that the plants make but very little growth. The propagation of the large show Gooseberries is now in the hands, it is thought, of very few persons, the principal growers being Messrs. C. Leicester & Son, Park Lane nurseries, Macclesfield, and Mr. J. Salisbury, Darby, though there are doubtless others who propagate on a smaller scale. The *Gooseberry Growers Register*, an annual publication, is still issued by Messrs. C. Leicester & Sons, Macclesfield. The issue for 1894 contains reports of forty-eight shows, held in Cheshire, Lancashire, Derbyshire, and Yorkshire; but its lack of bulk, compared with former issues, shows that exhibitions of Gooseberries are falling away. This publication has been in existence since 1809, and probably the first compiler of these records was a Jacob Wolstencroft, of Clifton, a place about half-way between Bolton and Manchester; and afterwards conjointly with Thomas Whittaker, of Blackley, near Manchester, and at the death of Wolstencroft, Whittaker took over the responsibility of compilation and publication. In later days, assisted by the late Mr. Samuel Barlow, of Stakehill, at Whittaker's death, the *Register* passed into the hands of Messrs. C. Leicester & Sons, Macclesfield. It is to be feared on some grounds that a Gooseberry society for Lancashire no longer exists. There was formerly a large Society in Manchester which met at the "Falstaff" inn, in the Market Place, and the meetings were attended by many of the leading growers in Lancashire and Cheshire, and probably came from Derbyshire and Yorkshire. From the "Falstaff" inn the meetings were carried to the Botanical Gardens at Old Trafford; but there is no mention of an exhibition there in the *Register* for 1894. Gooseberry growing for pleasure is, therefore, suffering a decline in the Manchester district. Formerly there were a great many growers at Prestwich and Whitefield, but scarcely one is known at the present time; and yet Gooseberry growing and exhibiting had social aspects of a very interesting and valuable character. I have heard my lamented friend, the late Samuel Barlow, recite most amusing incidents that happened at Gooseberry shows; and having a keen sense of humour added to a retentive memory, he was able to entertain a circle of friends for hours together with his droll reminiscences. Mr. J. Percival, of Smithy Bridge, tells a good story of "Owd Jemmy Crompton," the appellation by which he was known among "Fayberry" growers. He was a grower of considerable repute, and resided at Hodge Lane End. In those days manure was not easy to obtain, and he was a hand-loom weaver, with little money to spare, but as large Gooseberries cannot be produced without manure of some kind, "Jemmy" made a practice of gathering horse-droppings from the streets, conveying them to his garden in his hat, using the precious hatfuls as a top-dressing for his Gooseberry bushes, which rewarded his attentions by remarkably fine fruit, as the records of fifty years prove. Alas! with the Tulip, Polyanthus, Ranunculus, Auricula,

and other whilom popular flowers, even the big Gooseberry is on the down grade, and more is the pity. *R. D.*

**FLOWERS AS FOOD.**—Not the least refreshing experience of these holiday times was the fresh and sparkling article on the above by Mr. P. L. Simmonds, F.L.S., pp. 762, 763, of *Gardeners' Chronicle*, December 28. We are so accustomed to admire flowers for their beauty, or value them for their fragrance, that it is well at times to be informed of their vital usefulness in the arts and sciences, and their value for eating. Humiliating as the admission may seem, it was on this utilitarian side that the admiration of most of us for the flowers began. Most green leaves and beautiful flowers within our reach were tested and tasted for food, such as Rosebuds and leaves, Violets, Primroses, Cowslips, Berberis, Beech, the crisp growths of the Scotch and other Firs, Wood Sorrels, &c., with berries and nuts, hips and haws in all stages of development, from flowerhood to maturity. The experience reaped from this omnivorous consumption of all manner of greens and gays in our childhood sufficed to satisfy most of us for the remainder of our lives, to say nothing of those poisoned outright through Deadly Nightshade and other poisonous plants and flowers. But because most of us may have eaten flowers to our suffering or sorrow before we had acquired sufficient experience to choose the good and safe, and reject the dangerous, this can hardly be accepted as a logical reason for refusing or neglecting to eat them afterwards. And, in fact, we are a nation of flower-eaters to the tune of many thousand tons a year; for what are our Cauliflowers but arrested flower-huds, destined to a higher development in our muscles, tissues, brains—rather than to bloom on the land. And besides, are not the baby flowers of all the Cabbage tribe taken at the flood of highest quality, the very cream and marrow of this wonderfully versatile and useful family? We still also eat other flowers besides those of Cauliflowers and Broccoli, and might with pleasure and profit eat many more raw, cooked, pickled, glazed, to say nothing of the hundreds of fresh flavours that flowers could give to other foods. The age, whatever its other merits, is weak in condiments. Perhaps it would be more correct to say that its condiments get into its literature and not into its food. A more striking illustration of this could hardly be cited than in the shrinkage of herbs and fragrant flowers in so many gardens, and the almost total disappearance of the common yellow Marigold from the homes of the poor as well as those of the rich. Within living memory hardly a cottager's garden would have been considered properly furnished without these Marigolds, for beauty and use alone. They are almost as rare in gardens as the common lilac *Crocus*, which centuries ago gave its name and sustained an important industry at Saffron Walden. It is sad reading in these days of agricultural depression to be told that our imports of Saffron in 1892 amounted to £60,272, and in 1893 to £56,614. The imports of Saffron into India, where its flavour and colour have rendered it exceedingly popular, often exceeds £75,000 a year. Nor do these figures represent anything like the commercial value or profits of saffron-growing. Only the stigma of the *Crocus* is used in making saffron; and it is said that 70,000 stigmas are required to make a pound, and these have all to be picked by hand, a labour-making industry of fruitful character. Mr. Simmonds' other statistics are equally startling and striking, and must do much to raise flowers to a higher level as food and condiments. Those familiar with the innumerable food uses to which the flowers and young fruit of the Maize or Indian Corn are devoted, will be least surprised to hear how the flowers of the Banana are regularly eaten in India and pickled in China; and that 100,000 tons of Bassia flowers are consumed annually in India, the corollas being eaten raw as they fall from the trees, and those of other species dried, roasted, and boiled into jelly. From one city port in China alone, in 1893, 73,000 cwt. of flowers were shipped! Very glad to find that Mr. Simmonds, while revelling in the tropical stores of flowers as food, also notes the young seeds of the common Nasturtium, the most perfect of all known substitutes for Capers. It may, perhaps, have escaped his notice that the flowers of the Nasturtium are better eating than the seeds, and that the young and tender leaves are admirable in salads, or between bread-and-butter. The leaves, flowers, and fruit of the Canary-creeper are also good, though not equal to those of the common Nasturtium. The young flowers of the white Acacia, the Robinia pseud-Acacia, and some others, are also good eating dipped in paste

and fried in butter; or these may be packed in a pie-dish, and covered with crust, and presented as Acacia-pie. The flowers of most Sorrels in a young state are better to eat than the leaves; the same is true of Rhubarb and Seakale, if taken at the time of fullest crispness and flavour. The flowers, under-leaves, and shoots of Laurels [*Caution. Eo.*], Bay, Peaches, Nectarines, Plums, Apricots, as well as the flowers and young fruits are admirable substitutes for the flavouring of Almonds; and Lemon, Orange, and Citron blossoms and young fruits are excellent for similar purposes. The leaves and flowers of the Mock Orange can hardly be distinguished from Cucumber—a curious and very unexpected coincidence. Tender leaves and blossoms of Peas can hardly be distinguished in soups from the choicest early green Peas. Cucumber blossoms, when clean, young, and tender, add colour as well as refined flavour to salads. Finally, those who relish Grapetarts should not waste a single bunchlet, but cut them early, and cook them whole, placing a few in full flower over the others before covering with crust; the odour and flavour will exceed belief, unless to those who have already tasted the flavour of Vine flowers against Limes, perhaps our nearest approach to it. *D. T. F.*

**DOUBLE GROWTH ON AN ORCHID.**—The engraving published in last week's issue of the *Gardeners' Chronicle*, January 4, p. 13, of a double growth on a *Lælia* is really that of a *Cattleya Mossie*. The plant is in Mr. Walter C. Walker's collection at Percy Lodge, Winchmore Hill. When the growth started, it was rather larger than usual, and after it had grown about an inch it divided into two growths, as shown, and now each growth has developed a sheath. Those gardeners who have seen it say that they have never before noticed a similar occurrence. If the plant should develop two leads again, or only one, I will send you the information in the spring. A photograph of this abnormal growth was sent to the Scientific Committee of the Royal Horticultural Society, October 15, last year, and was noted in the *Gardeners' Chronicle* on November 2, 1895, p. 526 *Geo. Cragg*.

**TOMATO FROGMOLE SELECTED.**—As most gardeners will soon be making out their seed orders, I feel sure they cannot do better than purchase seeds of the above variety. I had it in cool Peach-houses and outdoors last season, and it fruited very well, each plant trained as a single cordon, carrying many bunches of fruit, to the average number of ten, of large and even shape. The flavour is excellent. *L. Mayne, Bicton.*

**TIMBER v. GAME.**—We are told by your correspondent "S. The Woods," on p. 654, last vol., that keepers never have a sufficient number of pheasants, that their system of hatching is so deplorable, and the mortality so great, that only one or two birds to every dozen eggs are brought to the gun. Now, if the game is as scarce as the covert shooting as "S." would have us think, it must be more scarce after it. How then does he account for the large numbers of early eggs (to say nothing of the late ones) which he assures us are gathered every year. The *multum in parvo* of it is, that he would have the keepers placed under the foresters, but the absurdity of the idea must be patent to everyone. We agree with him that employers expect their woodmen to know their business; they also expect their keepers to know theirs, and both have equal influence in their respective departments. No keepers of average competence buy eggs. They have their aviaries, or are able to obtain plenty from the covert. These are hatched and reared upon principles far in advance of those practised some years ago, and average twelve birds from fifteen eggs, more than two-thirds of the number reared being shot regularly each year, still leaving the covert well stocked. With regard to "S.'s" avowed ability to permanently crowd coverts with wild game, that would depend upon what his opinion of crowding is. He does not tell us what he considers good sport, but at its best it would be but a name if hemmed-in by hard-and-fast rules. I contend that when the early eggs are hatched and reared according to the above statements, and the pheasants continue laying, as they invariably do until they have as many more which they hatch, that the present system is very superior to his proposed one, in which they would lay only about half the number before becoming broody. Besides this, it is impossible to protect them in woods, while young, from the depredations of the foxes. As to keepers being rammed in

their duty to kill rabbits, it is sheer nonsense, unless "S." alludes to the Jack-of-all-trades class of men, among whom we do occasionally find woodman dabbling to some extent among the prolific conies, or game-keepers keeping estate fences and woods in order. We all know that those of that type are not proficient either in their own business or that of others. *Gams.*

**MORELLO CHERRY-TREES AT SCONE AND CULLEN.**—I have seen in the *Gardeners' Chronicle* lately, remarks on the Morello Cherries in Scone Palace Gardens, and as a worker at that place I thought them at the time very remarkable, and that no such trees existed in all Scotland. But to my surprise, when I went to the gardens of Collen House, Banffshire, I found Morello Cherry-trees much superior to the Scone trees; much larger, as healthy as those, more fruitful, and with finer fruit. These trees were well trained, but not on the same system as those at Scone. Mr. Dodd's system was to nail all the leaders first, and the smaller shoots were in all cases laid-in on the upper side of the branches, no shoot being allowed to grow below them. *A. Donaldson, Mickleham.*

**FICKLENESS OF PEARS.**—Some of these, that are invariably well-flavoured in some localities, are, when grown here in the heavy, cold soil of the kitchen garden, by no means to be relied upon. The late summer, however, which proved too tropical in its character for the good of many early varieties, produced a marked improvement upon late ones. The kinds that were most benefited were Glon Morceau, Bergamotte d'Esperen, Olivier de Serres, Easter Beurrié, and Beurrié Rance. The last-named is in season at the present time, and I do not remember it being previously fit for dessert here. The influence of the weather and soil in which they are planted has a remarkable effect upon Pears. So variable and particular are they in their requirements, that would-be planters may well be reminded to take the somewhat hackneyed advice of ascertaining what varieties behave satisfactorily in a neighbourhood before they plant there; and they may with advantage go further in this direction, and make certain what aspect, &c., especially upon walls, suits particular sorts. Taking varieties collectively, however, and the weather on an average, it is best to plant the latest kinds in the warmest positions, and the others accordingly. To illustrate the fickleness of this fruit, it may be noted that this season, Marie Louise, from an east wall, was better-flavoured than finer fruit of the same variety from a west wall. Beurrié Diel, Beurrié Hardy, Doyenné de Comice, Triomphe de Vienne, Conseiller de la Cour, were better from pyramids than from trees on walls. D'arondeau and Beurrié Boac, better from walls than from pyramid trees; while Beurrié Superfin and Souvenir du Congrès were worthless from a south wall. Although all the space usually at command upon south walls can, as a rule, be better utilised than by planting early Pears upon it, some of these, nevertheless, in cold seasons particularly, are excellent when thus favoured. Owing to the hot weather, early kinds kept badly, but its effect in this way upon late varieties is not so marked. *Thos. Coomber, The Hendre, Monmouth.*

**NOVELISTS' FLORICULTURE.**—Very funny indeed occasionally are the references to gardening or flowers which novelists sometimes make in their books, references that easily pass muster with the general public who know no better, and fail to escape criticism from those who do. But it was indeed a surprise to me to find so glaring an error in relation to even common wild flowers as I met with recently in *Kenelm Chillingly*, one of the late Lord Lytton's most interesting novels. There that distinguished writer refers to one of his minor heroines as toying and pulling to pieces a wild Daffodil, and plucking Blue Bells in a hayfield, and, of course, in the month of June. The novelist who intrudes into the domain of horticulture in any way will do well before he rushes into print to take counsel with a practical gardener. *D.*

**APPLE THE BALTIMORE.**—There is a coloured plate of an Apple named The Baltimore in the third volume of the *Transactions of the Horticultural Society*, where it is stated that the variety was raised in the garden of a Mr. Smith, of Baltimore; and the fruit from which the engraving was taken was imported from America, and exhibited by Sir Joseph Banks at the society's meeting held on December 2, 1817. It is described as weighing 1 lb. 7½ oz., and measuring 1 foot 2½ inches in cir-

conference, while its height was 4 inches; it is also said to have possessed very good flavour, although it was over-ripe. If the engraving is a true representation, the Apple was very handsome. It would be interesting to know if this variety was ever introduced into our nurseries or gardens, as it may be expected to have been after being brought prominently under the notice of Mr. Knight, of Downton, and other leading pomologists of the time. If so, what has become of it? *Thos. Coomber.*

**OIL-ROLLERS.**—I suggest that a modification on a small scale of the steam-roller, substituting oil for coal, would be very acceptable for garden use; not only for rolling gravel paths, but also lawns, croquet and tennis-grounds; a mowing-machine of suitable size being connected with it when required. *C. W. W., The Fryske, Jan. 2.*

**DENDROBIUM NOBILE.**—Two years ago I had the pleasure of sending you a photograph of *Dendrobium chrysanthum*, and a short description of the method by which I treated this section of Orchide. I now have pleasure in sending you a plate of *D. nobile*, which five years ago was a small imported piece of five or six pseudo-bulbs, and very weak. I think you will fully agree with me that my plan of leaving all the old pseudo-bulbs on the plant and not pruning, is perfectly satisfactory in regard to the flowering and general appearance of the plants. [The result is excellent in this case. Ed.] *Frank Lowe, The Gardens, Easthampstead Park, Wokingham.*

SOCIETY.

DEVON AND EXETER GARDENERS' ASSOCIATION.

JANUARY 3.—The annual supper of the members of the Devon and Exeter Gardeners' Association was held at the "Castle Hotel," on Friday evening.

The CHAIRMAN, in proposing the toast of "The Devon and Exeter Gardeners' Association," spoke of the valuable work which the Association had accomplished since its formation forty years ago. Men of great experience had read them about forty essays, which had been fruitful of useful discussions. The annual outings of the Association also had not only given the members pleasure, but also instruction. Ladies and gentlemen of the county had kindly thrown open their grounds, and in some cases their mansions. Members were enabled to inspect specimens of horticulture which they might not, perhaps, be able to see at home. A movement was now on foot to induce gardeners to make provision for their old age by joining the Gardeners' Royal Benevolent Institution.

The toast having been heartily drunk, Mr. HOPE, in response, said he had been identified with the Association from the commencement, and he was happy to say that it had been a success in every respect, socially, educationally, and horticulturally. They had, in fact, justified their existence. Very notable was the ability with which the young members prepared their papers. It showed that there were some excellent men growing up who would be quite capable of taking the places of the older men in the future. There were a good many similar institutions throughout the country, but the Devon Society was in the front rank.

Mr. POWELL proposed "The President (Mr. C. R. COLLINS), vice-Presidents and Committee," and after paying a high compliment to the way in which the Society was officered, remarked that if the Devon and Exeter Horticultural Society collapsed, and he hoped the day would be far distant, the Gardeners' Association would never allow the annual shows to drop.

Mr. Councilor HERBERT responded, and expressed a hope that during the next session of the Association one of the members would read a paper, on the best way to make the city's public parks, especially Northbenhay, more attractive. A little money spent in this direction would be profitable to the city.—*Extract from the Western Times, January 4, 1896.*

VARIORUM.

"ORCHARDS AND GARDENS, ANCIENT AND MODERN:" with a description of the Orchards, Gardens, Model Farms, and Factories owned by Mr. William Whiteley, of Westbourne Grove, London. By Alfred Barnard. (Printed by Sir Joseph Canston & Son, 9, Eastcheap, E.C.)—This book is chiefly remarkable as showing how, in spite of the prevalent feeling to the contrary, farming can still, if intelligently undertaken, be made to pay—and to pay well. The pages before us give the history of an enterprise which has only been started two or three years, but which, managed under the favourable auspices of "practical skill, business tact, and a

scientific education, with, of course, that necessary adjunct, capital," is already a thriving and flourishing concern. Mr. Whiteley has established his farms and factories at Hanworth, near Twickenham, and here fruit growing, farming, and preserving, with all the minor industries connected with them, are carried on, on a large scale. The whole book is one long lesson on the art of successful farming. It tells how crops are preserved as soon as ripe, instead of spoiling for want of immediate attention; how live stock are most profitable when carefully selected, bred, and reared; and how great is the gain effected by having manufactories on the spot and in the hands of the producer of the raw material, instead of situated at a distance and under different management; in fact, it is one long illustration of how much may be achieved by those who make the most of the opportunities open to them. The book is written in a light and chatty style; a few statistics and a little solid information being blended with a chatty account of Hanworth and its industries. There are many full-page illustrations showing the beauty of the neighbourhood, and giving a good idea of the scale on which Mr. Whiteley's enterprises are carried out, of the general principles upon which he works, and of the standard of his crops and of his cattle.

**DICTIONNAIRE PRATIQUE D'HORTICULTURE.**—The French translation of NICHOLSON'S dictionary, with additions and coloured plates, has now reached the article "Oncidium." For garden libraries and for those conversant with the French language, we commend this most useful book. It is published by OCTAVE DOIN, 8, Place de l'Odéon, Paris.



[The term "accumulated temperatura" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN			
	Above (+) or below (-) the Mean for the week ending January 4.	ACCUMULATED.			No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.		
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.					Below 42° difference from Mean since December 29, 1895.	
0	4 +	15	9	+ 10	- 33	8	5	0.6	7	7
1	4 +	8	21	+ 2	- 22	1	5	0.5	4	4
2	6 +	20	7	+ 14	- 32	2	5	0.7	1	1
3	7 +	25	0	+ 18	- 39	0	5	0.5	3	3
4	8 +	23	3	+ 20	- 42	2	4	0.4	3	3
5	6 +	25	0	+ 14	- 37	3	3	0.3	5	5
6	5 +	23	3	+ 11	- 23	3	5	0.9	2	2
7	7 +	31	0	+ 23	- 33	2	4	0.6	4	4
8	6 +	39	0	+ 25	- 27	4	4	0.5	6	6
9	7 +	33	0	+ 25	- 25	0	5	0.8	5	5
10	8 +	55	0	+ 38	- 23	2	5	0.7	4	4
*	5 +	52	0	+ 29	- 11	2	5	0.7	7	7

The districts indicated by number in the first column are the following—  
 0, Scotland, N. Principal Wheat-producing Districts—  
 1, Scotland, E.; 2, England, N.E.; 3, England, E.;  
 4, Midland Counties; 5, England, including London, S.  
*Principal Grazing, &c., Districts*—6, Scotland, N.  
 7, England, N.W.; 8, England, S.W. 9, Ireland, N.  
 10, Ireland, S. \* Channel Islands.



THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending January 4, is furnished from the Meteorological Office:—

The weather during this period was very dull and gloomy in all parts of the kingdom. Rain was of almost daily occurrence during the earlier part of the week, but later on the conditions became dry, with, however, a good deal of fog or mist.

The temperature was much above the mean, the excess ranging from 4° in 'Scotland, N. and E.' to 7° in 'England, F. and N.W.' and in 'Ireland, N.' and to 8° in the 'Midland Counties' and 'Ireland, S.' The highest of the maxima were recorded on rather irregular dates; they were very high for the time of year, ranging from 57° in the 'Midland Counties' and 'Ireland, S.' and 56° in 'England, S. and N.W.' to 51° in 'Scotland, N.' The lowest of the minima were registered on the first day of the period in most places, but on January 4 in the north and east of Scotland. They ranged from 26° in 'Scotland, E.' and 29° in 'Scotland, N.' to 36° in the 'Channel Islands,' and to 33° in the Irish districts.

The rainfall slightly exceeded the mean in 'England, N.E.' and just equalled the mean in 'England, E.' and 'Ireland, N.' but was less in all other districts.

The bright sunshine was very deficient, the percentage of the possible duration ranging from 7 in 'Scotland, N.' and the 'Channel Islands,' to 2 in 'Scotland, W.' and to 1 in 'England, N.E.'

Obituary.

CHARLES EASTWOOD—Many of our readers will learn with regret, of the death which occurred very suddenly at the age of 56, from apoplexy, on December 21, 1895, of CHAS. EASTWOOD, of Bloomergate Nursery, Mytholmroyd, and formerly of Lane House Nursery, Laddenden, and at one time well known in the trade as a successful grower of Gleichenias and various hardwooded plants.

MARKETS.

COVENT GARDEN, JANUARY 9.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal wholesalers, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table with columns for plant names and prices. Includes Adiantum, Aspidistra, Azalea, Chrysanthemums, Cyclamen, Ficus elastica, Foliage plants, Hyacinths, Lilium Harrisii, Marguerites, Mignonette, Palms, Parsley, Poinsettia, Primula sinensis, Tulips, Solanum, Ferns, and various other plants.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table with columns for fruit names and prices. Includes Apples (Blenheim, Nova Scotia, Wellington), Apricots, and various other fruits.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table with columns for vegetable names and prices. Includes Beans, Cauliflowers, Mushrooms, Cucumbers, Onions, Potatoes, and various other vegetables.

POTATOS.

Trade still very quiet. With the continuance of mild weather, the tendency is much in favour of a further fall in the present low prices. Canary Island New Crop have made a small show on the market, and sales effect at from 18s. to 28s. per cwt. J. B. Thomas.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table with columns for flower names and prices. Includes Arums, Azalea, Bouvardias, Carnations, Chrysanthemums, Eucharis, Gardenias, Hyacinths, Lilium Harrisii, Lily of the Valley, Maidenhair Fern, Marguerites, Mignonette, Narcissus, and Orchids.

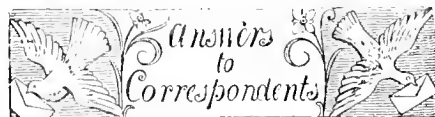
ORCHID-BLOOM in variety.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending January 4, and for the corresponding period last year:—1895: Wheat, 25s. 2d.; Barley, 21s. 7d.; Oats, 15s. 10d. 1896: Wheat, 20s. 4d.; Barley, 21s. 5d.; Oats, 14s. 2d.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 80s. to 95s.; do. inferior, 60s. to 70s.; hay, best, 60s. to 95s.; do. inferior, 38s. to 60s.; mixture, 70s. to 85s. 6d., and straw, 20s. to 40s. per load.



ADDRESSES: Messrs. Pearson & Sons, Chilwell, Notts. Mr. B. Wynne, 1, Dane's Inn, London, W.C.

CORRECTION.—"Public Pleasure Grounds, St. Ives," p. 19, col. a, for Trengwainton, read Trewidion.

DOUBLE FLOWERED LAPAGEBIA BLOSSOM: H. C. T. A figure of a double flower of the white form of L. rosea appeared on p. 777, vol. xviii, 1882.

EUPHORBIA (POINSETTIA) PULCHERRIMA: A. Cor donnier, figs. There are two methods of propagation—by ripe shoots, and by green soft shoots taken off early in the spring, from plants slightly pruned after flowering and resting, and induced to grow by being placed in a warmth of 60°. These green cuttings should be taken off with a slight heel of older wood, stuck head downwards in a bowl or large flower-pot, and have dry sand dribbled amongst them till all are quite covered, except the butt ends, which should be left exposed. Here they must remain till no more juice exudes from the wound, and they should then be treated like ordinary cuttings, striking them in a bed of sand or in pots, over a bottom-heat of 80° to 82°. When rooted, pot them up into yellow loam one-third, peat one-third, leaf-mould one-third, with a little sand if the peat is not sandy or the loam is tenacious. Grow them in a warm-house till the end of May, shifting them as occasion may require, but depending for vigour largely on manure-water. The temperature may range at night towards 60° at the end of the month. After this date, place them in a pit that can be heated when required, and in which they can stand near the glass, not letting the leaves touch it. Keep moist by syringing the leaves and pots once or twice daily in sunny weather, and in high summer air may be pretty freely admitted. Do not use bottom-heat after the plants are established in pots, or they will grow up long-jointed and weak. When the days get cool, put them into a warmer (intermediate) house, or use artificial heat. Cuttings are usually made in this country from the mature shoots after they have lost their leaves, and the plants are at rest. No precautions have to be taken against bleeding, there being scarcely any sap to flow; and should it do so, it readily stops if the cuttings are put in a dry cool place. These may be struck a number together in pots of sandy soil, put on the shelf in the stove, and kept slightly moist. After-treatment is identical with what has been stated. If a Euphorbia is pinched at the point, a more branched plant is obtained; but the fracter, which are the decorative parts of it, being many, are small in size, so that "stop-jug" is not desirable when strong, large heads are looked for.

STRAFORD: Jan. 7.—There has been a fair supply throughout the week, but trade has been rather slow at the under-mentioned prices:—Collards, 1s. 6d. to 2s. 6d. per tally; Savoys, 2s. 6d. to 3s. 6d. per dozen; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; Scotch Kale, 6d. to 9d. per sieve; Beetroot, 6d. to 8d. per dozen; Horseradish, 1s. 1d. to 1s. 2d. per bundle; Parsley, 1s. 6d. to 2s. per doz. bunches; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; do. 2s. 6d. to 2s. 9d. per bushel; Turnips, 30s. to 40s. per ton; Carrots (household), 24s. to 30s. per ton; do. cattle feeding, 16s. to 20s. per ton; Mangels, 11s. to 15s. per ton; Swedes, 13s. to 18s. per ton; Onions, English, 80s. to 90s. per ton; do. Dutch, 55s. to 60s. per ton; do. Bordeaux, 5s. 6d. to 6s. 6d. per case; Apples, English cookers, 3s. to 4s. per barrel; do. American dessert, 12s. to 15s. per barrel; do. Nova Scotian, 11s. to 15s. do.

FARRINGTON: Jan. 9.—Quotations:—Savoys, 4s. per tally; Greens, bunch, 2s. per doz.; Cauliflowers, 1s. 6d. per bushel; Horseradish, 1s. 2d. per bundle (best); Rhubarb, 1s. 6d. per dozen bundles; Onions, 3s. 9d. to 4s. per bag; Celery, 14s. per dozen bunches; Apples, Greenings, 15s. per barrel; Newtown Pippins, 18s. do.; Baldwin's, 17s. do.; Golden Russets, 16s. do.; Mushrooms, 8d. per lb.; Grapes, English, 1s. 6d. per pound.

POTATOS.

BOROUGH: Jan. 7.—Quotations ranged from 40s. to 95s. per ton.

SPIRALFIELDS: Jan. 7.—Quotations: Sutton's Abundance, 60s. to 70s.; Bruces, 50s. to 70s.; Main Crop, 55s. to 70s.; Snowdrops, 60s. to 80s.; Imperators, 50s. to 65s.; Druids, 60s. to 70s.; Reading Giants, 45s. to 60s. per ton.

STRAFORD, January 7.—Quotations:—Bruces, dark soil, 31s. 6d. to 40s., do. light, 40s. to 60s.; Reading Giants, 40s. to 50s.; Sutton's Abundance, 50s. to 70s.; Scotch Main Crop, 80s. to 100s. per ton.

FARRINGTON: January 9.—Quotations:—Main Crop, 80s. to 85s.; Saxons, 70s. to 80s.; Sutton's Abundance, 40s.; Bruces, 55s. to 65s.; Magnums, 40s. to 50s.; Reading Giants (good), 55s. to 60s. per ton.

LONDON AVERAGES: January 9.—Saxons, 80s. to 100s.; Main Crop, 60s. to 70s.; Bruces, 50s. to 70s.; Puritans, 60s. to 70s.; Hebrews, 60s. to 70s.; Sutton's Abundance, 45s. to 50s.; Magnums, 35s. to 45s. per ton.

FRENCH BEANS GOING OFF: A G. The result which follows a too early or too abundant moulding up of the stems. It is better practice to finish the moulding in two operations, and thus allow the roots to extend upwards, and the stems to acquire firmness before the pot is filled with soil.

GAS ESCAPING INTO A WELL: R. F. If the escape of gas was great, and the well not frequently opened, the water might become inimical both to animal and plant life. It is a question of degree of contamination.

MICE, SQUIBBLES, AND BULBS: B. S. W. Try traps for the mice, and the gun for squirrels. Perhaps both might be kept from the bulbs by accustomed



them to other food, say Barcelona Filberts, waste grain, &c. They eat the bulbs for lack of more suitable food.

NAMES OF FRUITS: *A. D.* 1, Betty Geeson?; 2, Scarlet Nonpareil; 3, Cox's Pomona.—*J. J.* Apple Carraway Russet.—*A Constant Reader.* Apple, Rosemary Russet.—*W. T. Holmes.* Pear, Uvedale's St. Germain.

NAMES OF PLANTS: *Constant Reader.* *Odontoglossum Rossi* var. *pallens*.—*F. A. L.* *Vanda Americana*.—*W. M. M., Ross.* 1, *Cypripedium insigne* Chautini; 2, *C. insigne* with broader petals than usual; 3, *Odontoglossum nebulosum*; 4, *Oncidium tigrinum*.—*A. W.* *Epidendrum ciliare*.—*Qms.* 1, *Cymbidium giganteum* or *C. Lowianum*; seed flower; 2, *Brassia verrucosa*; 3, *Oncidium sphaecelatum*; 4, *Zygopetalum Mackayii*.

ONCIDIUM: *H. Bailey.* Many thanks for inflorescence of *Oncidium chrysomorphum*; it is a very singular species.

PLUMS AND PEACHES: *A. M.* The distance between standard trees may range from 15 feet for most varieties of Peaches, and the weaker-growing Plums, to 17 feet for strong growers. At 15 feet apart, the number required per acre is 193; and at 17 feet, 150.

TEOMA SMITHI: *A. Cordonnier.* The treatment accorded to a *Casmelia* or to *Polygala Dalmanea* would suit this plant. Whilst small, it may be advisable, in some localities, to keep it in a cold frame facing south, from May to September. In most parts of your country it would make fine progress if it were planted out for the summer, or its pot sunk in the soil, or a bed of sand or gravel. In hot weather, daily syringing would be very necessary. We believe seed can be obtained at some seed-houses in this country. It must be as easy to grow as *Bignonia radicans*.

VILLE'S COMPOUND AND GRAPE VINES: *W. A. M.* If we take 5 oz of this compound as being a sufficiently powerful dressing for the soil to a depth of 6 inches, 30 oz, or nearly 2 lb, would be required for 1 cubic yard. If the border is made up all at one time, nearly all of this manure would be lost before many of the Vine-roots reached the parts where it was placed.

COMMUNICATIONS RECEIVED.—*A. W. Mayer,* Perchtoldsdorf.—*Kelly & Sons.*—*D. R. W.*—*J. W.*—*W. J. W.*—*G. J. J.*—*J. F. McL.*—*J. O'B.*—*G. F.*—*W. T.*—*W. T. T.*—*E. W. B.*—*C. de B.*—*E. H. K.*—*W. W.*—*J. L.*—*P. C. M.*—*Dacie.*—*H. C.*—*M. & W.*—*H. F.*—*T. Wood.*—*T. G. Bewick.*—*T. Hong Kong.*—*J. D.*—*A. D.*—*G. H.*—*J. Miles.*—*W. K.*—*J. G.*—*W. T.*—*J. J. W.*—*A. O.* (next week).—*E. C.*—*R. J. Lynch.*

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—*Lawson & Co.*—*Sander & Co.*—*M. Van den Heede,* Lille.—*Jouvet et Cie.,* Paris.—*L. Lambert*—*Baron v. Mueller,* Melbourne.—*Marchese Hanbury.*—*R. J. L.*

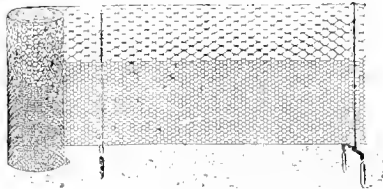
DIED.—*Mr. Jno MITCHELL,* nurseryman, Newton Stewart, last week, at the age of eighty-five years.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, increased to the extent of more than 80 per cent., and that it continues to increase weekly.*

Advertiser are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

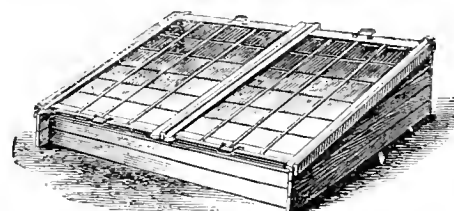
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Combined Mesh Wire Netting. Saves 20 per Cent. over ordinary Netting. Write for the New REDUCED PRICE LIST. IRON FENCES, GATES, TREE GUARDS, BLACK VARNISH, &c.

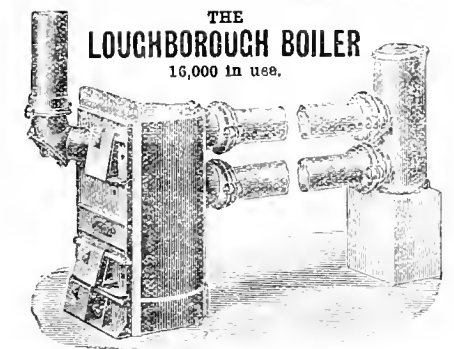


GREAT REDUCTION IN FRAMES OUR WELL-KNOWN MAKE.



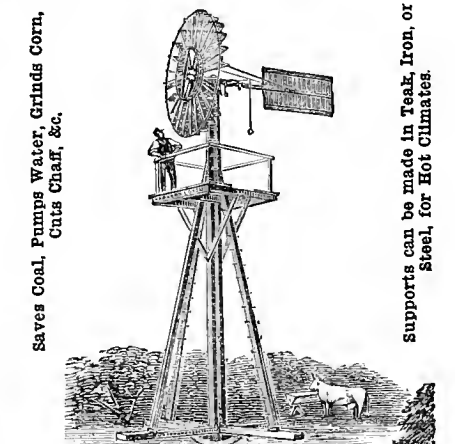
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Saves Coal. Pumps Water, Grinds Corn, Cuts Chaff, &c. Supports can be made in Teak, Iron, or Steel, for Hot Climates. Prices from £17, including Pump and Timber Supports. May 27, 1893, The Dell, Englefield Green, Surrey. ROBERT WARNER & Co., Engineers, 27, Jewin Crescent, E.C. Dear Sirs,—It affords me much pleasure to inform you the 25 ft. Annular Sail geared Windmill, on 40 feet timbers, working a set of 3 in. x 8 in. stroke treble pumps, that you fixed here for Baron Schröder, is giving very great satisfaction, pumping the water through 4,224 feet of pipe, to a vertical height of about 80 feet. I must also express my thorough appreciation of the manner in which the whole of the work has been so successfully carried out.—Yours faithfully, H. BALLANTINE, Head Gardener to Baron Schröder. R. WARNER & Co. have made and erected a similar Mill and set of Pumps for Lord Northbourne. NUMEROUS OTHER TESTIMONIALS ON APPLICATION TO 27, JEWIN CRESCENT, CRIPPLEGATE, LONDON, E.C. Engineering Works, WALTON-ON-THE-NAZE, ESSEX.

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 IN  
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In the 276 Prizes there were  
**146 FIRST PRIZES**  
 AND  
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 And in addition to these  
**5 SILVER MEDALS,**  
**1 BRONZE MEDAL,**  
 AND THE HIGHGATE  
**10-GUINEA CHALLENGE CUP.**

PRICE SAMPLE TIN 1/3  
 7lb 2/6 1/2 cwt 10/-  
 1 cwt 19/-

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**ORCHID PEAT**

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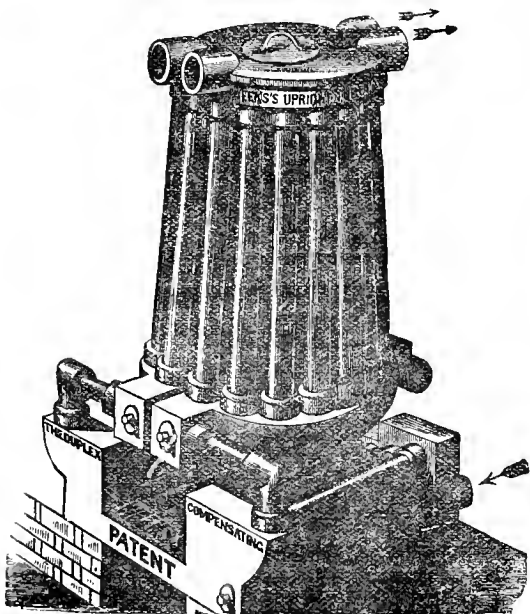
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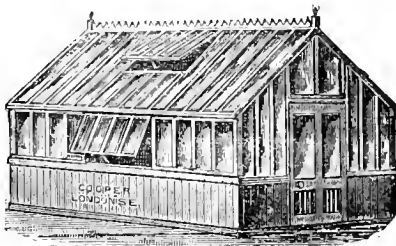
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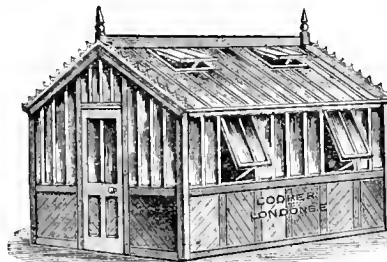
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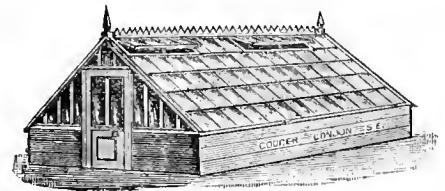
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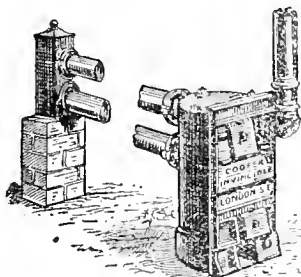
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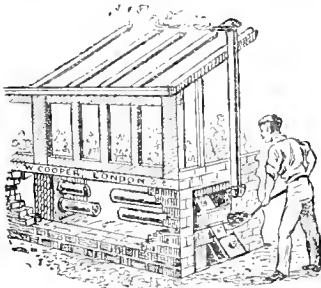
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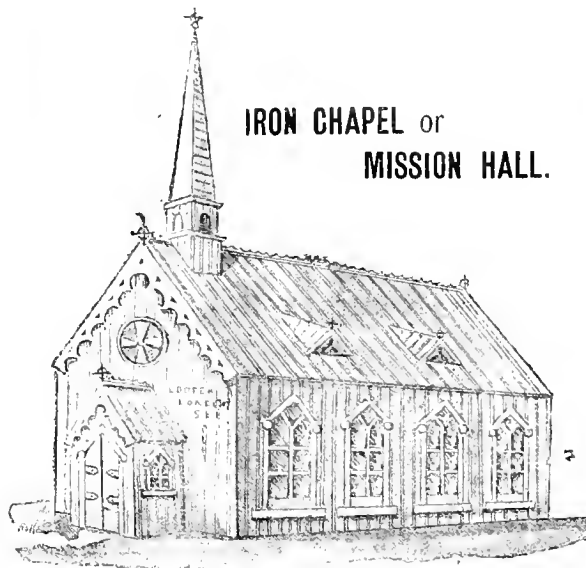
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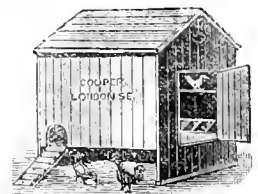
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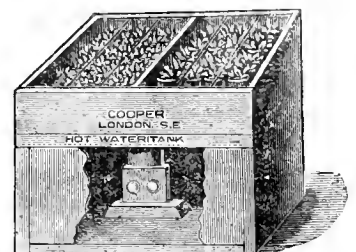
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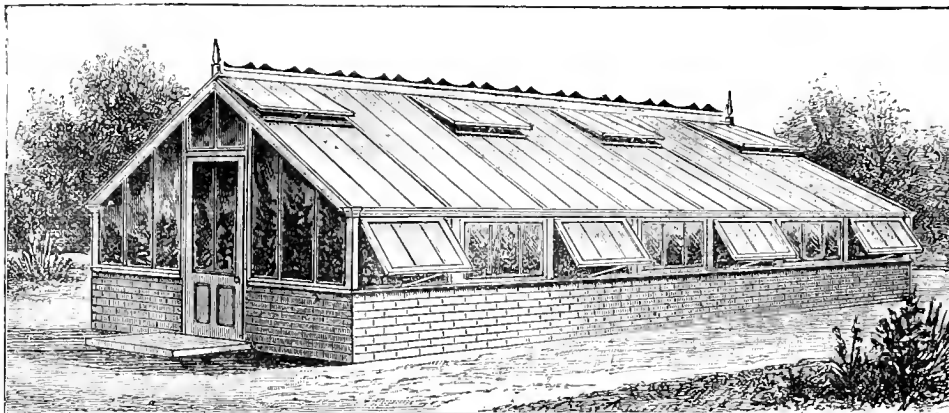
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## CONTENTS.

Aquilegia Shinoueri ... 86	Gardeners' Royal Benevolent Institution, annual meeting of the ... 81, 89
Aristolochia gigas Sturtevantii at Washington ... 87	Holland, new horticultural school at ... 84
Birds, wild, and the need of protecting them ... 87	Jasmine, the common ... 80
Book notice— The Orobidi hybrida ... 83	Orchids at Tytesfield ... 86
Buds on seedling plants ... 85	Oriental Lilies ... 75
Calanthes, winter-flowering ... 80	Photographing the invisible ... 83
Cedar, the, of Central Africa ... 72	Potatoes, new, for Christmas ... 82
Chamberlain's Garden, Mr. Chrysanthemums in Hoog Kong ... 76	Report of the Council of the Royal Horticultural Society ... 89
Committees of the Royal Horticultural Society ... 81	Societies— Obent Horticultural ... 84
Comber, presentation to Mr. Wm. ... 83	Royal Horticultural ... 87
Dahlia Society's Certificates, the National ... 87	Spruces, movements in the leaves of ... 82
Dendrobium Wardianum Eaton Hall Gardens ... 71	Steam rollers ... 87
Embankment Gardens, the Falkland Park, the gardens at ... 73	Tulip, a hybrid ... 83
Filmy Ferns for the Wardian case ... 78	Versailles School of Horticulture, the ... 75
Flowers' flowers ... 84	Week's work, the Flower garden, the ... 79
Fruit supply of Covent Garden ... 87	Fruits under glass ... 78
Fruits, &c., a year's importation of ... 82	Hardy fruit garden, the ... 78
Gaume v. timber ... 87	Kitchen garden, the ... 78
Hakea multinleata var. 85	Orchid houses, the ... 79
	Plants under glass ... 77
	Wild gardeos and pleasure-grounds ... 74
	Williams' memorial medals, the ... 82

## ILLUSTRATIONS.

Aristolochia gigas var. Sturtevantii at Washington ... 85
Hakea multinleata var. ... 85
Jasmine, fruits of the common ... 80
Odontoglossum coronarium ... 79
Odontoglossum Crested ... 77
View of the Orchid house in the Duke of Westminster's Garden. (Supplement.)

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HOPS! QUICKEST and HARDEST CLIMBERS in Cultivation.—Plant Hop Roots at once. This year will cover walls, fences, porches, arches, verandahs, trellis-work, or unsightly buildings. Will climb 20 feet in one season. Lovely sea-green foliage. Abundance yellow bloom August, September, October. Grow anywhere or anyhow. Six, post-free, P.O. 3s., with full instructions for planting; 12, 4s. 6d., 4 named varieties; 3s. 10s., 12 named varieties, flowering in succession. Three plants make one good stock, which last for years.—A. R. SIDNEY-WILMOT, Hop Grower, Mill Place, Colebrooke Park, Tonbridge, Kent.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 15 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Buds dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address: "Hortulanus, London." Telephone No 872.

SALES BY AUCTION.

WEDNESDAY NEXT.

IMPORTANT SALE.

A Choice Selection of Standard, Pyramid, and Dwarf-trained FRUIT TREES, including many of the leading sorts.

1000 Standard, Half-Standard, Dwarf, and Climbing ROSES, of named sorts, including many of the best, from an English nurseryman.

A Collection of Flowering Shrubs and Trees, CURRANT and GOOSEBERRY TREES, SPIRÆA JAPONICA, in quantity, ARUMS, &c.

An Extensive Collection of Carnations, Iris, Home-grown LILIUMS, LILY OF THE VALLEY CROWNS, LILUM AURATUM from Japan, BEGONIAS, Pearl and South African TUBEROSES.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, January 22, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next, January 18.

VALUABLE IMPORTED and ESTABLISHED ORCHIDS.

By order of Messrs. W. L. Lewis & Co.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, January 23, at half-past 12 o'clock precisely.

IMPORTED ORCHIDS,

Comprising Odontoglossum, Oncidium, Cattleya, Epidendrum, Sophronites, &c. Also Well-grown ESTABLISHED ORCHIDS, including Odontoglossum Pescatorei and G. cirrhosum, with flower-spikes; also five plants of *Lælia autumnalis* alba, *Lælia anceps*, *L. Arnoldiana*, *Oncidium concolor*, *Promaea citrina*.

On view morning of Sale, and Catalogues had.

Friday Next, January 24.

By order of Mr. P. McArthur, The London Nurseries.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY NEXT, January 24, at half-past 12 o'clock, a valuable importation of ORCHIDS, including some magnificent plants of

**CATTLEYA ELDOORADO SPLENDENS** and **WALLISII**. The collector describes them as follows: The coloured forms are larger, and of a more rosy tint, with the lip dark lilac, and the discs golden, edged with white. Numerous white varieties are among them. They are in perfect health, with fresh green leaves, and were found at an altitude of 1900 feet. They are very free flowering, and probably the finest type ever introduced into Europe. Also

**CATTLEYA MOSSIE**, THE TRUE CHIRGUENSIS, This is very scarce and of great value; the flowers are round and very handsome, of a bright rosy colour, and richly denticulated, with the labellum of a rich magenta colour, bordered with pale yellow. It is very free-flowering and a good grower. Found on cool, high mountains. Also

**CATTLEYA MOSSIE, VAR. MARIÆNSE**. A sweet-scented and very distinct variety, flowering in April and May, and of which the collector has sent all that he found. The flowers are very beautiful, with violet petals, light blue sepals, and a large labellum of velvet magenta, with rich purple border and white margin. Also,

**CATTLEYA LABIATA, NEW**. From the description sent, most probably a hybrid between *C. labiata* and *C. Mossie*, from which many very beautiful varieties may be expected. Also some remarkable specimens of the new **ONCIDIUM PAPILLO MAJUS**, and some selected strong plants of **CYNOCHES CBLOROCHILUM**, **ANGULOA RUCKERII**, &c.

In consequence of the revolution in Venezuela, the difficulties in procuring these plants have been enormous. The collector has had to hide in the forests during the day-time, and travel at night.

On view morning of Sale, and Catalogues had.

HEMEROCALLIS AURANTIACA MAJOR,

A Magnificent New Species,

ONE OF THE FINEST INTRODUCTIONS OF RECENT YEARS.

Large importation of 900 Clumps, just received from Japan. By order of Messrs. Bunting & Sons, the entire shipment being offered.

The Plant is described and figured in the *Gardeners' Chronicle*, July 20, 1895, where, on p. 62 Professor BAKER states that it is the finest *HEMEROCALLIS* he has seen. It has also been figured in the *Gardeners' Magazine* and *Journal of Horticulture* for August 17 and August 15, 1895, respectively, and is most highly spoken of in every report. It received F.-O. Certificates, Royal Hort. Soc., July 9, 1895, and also at the Manchester Royal Botanical Society, August 24, 1895.

A Coloured Plate will be on view at the time of Sale. Messrs. Bunting & Son were the first to introduce this valuable plant, receiving a few from Japan two years since, and the figure in the *Gardeners' Chronicle* was taken from a plant bloomed at their nurseries.

It is quite hardy and very vigorous, foliage deep green, flower spikes strong, bearing as many as twelve flowers in succession, 7 to 10 inches across, of a rich orange-yellow, quite distinct. The flowering period lasts from July to the end of August. It is in every way a most valuable acquisition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY, February 5, at Twelve o'clock.

On view morning of Sale, and Catalogues had.

SALES NEXT WEEK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., as follows:—

MONDAY, JANUARY 20.—75 *A. indica*, in bud; 50 *Camellias*, 36 *Palms*, and 100 *Lilium lanifolium* album, from the Continent; 300 dwarf *Roses*, Stove and Greenhouse Plants, hardy border Plants, Bulbs, &c.

TUESDAY, JANUARY 21.—High-class Perennials, many never offered before, thousands of *Carnations*, *Picoetes*, *Cypripediums*, *Iris*, &c., importations from the Western States, Caucasus, California, &c.

WEDNESDAY, JANUARY 22.—Imported Japanese *Lilies* in great variety, *Fruit Trees*, 50 lots of *Stove* and *Greenhouse Ferns*, 300 dwarf *Roses*, *Cannas*, *Gladioli*, *Iris*, *Asters*, *Dahlia*, *Anemones*, *doubla* and single *Begonias*, *home-grown Lilies*, *Pæonies*, double and single *Pyrethrum*, *Hollyhocks*, and *Carnations*, to vary.

THURSDAY, JANUARY 23.—125 double *Begonias*, to name; 100 red Moss *Boses*, 200 dwarf *Roses*, 310 *Azalea indica* and *nobilis*, 60 *Camellias*, 50 *Rhododendrons*, from the Continent; hardy perennials, *Carnations*, *Gladioli*, &c.,

FRIDAY, JANUARY 24.—Special Sale of hardy Perennials, *Tuberuses*, *Begonias*, *Dahlia*s, *Hollyhocks*, *New Carnations*, *Pæonies*, *Pyrethrum*, and *Ivies*, at 12 o'clock. On view mornings of Sale, and Catalogues had.

Friday Next.

By order of Messrs. W. L. Lewis & Co.

IMPORTED ORCHIDS.

In magnificent order, comprising—**ODONTOGLOSSUM ROSSII MAJUS**.—A wonderful lot, with large bulbs, in selected varieties.

**CATTLEYA CITRINA MAGNIFICA**.—A superior form, from a fresh locality; flowers with broader segments, and much more expanded.

**EPIDENDRUM VITELLINUM MAJUS**, with huge bulbs. A finer lot of plants have never before been offered by auction.

**CATTLEYA HARRISONÆ VIOLACEA**, including some well-leaved masses; together with **SOEPHONITIS GRANDIFLORA**, **ONCIDIUM MARSHALLIANUM**, and **G. CRISPUM GRANDIFLORUM**.

Also, 18 **CELOGYNES** of sorts, and IMPORTED ORCHIDS, from Messrs. F. Hoggan & Co.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY NEXT, January 24, 1896, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

County of Salop.—Oswestry and Whittington. VALUABLE FREEHOLD MESSUAGE, SHOP, AND NURSERY GARDEN.

To be offered for SALE by PUBLIC AUCTION, by MESSRS. WHITEFIELD AND SON, at the Queen's Hotel, Oswestry, on FRIDAY, JANUARY 24, 1896, at 4 P.M., punctually, subject to conditions to be then produced.

Lot 1.—All that FREEHOLD MESSUAGE, DWELLING-HOUSE, and SHOP, with the appurtenances thereunto belonging, situate, and being No. 6, The Cross, Oswestry.

Lot 2.—All that very desirable freehold NURSERY GARDEN and Gardener's COTTAGE, known by the name of "Rose Hill" Nursery, situate at Whittington, in the county of Salop, containing by admeasurement 4 acres or thereabouts.

The Nursery contains 14 Conservatories, Vineries, Peach-houses, &c., containing a total area of 11,000 square feet of glass; also Cool Frames, set in brick, containing an area of 1,200 square feet of glass. The Nursery comprises Gardens, Cottages, with Kitchen, Out-offices, and two Bedrooms. Also Potting Sheds, Stabling, Cart-house, with Store-room, and Propagating-house.

The premises afford every railway facility, being situate adjoining the Great Western Railway Station at Whittington, and within two minutes' walk of the Cambrian Railway Station, and are within 2 miles of the excellent market town of Oswestry. The whole of the above premises have been carried on as a Nursery for a period of over thirty years by Mr. Robert Porter.

The Nursery Stock, &c., and Shop Fixtures, may be taken to by the Purchaser, at the Auctioneer's valuation.

For Particulars and Plan, apply to the Auctioneers, Willow Street, Oswestry; and to Messrs. MARSHALL & HASLIP, Solicitors, 24, Martins Lane, Cannon Street, London; and to Messrs. MINSHALLS & PARRY-JONES, Solicitors, Oswestry.

ORCHIDS! ORCHIDS!

JOHN COWAN AND CO. are offering this week a large and splendid lot of ORCHIDS in flower and showing for flower; all are in the finest condition, and such as the Company can with confidence recommend.

The Company are also offering large and fine importations of VANDAS, CATTLEYAS, CYPRIPIEDUMS, DENDROBES, &c.

The Company expect to receive this week a large importation of MEXICAN ORCHIDS, including *Lælia Anceps MORON*, in large masses; *L. LIDA*, in large masses; *ODONTOGLOSSUM ROSSII MAJUS*, *EPIDENDRUM VITELLINUM MAJUS*, *CATTLEYA CITRINA*, &c.

Descriptive and Priced CATALOGUES of all these lots post-free on application to the Company.

THE VINEYARD and NURSERY, GARSTON, near LIVERPOOL.

WANTED, to RENT, GREENHOUSES, with or without Nursery or Garden Ground.—Terms and particulars to JOHN HEEREMANS, Langley Burrell, Chippenham.

WANTED, to RENT, LAND (2 to 4 acres), with Cottage and Glass, 100 to 200 feet. South. Moderate.

J. H. V., Mrs. Norman, Crossbrook Street, Cheshunt.

In Liquidation.

THE GUERNSEY and JERSEY FRUIT AND PRODUCE COMPANY, Limited.

The Liquidator of the above-named Company invites TENDERS for the PURCHASE of the ESTATE belonging to the above Company, situate in the Vale Road, Saint Sampson's Guernsey, which comprises the following glass-houses, viz.:—Lean-to, 242 by 23 feet and 124 feet 9 inches by 25 feet; two spans, 114 feet by 43 feet 6 inches and 160 by 16 feet; 12 spans in three batches, five Melon-houses and seedling-houses. The whole are fitted with hot-water pipes, boilers, boiler-houses, &c.

There are two engine-houses on the estate, and a packing shed. The estate is freehold, subject to a perpetual rental of £30 per annum, which can be redeemed if desired. At present let at £450 per annum, but possession will be given on completion of the purchase.

The growing crops, stock in trade, plant, and manure to be taken at a valuation.

Sealed tenders are to be sent to Mr. A. Harlow, of 5, Bishopsgate-street Within, E.C., the Liquidator, on the 25th day of January, 1896. A deposit of 10 per cent. to be paid within seven days of acceptance of tender. The Liquidator does not bind himself to accept the lowest or any tender.

TO LET.—NURSERY, consisting of 6 Span and 3 Lean-to Houses. Rent £20. Immediate possession. HODSON, Market Square, Retford.

NURSERY GROUND with GREENHOUSES &c., TO BE LET at £20 per annum; or 14½ years' lease at £10 ground rent, for SALE, price £50. Apply on the premises, late Hillier's Nursery, Reservoir Road, Enfield Road, Southgate, N.; or, Mr. DAVIS, 63, St. Martin's Lane, Charing Cross, S.W.

To Nurserymen, Fruit Growers, & Market Gardeners. TO LET, or SELL, extensive FREEHOLD MARKET NURSERY (Middlesex). Large number of modern Greenhouses, in full working order, and necessary Out-buildings, with about 30 acres of Market Garden Ground. Immediate possession. Principals only.—Apply, in first instance, letters only, 16, Jephson Road, Forest Gate, London.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 87 and 88, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

LIVE SPHAGNUM MOSS.—Clean, 5s. per bag.—BROWN PEAT FIBRE, 5s.; bags full. JOHN BYRNE, Fellside, Kendal.

DECLINING SHOWING.—For Sale—Alamanda, Asparagus tannissia, Bougainvillea, Clerodendron, Rondeletia, Vinca alba, Palms, and several Gleichenias; for particulars apply, ROBERT SHAW, Ellen Royd, Luddeuden-foot, via Manchester.

THE RAJAH EARLY POTATO.—Ten days earlier than Sharpe's Victor. Very prolific. Price, 3s. per stone. Trade price on application. J. E. DIXON, Seed Merchant, Gainsborough.

Beware of March Winds. TREE TOPPING.—Dangerous Trees lopped, topped, and taken down by experienced men. Distance no object. Apply—CARNE, Steam Saw Mills, Tooting, S.W.

ASPARAGUS, for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 8 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden. J. J. CLARK, Market Gardener, Goldstone, Brighton.

LILIUM AURATUM.—Importation just to hand in splendid condition; good flowering bulbs, 4s. per dozen; magnificent bulbs, 6s. per dozen, packed free for cash with order.—H. HEADLAND & CO., Old Road, Gravesend.

THORN QUICK.—Extra transplanted, and very strong, 5-yr., 25s. per 1000; 8-yr. 30s. Extra, extra strong gapping Quick, 40s. per 1000; 4-yr. old, very good, 16s. per 1000.—Apply to ISAAC MATTHEWS and SON, The Nurseries, Milton, Stoke-on-Trent, S.O.

Trade Price Current, 1896. PETER LAWSON AND SON, Limited, Edinburgh, have posted their ANNUAL CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS to their Customers; but should any not have been delivered, a duplicate copy will be sent upon application.

OWEN'S ROYAL CHRYSANTHEMUMS.—The best, cheapest, and most complete collection in the kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First-class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp. R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

B. R. DAVIS'S BEGONIA CATALOGUE contains 8 pages, being a Treatise on the cultivation and management of this popular flower. A MAGNIFICENT COLOURED PLATE of lovely double varieties with a copy of the Treatise, post free, 1s. Every one should see these before purchasing. B. R. DAVIS, Yeovil Nurseries, Somerset.

FOREST TREES, &c.—Ash, 4 to 5 ft., 30s.; Elm, 2 to 3 ft., 20s.; Spruce Fir, 2-yr., 2s. per 100, 9 to 10 in., 10s., 10 to 12 in., 12s.; Scotch Fir, 2 yrs., 2 yrs. tr., 8s., 14s.; 2 to 2½ ft., 20s.; Hazel, 2 ft., 18s.; Blackthorn, 2 to 2½ ft., extra, 24s.; Myrabolo Plum, fine, 12 to 18 in., 12s.; Thorns, 3 to 4 ft., 20s., 4 to 5 ft., 30s.; Silver Fir, 3 yrs., 6s. per 100; P. Laricio, 2 yrs., 5s.; Prunus pissardi, 3 to 3½ ft., 6s. per doz.; Acer Negundo var., 2½ ft., 6s. per doz.; Yucca Gloriosa, 10 in., 30s. per 100; Y. filamentosa, 10 in., 30s. per 100; Laurel Colchic, 1½ ft., 6s. per 100, 40 to 2½ ft., 12s.; Cup. Erecta Viridis, 2 to 2½ ft., 30s. per 100, 4 to 5 ft., 60s. GARDNER MITCHELL, Nurseryman, Stranraer.



EXHIBITIONS.

GRAND FLORAL FÊTE, YORK.— June 17, 18, and 19, 1896. PRIZES, £650. Schedules ready February 1. Apply to Harker's Hotel, York. CHAS. W. SIMMONS, Sec.

SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN. From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony. For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden. O. LAMMERHIRT, 7, Glacisstrasse, Dresden, N. Die Commission: G. KRAUSE, I. VORS.; T. J. SEIDEL, II. VORS.

PRELIMINARY ANNOUNCEMENT.

A GRAND

HORTICULTURAL SHOW AND FETE

WILL BE HELD

AT CHESTER, in AUGUST NEXT.

£400 in PRIZES WILL BE AWARDED FOR THE HORTICULTURAL DEPARTMENT.

Schedules may be obtained from the Secretary, Mr. E. ANDREWS, Crypt Chambers, Eastgate Row, Chester.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CUCUMBER-SEED.—Five Ounces of Telegraph; also Eight Ounces of Lockie's Perfection. What offers?—T. GRANT, Bawtry.

MILLER'S ST. DAVID LEEK (new), the largest, handsomest, and best Leek for Exhibition or General Use. Everybody should grow it, 6d. and 1s. per packet. Seed CATALOGUE free. F. MILLER and CO., 267, Fulham Road, London, S.W.

FOR SALE, GARDENERS' CHRONICLE, nicely bound, and in perfect order for 1873, 1874, 1875, 1877, 1878, 1879, and 1880. Also half year 1876.—Best offer to LUMSDEN, Bloxholm, Lincoln.

FROGMORE SELECTED TOMATO PLANTS.—Strong, vigorous, and healthy, in 60's, fit for immediate planting-out.—A. PENTNEY, Worton Hall Gardens, Isleworth.

DAMSONS.—Fine Standards, transplanted and staked. PEACHES and NECTARINES.—Fruiting Standard-trained, Dwarf-trained, and Maidens. CHERRIES.—Standards, Dwarf-trained, and Maidens. APPLES and PEARS.—Well spurred Cordons. GRAPE VINES, and FIGS.—In pots. ROSES.—Fine bushes of the best. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

BOX'S BEAUTIFUL BEGONIAS.—Quality and Quantity. Seed of Singles, 1s., 2s. 6d., and 5s.; of Doubles, 1s. 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers to colour for Bedding, from 20s. per 100. Choice Hybrids for pots, 7s. 6d. to 42s. per doz. Illustrated Price List and Pamphlet Gratis.—JOHN R. BOX, Begonia Grower, Croydon.

P. J. PERRY, THE NURSERIES, BANBURY, offers, very cheap, to clear, fine Wellingtonia, 6 to 8 feet; extra strong Standard Laburnum, 11 to 12 feet; 6ae Sycamore, 12 to 14 feet; Poplars of sorts, 14 to 16 feet; English Elm, 10 to 12 feet; Red Twigged Limes, from layers, from 10 to 12 feet; English Oak, 6 to 8 ft.; Turkey Oak, 5 to 7 ft. All safe to remove. Lowest price on application.

SMALL SHRUBS and CONIFERÆ.—Abies Douglasii, 1-yr., 2s. 6d. per 100; A. nobilis, 1-yr., 5s.; Cup. macrocarpa, 5 to 9 in., 8s. per 100; C. erecta, 4 to 6 in., 30s. per 1000; S. in. 40s.; C. alba, 6 in., 6s.; C. gracilis, 6 in., 6s.; Honeysuckle, 1 ft., 6s.; Ivy, Irish, 15 to 18 in., 6s.; Pinus cembra, 5 to 8 in., 60s. per 1000; Ret. Plamosa, 6 in., 40s. per 1000; B. squarrosa, 6 in., 40s.; Thuja Lobbii, 13 to 15 in., 30s. per 1000. GARLIES MITCHELL, Nurseryman, Stranraer.

FERNS and DECORATIVE PLANTS.—(TRADE).—Ferns, in 2½-inch pots. Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperna, Aralias, Grevillea, Solanums, in 48's, 6s. doz.; Marguerites, Solanums, Erica gracilis, in bloom, in 48's, 9s. doz.; Ficus, Palms, Dracenas, Crotons, Bouvardias, Erica hyemalis, and Cyclamen, in bloom, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

DEEGEN'S WHITE MARECHAL NIEL TEA ROSE. (FRANZ DEEGEN, JUNR.) Celebrated Novelty in Roses of Our OWN Culture. 1 ORIGINAL CROWN TREE, from last year's free land culture, strong, 1—1.50 metre high, at 30s. 1 GULANT, with sleeping eye, low grafted, 6s.; 10 for 50s.; 100 for 490s. 5 EYES, for grafting, 16s.; 10 Eyes, 30s.; 100 Eyes, 275s. 1 WINTER-GRAFTING, in pot, 8s.; 10 for 70s. Order for Cash promptly attended to. FRANZ DEEGEN, Junr., Rose Grower, KOSTRITZ, THURINGIA, GERMANY.

ORCHIDS

of every description, from 1s. each. RARE PLANTS at LOW PRICES. Sent on application. Catalogue free. Agents for The West's Patent Orchid-baskets. Teak rods at reduced prices.

THE LEEDS ORCHID CO.

ROUNDHAY, LEEDS.

To the Orchid Trade.

J. A. McDOWELL & Co., City of Mexico, beg to call attention of the Horticultural Trade to their LIST of MEXICAN ORCHIDS; the prices annexed include freight to London to Messrs. WATSON & SCULL, 90, Lower Thames Street, London, E.C., to whom orders and remittances may be sent, and duplicate orders to J. A. McDOWELL & Co., Mexico City. A Price List of Rubs, Cactus, and other Plants will be sent to those who apply. Orders for Orchids should be placed now, as it is the best time for shipping and collecting.

Table listing orchid species and prices, including Brassavola glauca, Cattleya citrina, Epidendrum falca, Lælia autumnalis, and Oncidium tigrinum.

SEED CATALOGUE.

CONTAINING AN UNUSUAL AMOUNT OF INFORMATION, as under—

MEDICAL QUALITIES OF CERTAIN VEGETABLES,

VERY PRACTICAL INSTRUCTIONS for

FORCING, STORING, AND PREPARING FOR THE TABLE VARIOUS VEGETABLES.

The Best Sorts of Vegetables & Flowers.

These are very clearly indicated, and Coarse Vegetables deprecated.

CATALOGUE, containing 83 pp., with numerous Illustrations and Order-sheet, free on application.

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INDIAN ORCHIDS, BULBS, SEEDS, &c.

COSSIPORE PRACTICAL INSTITUTION of HORTICULTURE, FLORICULTURE, and AGRICULTURE, Cossipore, P.O., Calcutta, is the largest and most reliable house where all sorts of INDIAN SEEDS, including those of Timber Trees, Fruits, Shrubs, Vegetables, and Flowering Plants; INDIAN ORCHIDS, viz., Dendrobium, Vandas, Cypripediums, Bletia, Saccolabium, Aerides, Cymbidium, and INDIAN BULBS, &c., can be had in large quantities. PRICE LIST post-free on application to the Superintendent.

JOHN RUSSELL

Offers from his unrivalled stocks,

SEAKALE,

Extra strong roots for forcing and planting, and the new variety, LILY WHITE, in various sizes.

ASPARAGUS,

MORTLAKE GIANT, CONNOVER'S COLOSSAL, &c., in extra strong forcing and planting roots.

Exceptional terms on application.

Kindly write for Seed and other CATALOGUES.

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ALSO—

THE "OLD NURSERIES," BRENTWOD, ESSEX, &c. AREA OF NURSERIES, 150 ACRES.

CUCUMBER SEED.—The Roehford (true to name, as last year), 5s. per 100. Cash with order, to R. J. WICKHAM, Grower, Satton-Scotney, Hants.

EALING DEAN NURSERIES.—About 300 ft. by about 45 ft.; covered with 17 Houses in bad repair; 8000 ft. of glass; 99 years' lease; ground rent, £2 per annum. Price, £250; nearly all may remain at 5 per cent. to a respectable purchaser. M., Dormers Wells, Southall, Middlesex.

Forty-first Annual Issue.

W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, begs to announce that the SUPPLEMENT to his CATALOGUE of FLOWER SEEDS for the present season is now ready, and may be had free on prepaid application. It includes an unusually large number of New and Rare Seeds of great interest to Amateurs of Plants.

ROSES for Sale, G. de Dijon, 6s. per doz., strong plants; Teas and W. A. Richardson and M. Niel, some of each, 7s. per doz.; H.P., 5s. per doz.; Manetti Stocks, well-rooted, 20s. per 1000. Cash with order, W. MAGNESS, King's Acre, Hereford.

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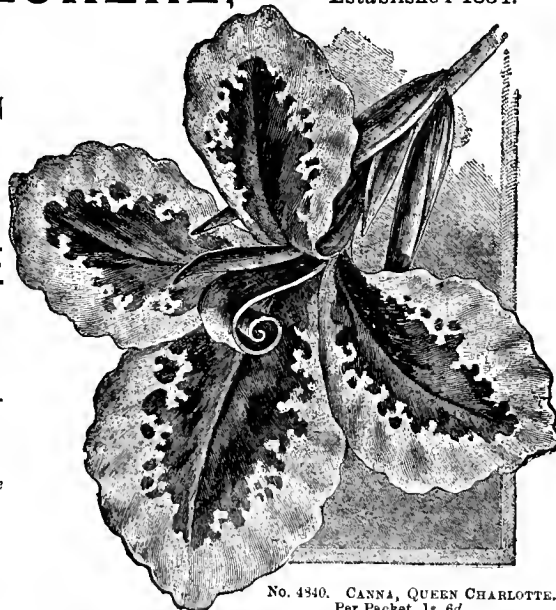
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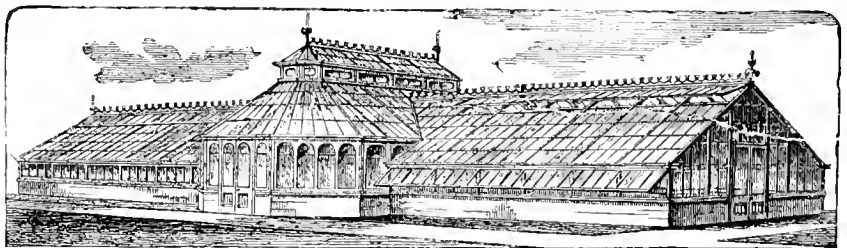
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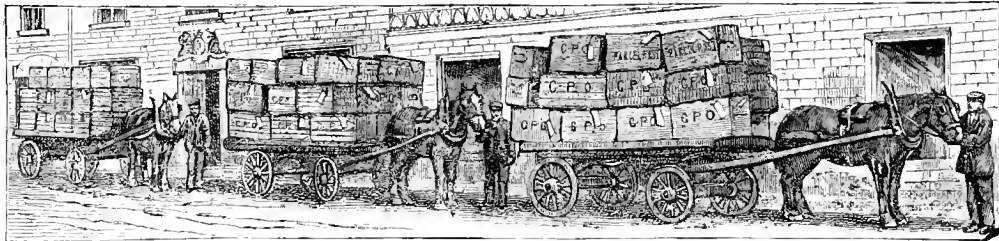
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 "An excellent early variety, especially adapted for forcing or early work in frames. The Peas have the true marrowfat flavour."—Mr. O. H. COPE, *The Gardens, Holnest Park.*

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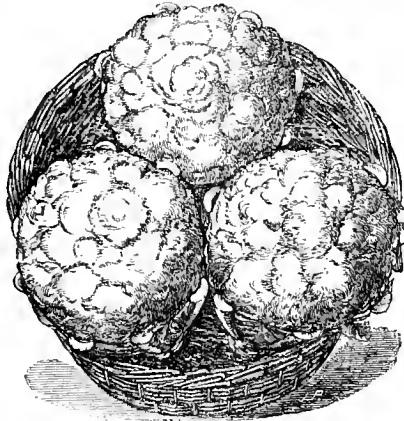
A new dwarf early Marrowfat, the haulm attaining to about 15 inches in height, and heavily cropped with massive pods. Per packet, 2s. 6d.  
 "A robust dwarf early Pea, of excellent quality, and a profuse cropper. In every way a most desirable variety."—Mr. C. LLOYD, *The Gardens, Coversham Park.*

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The largest-podded Pea yet raised. Will prove a formidable competitor on the exhibition stage. Pods covered with a dense bloom and filled with dark-green peas. Per packet, 2s. 6d.

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## CAULIFLOWER, Veitch's Extra Early Forcing.

*First-class Certificate, Royal Horticultural Society.*  
 Of dwarf, compact habit, with short stems and small leaves. Highly recommended for forcing or very early use. Per packet, 1s. 6d. and 2s. 6d.

A Gardener writing to the "Journal of Horticulture," last week, says:—  
 "For many years the variety of Cauliflower I depended on for an early supply was Dwarf Erfurt, but this has been superseded by VEITCH'S EARLY FORCING. I have cut heads of this off a west border in the end of May, and have continued cutting from the same sowing all through June. This variety has the invaluable property of producing, in addition to a central head, three to four others that are ready to cut a week to a fortnight after the former. I am acquainted with no other that possesses the like habit of second heading, and in this respect alone, if for no other, the variety is worth attention."

*Illustrated & Descriptive Catalogue post-free on application*

**JAMES VEITCH & SONS**  
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# THE Gardeners' Chronicle.

SATURDAY, JANUARY 18, 1896.

EATON HALL.

[SEE SUPPLEMENTARY ILLUSTRATION.]

THIS princely estate, with its magnificent mansion and beautiful gardens and pleasure-ground, is known throughout the world, it being visited yearly by people from almost every habitable part of the globe. The gardens have been greatly improved in all departments of late years, and at the present time there is to be seen in the various houses a large display of flowering plants artistically arranged. The Orchids just now are well worth a visit; the various Orchids in flower are arranged in a span-roofed house built of teak, which is 80 feet long, about 18 feet wide, with a walk running down the centre. The side stages are covered with plants of Orchids in flower set on a groundwork of various Adiantums, to which there is an edging of *Panicum variegatum*; and from the roof hang baskets filled with the beautiful *Asparagus reflexus*—the whole having a very charming appearance. The dull brown teak-wood rafters and transoms contrast, and show off the colour of the flowers in a telling manner. Here are many hundreds of flowering spikes of *Calanthes*, viz., *Veitchii*, *oculata* var. *lutea*, *oculata* var. *rubra*, the gracefully arching flower-spikes intermingling with those of *Odontoglossum*, *Cypripediums*, *Angraecum sesquipedale*, the bright *Sophronis grandiflora*, *Masdevallia tovarensis*, *Lælia anceps*, and the favourite species, *Vanda cœrulea*. The above names do not include a tithe of the display, there being many varieties of each species, and all are in perfection at the present time. A display will be kept up for some time yet, for there are several well-grown *Lælias*, *Cattleyas*, *Odontoglossums*, *Dendrobiums*, &c., in the various houses, which show numerous flower-spikes that will shortly succeed the others. Other glass-houses contain displays of various winter flowers, one house being made gay with *Freeseas*, *Tulips* in variety, *Lily of the Valley*, *Roman Hyacinths*, a magnificent strain of *Cyclamen persicum grandiflorum*, *Sutton's Butterfly* being one that is particularly fine; these are in bloom in dozens, beautifully arranged.

Another span-roofed house forms a contrast with the last-named, the plants employed being *Roman Hyacinth*, *Narcissus*, *Azalea Deutsche Perle*, *Rhododendron præcox*, yellow and white-flowered *Chrysanthemums* in 4½-inch pots, and quite dwarf in stature; *Freesia refracta*, *Daphne indica* in variety, *Colosias*, very fine for so late in the season; *Boronia megastigma*, dwarf varieties of *Canna*, very fine for this season; and very conspicuous, a beautiful hybrid, warm-house *Rhododendron*, *Duchess of Westminster*, which

# Williams

STERLING  
 NOVELTIES for 1896.  
 Our own introduction—now offered for the first time.  
 Post Free.

## BEAN, DWARF FRENCH, WILLIAMS' EARLIEST OF ALL.

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looks as if it were a cross between *R. Princess Royal* and *R. jasminæformis*. It is a free-flowering plant, the flowers of a soft rose colour. These various subjects are capitably arranged with various fragrant species of *Pelargonium*; the combination of odours and the blending of the colours of the various plants are exceedingly grateful to the senses. The house of aquatic plants has a water-tank in the middle, and staging at the sides, on which flowering plants in variety are arranged in batches of twelve or more of one kind that are intermingled with foliage plants. There were remarked here plants of *Euphorbia* (*Poinsettia*), *Justicia speciosa*, *Centropogon Lucyanus*, *Reinwardtia* (*Linum*) *trigynum*, *Gesneria* in variety, *Begonias Gloire de Soeaux* and *Gloire de Lorraine*. The long corridor is at present gay with plants of *Chrysanthemums* in leading varieties, well grown, properly flowered, and arranged with good taste. Two very useful plants should be named which are trained over the roof of this corridor, and which form a conspicuous feature at this season, viz., *Acacia dealbata* and *Cassia oorymbosa*. These plants are of very large dimensions, and they are covered with flowers in profusion, the distinct brightness of the two shades of yellow coming out very effectively. There are besides houses filled with *Tree Marguerite*, and *Souvenir de la Malmaison Carnations*, fine seedling forms being prominent among the first-named, which are in flower. The last-named is cultivated in thousands, the plants being as good as one could desire. They range in size from cuttings to large specimens, consisting of thirty growths and more, clean, robust, and healthy, and furnished with luxuriant foliage down to the soil, and without a trace of disease. Quite an acre of *Carnation* is grown outside, consisting of the leading varieties. I noticed in the house enormous quantities of *Richardias*, *Lilium longiflorum* *Harrisii*, *Salvias* in variety, *Justicia flava*, *Plumbago rosea* var. *coccinea*, *Bouvardias*, *Pelargoniums*, *Gardenia grandiflora*, &c., and *Ixoras* which are grown by the thousand to meet the enormous demand for out blooms for decorative uses. The number of plants, of *Lilac*, *Azalea mollis*, *Staphylea*, *Gueldres Roses*, and other shrubs suitable for forcing is very great. The *Hyacinth*, *Tulip*, *Narcissus*, *Lily of the Valley* are forced in great numbers.

#### FRUIT HOUSES, &c.

These, as may be imagined, are very extensive, the demand for fruit being a very large one, and it was easy to note that everything connected with fruit culture seemed to be in proper order, with cleanliness and good management visible on every side. The ordinary department of the gardens is amply furnished with everything required by the enormous consumption of the place, and necessarily it is well attended to. The very extensive grounds are in the best of keeping, and the various flower gardens received much attention at Mr. Barnes' hands, everything being well done, both as regards the summer and spring bedding.

The owner does not raise all these enormous quantities of flowers, fruits, &c., for his sole pleasure, but large quantities of flowers are given away to various charitable institutions; one recent act of generosity we read in the *Daily Telegraph* of December 26, was to give to St. George's Hospital, London, hot-house flowers to profusely decorate the various wards, many of which came from Eaton Hall. His Grace was also the donor of wine and game, an example that might be followed by many other gentlemen of large means.

Great praise is due to Mr. N. F. Barnes, the head gardener at Eaton Hall, for the many improvements he has made in the gardens. A. Outram.

#### THE "CEDAR" OF CENTRAL AFRICA.

In Commissioner Johnston's report of the first three years' administration of the eastern portion of British Central Africa, there is a sketch-map showing the agricultural condition of this country and the extent of such forests as yet remain. Mr. Johnston says:—The dense forests are now mainly confined to certain hilly regions, where local circumstances protect them to some extent from destruction by bush-fires. They are always associated also with either an unusual rain-supply, or with the presence of underground springs. Slightly stagnant or surface water appears to contain too many salts in solution to be favourable to the growth of forest, and such forests as are usually found growing near swampy districts are Palm thickets. There is one magnificent forest of *Raphia Palms*—one of the grandest sights I have ever seen in the vegetable world—near Jumbo's town, Kota-Kota, in the valley of a sluggish stream flowing into the Bua. As a remarkable feature peculiar to British Central Africa should be noted the splendid "Cedar" forests on the upper plateau of Mlanje. Until the explorations of Mr. Alexander Whyte, the naturalist attached to my administration, it was not known that any Conifer existed in Central Africa south of Abyssinia, and north of the Drakensberg, with the exception of a few small Juniper bushes discovered by Mr. Thompson growing on Mount Kenia and one or two other heights in Equatorial Africa. The existence of Conifers on the top of Mlanje was first reported by the Rev. Robert Clelland, a missionary belonging to the Church of Scotland Mission. Not much heed was given, however, to this news, because no specimens were sent home for identification. But, undoubtedly, Mr. Clelland's information put us on the scent, and one of the first things I attempted on arriving here in 1891 was to have the upper plateau of Mlanje explored. As a consequence, Mr. Whyte discovered the grand Conifer of the genus *Widdringtonia*, to which his name was given. An account of this tree, and the circumstances of finding it, were given in an earlier report of mine printed by the Foreign Office. This *Widdringtonia* would appear to be nearest allied to the *Cypresses*, as it unquestionably is by the shape of its seed-vessels, and the nature of its foliage; at the same time, it is widely different from the *Cypresses* in shape and size, and far more resembles the Cedar, both in appearance and in the fragrant smell of its timber. It would seem now as though there were two different species of *Widdringtonia* growing on Mlanje, one a very lofty tree, reaching fully to 130 feet in height, and the other scarcely exceeding 30 or 40 feet, and growing in a very straggling habit. There is a slight difference in the foliage of the two species. We have not yet been able to get the dwarf species identified, but hope to do so before long. In regard to this *Widdringtonia*, I might mention that Mr. Whyte has spared no efforts to introduce, or, let us say, re-introduce, its growth into all parts of the Shire highlands above 3000 feet in altitude. The tree would appear to flourish at a relatively low altitude, inasmuch as those planted in the grounds at Zomba, below the Residency, at an altitude not exceeding 2900 feet above the sea, leave nothing to be desired as regards their vigour of growth, some of the young seedlings having attained a height of 5 feet in two years. Mr. Sharpe believes that he has seen a *Widdringtonia* growing on one or two of the more inaccessible peaks of Zomba, and judging from what I could see through a field-glass, I think he is right in his opinion. Nowhere else, however, throughout British Central Africa, or in the adjoining regions, has anyone reported the existence of this Conifer. Baron von Eltz has made an active search over the lofty Livingstonia Mountains, at the north end of the lake, but has failed to find anything of the kind.

As an example of the rapid application to practical usefulness to which we have put this discovery of Mr. Whyte's, I may mention that, whereas the definite existence of the tree was only first made known in October of 1891, in June, 1893, Captain Johnson, commanding the Indian troops at Mlanje, was having the dead trees sawn up into logs, which were being sold to advantage in Blantyre; and, later on, in the autumn of 1893, enough Cedar-wood was supplied from Mlanje to re-roof the whole of the Residency and its attendant buildings at Zomba, besides which a great many useful articles of furniture have been made of the wood. *Timber Trades' Journal*.

#### MR. CHAMBERLAIN'S GARDEN.

THE collection of Orchids at Highbury has been the subject of many a note in the *Gardeners' Chronicle*, and is famed for its representative and choice character. It happens, though, that Orchids, whilst exceptionally showy in most instances when in flower, are not to be seen in bloom in large quantity at all seasons of the year. When the writer then, on a day last autumn, visited Mr. Chamberlain's garden for the first time, and had the pleasure to inspect the collection in company of Mr. Barberry, very few species were to be seen in the only stage when an Orchid is interesting to the ordinary individual. A gardener, however, is not insensible to the pleasure and profit to be derived from an examination of a collection of any species of plants, though flowerless at the time, providing it exhibits careful and successful culture, and to this fact it was due that my visit to Highbury was not—so far as the Orchids were concerned—devoid of instruction.

One of the chief delights I experienced, however, was that obtained from the corridor, into which most of the houses open, and which serves to connect them with a charming fernery, thence a conservatory, and finally with Mr. Chamberlain's drawing-room. This corridor is of considerable length, but very moderate in width, and it was pretty and remarkable, because more care had been taken to furnish it with climbers, and to tend them, than is exercised in the case of similar structures in many instances that occur to my mind. Speaking from memory, I cannot recall all the suitable plants that were included, but amongst them I well remember the *Fuchsias* in several varieties, *Daturas* (*Brugmansia*), single and double white; *Pasiflora* (*Tacsonia*) *Vau-Volxemii*, *Plumbago capensis*, and *P. c. alba*; whilst several of the various and beautifully-coloured *Ipomoeas* were among the most effective of all. Then there were *Cestrum* (*Habrothamnus*), *Lapagerias*, *White Jasmines*, *rosea*, &c.; and *Abutilons*. The temperature of the structure is evidently an intermediate one, in summer becoming very warm, or such a place there is, of course, most abundant material, and of very choice description, wherewith to make it beautiful, and to many minds more charming and interesting than many a conservatory. There are the *Dipladenias*, *Gloriosas*, *Bignonias*, *Allamandas*, *Aristolochias*, *Schubertia grandiflora*, *Thunbergia Harrisii*, *Combretum purpureum*, *Cissus discolor*, *Clerodendrons*, *Bougainvilleas*, *Pergularia odoratissima*, *Stigmaphyllon ciliatum*, with yellow flowers, closely resembling at a distance those of an *Oncidium*, and *Tecomae*. If there is not sufficient heat for some of the foregoing, there still remains the cooler species, such as *Cissanthus Dampieri*, *Clematis indivisa lobata*, many of the *Bignonias*, *Cobbeas* *Kennedya Trachelospermum* (*Rhynchospermum*) *jasminoides*, *Swainsonias*, *Hibbertia Cuninghamsii*, *Fagelia bitanica*, *Mandevilla suaveolens*, *Thibaudia acuminata*, *Acacia Kiceana*, *Sollya heterophylla*, and others.

Mistakes in the culture of climbers are most commonly the following. Too close planting, insufficient attention to watering and feeding the roots and to thinning the growths adequately and at the proper time. Then in some cases is the additional one of allowing them to become infested with fly, thrip, or other injurious pest. In the matter of selection, only the most beautiful, and those best suited to the

structure, should be planted, thick planting avoided, or it will afterwards be impossible to keep each to itself. Never allow the growths to become crowded, but thin them out as required, always cutting away the weakest, and leaving the others either their whole length (as is necessary in most cases), or sufficiently long to hang gracefully from their support. Attend constantly to the watering of the borders, that these are not allowed to sodden, neither become too dry, and afford a little fertilising manure as often as the case may require it. Above all, keep the plants scrupulously clean, and any gardener who has a structure suitable for the culture of climbing or pillar plants, by planting now, and treating them afterwards with care, will be pleased with the result.

Another striking feature of Mr. Chamberlain's garden is this: never have I noticed a place where more has been made of the land available than at High-

ARISTOLOCHIA GIGAS STURTEVANTH AT WASHINGTON.

Our readers are indebted to Mr. A. Dimmick, of Messrs. F. Sander & Co.'s, St. Albans, for affording them the opportunity of seeing how well this showy creeper does in the warmer parts of the United States. He saw the plant illustrated (fig. 10) growing last summer on a fence surrounding the President's garden at Washington, D.C. It produced more than a hundred well-expanded flowers, and created quite a sensation among the numerous visitors to the gardens. Our readers will not wonder at this when they recall the gigantic size and quaint form of the flower, and its singular colouring and markings. An excellent figure of the species in question was given in these pages on November 7, 1891, taken from a flower shown at a meeting of the Royal Horticultural Society by the Director of the

flowers; a green-leaved *Tradescantia zebrina*, growing along the borders made an effective contrast.

*Clematis integrifolia lobata* forms a fine feature here in the early spring, but at the time of my visit it had been taken outside through one of the ventilators and allowed to make its growth there. It is taken inside before the approach of winter, and under this treatment, most satisfactory results are obtained.

Directing our steps to other glass structures, we first enter the orchard-house, some 220 feet in length, filled with Apple and Plum trees, whilst Peaches and Nectarines in the best varieties grow on the wall at the back of this structure, and carry good crops. The Waterloo Peach is the best early Peach here; it has a higher colour and better flavour than Alexander, and has a stronger constitution. Amongst Nectarines, Pine-apple, Lord Napier, and Victoria carried good crops last year. Pine-apple is found to be a little earlier than Victoria.

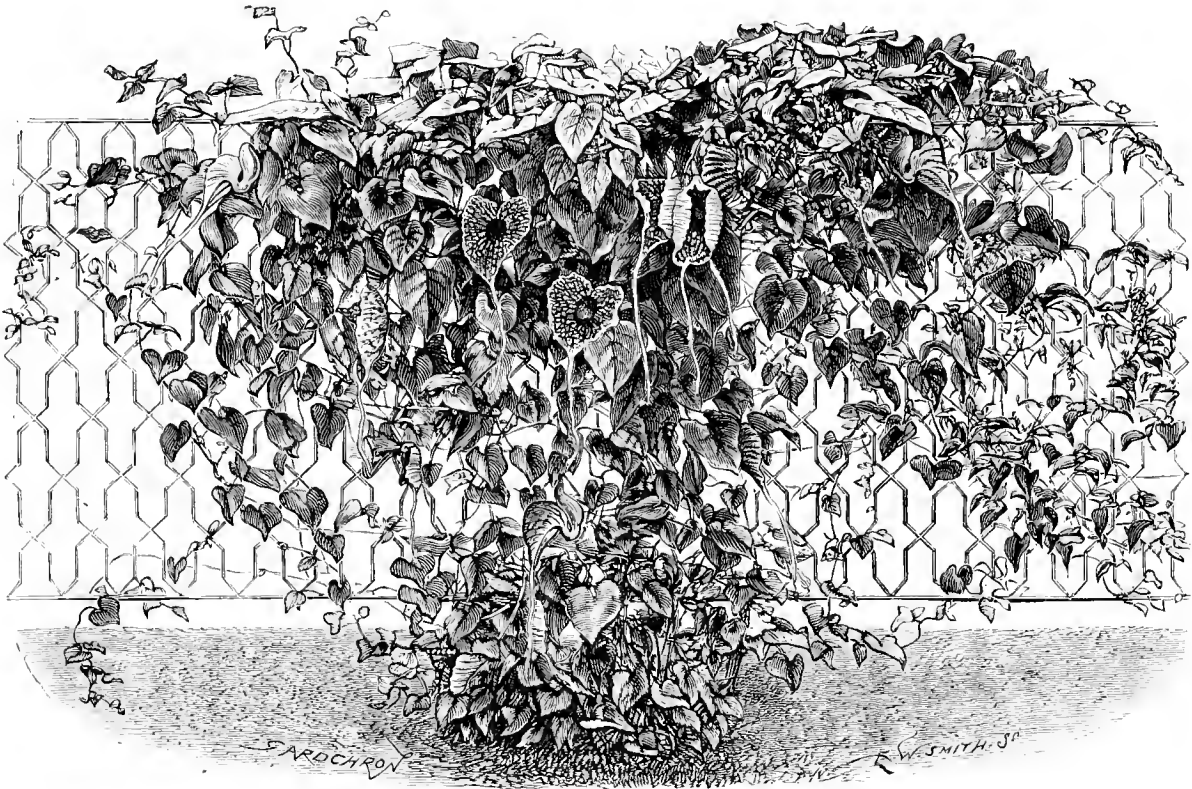


FIG. 10.—ARISTOLOCHIA GIGAS STURTEVANTH: GREATLY REDUCED.

bury, where, in a space of about 110 acres, there has been made a very fair garden, with numerous plant and fruit-houses, kitchen garden, Rose garden, and seemingly (by reason of the plans of the garden architect) extensive pleasure-grounds. Then there is a model farm and dairy, and some excellent meadow-land, in which were some well-bred cows.

The pleasure grounds for the greater part consist of a belt or girdle, and the meadows are encircled by this. Longer walks are thereby obtained, which one would not expect to find, and there is plenty of water. The grounds are very undulated, and from the house with its pretty front garden, there are several distant views. Mr. Deacon has charge of the establishment, excepting the Orchids, and he has overhauled the Rose garden, and effected other improvements. The gardeners are well backed by the enthusiasm and interest which Mr. Chamberlain himself exhibits. During the summer months the meadows are frequently lent as a playground or camping-place for Sunday schools, religious, and other societies in and around Birmingham, and it was so on the occasion of my visit. P.

Royal Garden, Kew. This flower measured in breadth 18 inches, in length 23 inches, and was furnished with a tail of 34 inches in length. It was shown as *A. grandiflora*, but was afterwards determined to be *A. gigas*. At Kew, the species is grown in the Victoria-house.

FALKLAND PARK, SOUTH NORWOOD HILL.

(Continued from p. 49.)

THE fine corridor (previously briefly referred to) connecting the plant-structures, was attractive with flowering and foliage subjects. Here were *Solanum jasminoides* perfectly wreathed over with its pretty bluish-white flowers; *Pelargonium* 7 to 8 feet in height, covered with flowers; *Heliotropes* much higher, and as profusely bloomed; *Passiflora Imperatrice Eugénie*, *P. Comte Kessiloff*, a very free-flowering garden hybrid, stamens purple, tipped with white, and light purplish petals; *Fuchsias* in good variety and well-flowered; *Lasiandra macrantha*, *Tropæolum Ball of Fire*, with its glowing scarlet

Cherries on trees in pots, and planted out, fruit fairly well here, the varieties being May Duke and Governor Wood. Brown Turkey Fig is bearing a fine crop of fruit.

In the vinerie here (some sixty years old) Black Hamburgh and Muscat of Alexandria Grapes were in good condition, carrying good crops of useful bunches; the Vines are treated on the long-rod system. In this house are planted some vigorous young Vines, which will in time take the place of the older ones. Tomatoes to make a succession crop were also noted here, the varieties grown being Conference, Perfection, and Challenger. In the structure were some good Plum-trees in tubs. Early Norman was bearing a wonderfully fine crop; other sorts were Denniston's Superb, Grand Duke, and Green Gage.

THE OUT-OF-DOOR GARDENS.

On the west of the mansion are extensive beds, planted chiefly with the best-named varieties of *Rhododendron*, which flower well here, *Azalea mollis*, *A. pontica*, the Ghent varieties, and small choice Conifers, one of the hardiest and most

beautiful being *Cupressus pisifera aurea*, now appearing as if bathed in gold.

The hardy flower garden, informal in outline, and nodulating in design of ground, lies between the terrace garden and the lake. The system of planting is that of bold grouping, giving fine effects. Around the margin of the lake are massive clumps of rock-work, fashioned by the hand of man like unto natural rocks, and here many of the more choice hardy herbaceous and alpine plants and dwarf flowering shrubs are at home. *Iberis corcefolia* present sheets of the purest white; masses of *Primula japonica*, crimson and white, on either side of the water, suggest the idea that this fine species deserves similar extensive cultivation in many gardens. A mass of the showy *Stenactis speciosa* produces a fine effect with its purplish flowers, then *Heleium pumilum*, *Campanula carpatica*, *C. c. alba* (the two latter presenting a feast of blue and white), and *Chrysanthemum maximum* claimed attention. The lake itself is attractive in the season, with great numbers of the white Water Lily, and a large hybrid form, unknown, with brownish blotched leaves and large primrose-coloured flowers, 6 to 7 inches across. That noble hardy herbaceous plant, *Spiraea Arancua*, was very noticeable with its plumes of white flowers. The Rock Roses and Gum Cistus were very effective. Noticeable, too, were bold groups of *Pæonies*. That fine Pink, Her Majesty, and quantities of *Carnations*, in all the best varieties, are cultivated.

The terrace garden, which overlooks the hardy flower garden, consists of beds mostly planted with half-hardy plants; it is surrounded by a low balustraded wall, on the piers of which stand handsome vases, which, in the season, are filled with flowering plants. But what a contrast this terrace garden, with its formally trim and neat planted beds, presents to the hardy flower garden, with its informally, ever-interesting, and bold system of grouping in planting, furnishing a decidedly practical object-lesson, distinctly in favour of the latter system of garden embellishment. The turf in this quarter is filled with *Daffodils* and other spring flowering bulbs, which, in their season, must present most attractive features.

Beyond the lake are extensive beds of *Rhododendrons* and other flowering shrubs; and in a quite corner two tennis courts are laid down. On the west side is a wood of Birch and Oak, "faced-up" with a border of *Rhododendrons*, through which good thriving clumps of *Lilium auratum* are largely planted, giving quite an attractive feature and happy contrast. In other portions of the grounds the system of planting hardy Lilies amongst the shrubby beds is one that merits attention. The east side of the hardy flower garden is backed up by a shrubby and large border of *Roses*. In my perambulations I noted what, in its way, is one of the features of the place, namely, some bold clumps of *Erica carnea*, which in the spring form beautiful masses of bloom, lasting a long time in good condition. The varieties of *E. vulgaris* are also largely represented, *E. vagans*, *E. mediterranea*, and *E. m. alba* are also extensively grown.

A good strain of *Dianthus Heddewigii* was remarked in several beds, the flowers large and colours brilliant, ranging from the purest white to the richest crimson, and many beautifully laced or striped. For bedding purposes they are valuable, retaining their beauty during the entire summer, also furnishing elegant flowers for bouquets.

The *Chrysanthemums* (which formed quite an avenue), some 1200 being grown, principally incard and Japanese of the best sorts, looked in capital condition, with stout firm shoots and healthy leather-like foliage. Orchard fruits, such as Apples, Plums, and Cherries, are grown, and in the generality of seasons afford good returns.

Veg-tables are well grown here; and excellent New Intermediate Carrots, Cranston's Excelsior Onions, Oxonian Leeks, and other kitchen-garden crops were noted.

In conclusion, it is but bare justice to state that Falkland Park, which stands in the front rank of

gardening establishments in the neighbourhood of London, is well managed in every department by the gardener, Mr. A. Wright, who has had no small share in the re-modelling of the place. The photograph, of which our figure is a representation, was taken by Mr. Wright. J. B.

## WILD GARDENS AND PLEASURE GROUNDS.\*

In most private gardens a place might be found in which some of the rarest and best of our wild flowers and plants might be grown, and where they would greatly add to the beauty of the grounds, be they large or small.

There have been so many hardy plants introduced to this country during the last few years from most parts of the globe, that careful discrimination is required before making a selection. There need be no great outlay or preparation, inasmuch as plants to suit all soils and positions may be easily obtained from our local nurserymen, by which many charming effects can be produced in a limited space. Nature is our best teacher, and the more we adopt of Nature's methods the better effect shall we produce. I will endeavour to give you a brief idea of what constitutes a wild garden. It matters not whether it be field, wood, bank, or streamlet, though I prefer watered dells, because a greater variety of plants will thrive there. I purpose taking some of the stronger-growing plants first, and as I cannot enumerate all I should like to do, so I must confine myself to the principal ones. The Bamboo ranks first for its graceful beauty when planted with its roots in or near the water. *Arundinaria japonica* (*B. Metake*) is one of the most free-growing kinds. It is evergreen, and soon forms a good mass, growing with us from 18 to 20 feet high, in a rich moist soil. *Thamnocalamus Falconeri* is a very graceful one, and grows higher than *B. Metake*, the canes belong strong enough for fishing-rods (I believe this is often sold for *Arundinaria falcata* or *gracilis*). Another good variety is *Phyllostachys viridi-glaucescens*. This, also, is a very rapid grower, and requires plenty of room. There seems to be some doubt about the nomenclature of many of the varieties, and it is a pity the subject cannot be investigated, and the hardy ones clearly pointed out. I think Mr. Mitford, Batsford Park, Moreton-in-Marsh, could enlighten us on the subject, for I believe he has nearly all species in cultivation. [A classification of hardy Bamboos, by Mr. W. J. Bean, who has charge of the Arboretum in the Royal Gardens, Kew, was published in the *Gardeners' Chronicle*, February 24, 1894, and subsequent numbers. Ed.] *Arundo donax* and *A. d. variegata* are good companions to the above.

A hold effect on the margin of water may be made with *Gaunera manicata* and *G. scabra*, with several of the *Rheum* family, such as *R. emodi*, *R. officinale*, *R. palmatum*, and *R. p. tanguticum*, the last-named makes a very handsome specimen for a lawn. A gentleman sent me some seeds of a variety of *Rheum* from the Himalayas some years ago, and it is one of the most effective I have, the leaves almost vermilion in a young state, and they keep their colour well. He also sent me a variety of *Pulsatium*, at the same time, with larger flowers than any I have seen elsewhere. Another fine plant is the Giant Parsnip (*Heracleum giganteum*), which makes a very striking object. For creating a great show in a short time, *Polygonum cuspidatum* should be planted; it grows well in partial shade, and looks like a mass of snow when in bloom, being admired by all. Care should be taken not to allow it to smother other things. It should be kept to itself as much as possible.

A very beautiful plant, not very generally known, I think, is *Oreocome Candollii*. I can confidently recommend this for a shady spot. In appearance, it is like a gigantic Maidenhair Fern, and to keep it in full beauty it should never be allowed to bloom.

\* Extracts from a paper by Mr. J. D. Nanscawen, Whiteway Gardens, and read before the Devon and Exeter Gardeners' Mutual Improvement Association.

The plant is quite herbaceous and perfectly hardy; an introduction, I believe, from Japan. [*Himalaya*. Ed.]

I need hardly say that the stately Foxgloves should always find a nook in the wild garden. The endless variety of colours, from pure white to deep purple and yellow, make it valuable, especially where it is not naturally common.

A very pretty combination is made by throwing together a few or many old stools or roots of trees, and partially covering them with soil. Allow a *Clematis* to ramble over them, and plant amongst them *Gladiolus Breuchleyensis* and *Anemone Honorine Jobert*.

The fast-growing climbing *Roses*, such as *Dandee Rambler*, *Ayrshire*, *Félicité-Perçée*, are useful for the same purpose, and no doubt the new *Crimson Rambler* also. The everlasting Pear, *Lathyrus latifolius*, *L. alba*, *L. rotundifolia*, and *L. Sibthorpii* are equally suitable; and the *Bindweeds*, *Calyptegia pubescens*, and others. The last-named will become a "white elephant," if not well looked after; it is almost impossible to eradicate it when thoroughly established. There is no limit to the pretty effects that can be made from such a wealth of plants, if taste and judgment are exercised.

Where it will succeed, *Tropæolum speciosum* should not be omitted. It makes a most gorgeous sight when in full bloom, and runs and flowers very freely over plants and shrubs, covering them with masses of brilliant scarlet flowers. If it should not succeed in one position, try another, or sow seeds in different places, and it will soon indicate the situation that suits it best. *T. tuberosum* and *T. pentaphyllum* are also good. Good yellow flowering-plants are *Achillea eupatorioides*, which continues very long in bloom; *Solidago* (*Golden Rod*), *Senecio japonicus*, *Telekia speciosa*, *Harpalum rigidum* (*Prairie Sandflower*), *Helianthus* (*Perennial Sandflower*), and *Cephalaria alpina*.

Of the blue flowers there are the *Echinops* (*Globe Thistle*), *Eryngium*, or *Sea Holly*, *Cichorium*, or *Chicory*; *Aconitum* (*Monk's Hood*).

The following are white-flowering plants:—*Aepholdes*, *Solomon's Seal* (*Polygonatum*), *Chrysanthemum latifolium maximum* (and the new variety of maximum being very dwarf, is far superior to the old one), *Anemone aponica alba*; and, above all others, *Romneya Coulteri* (the Californian Tree Poppy). It is a gem of the first water; and to see it unfolding, day after day, a number of its magnificent pure white flowers, the golden stamens almost forming a ball in the centre, each flower lasting a week, and being 6 or 7 inches in diameter, is a sight not soon forgotten. The plant is still more valuable, because it flowers so late in the season, and the flowers are uninjured by several degrees of frost. It should be given a mulch in winter, in case of sudden and severe frost.

Of red flowering-plants there are *Bergamot* (*Monarda*), *Purple Loosestrife* (*Lythrum*), *French Willow Herb* (*Epilobium*): this requires care in planting, as it soon gets out of bounds. *Spiræa*, *Bleeding-Heart* (*Diclytra*), *Flame-flower*, or *Red-hot Poker* (*Tritoma*), a plant which requires good rich soil; *Rose Campion* (*Agrostemma*), *Polygonum orientale*, an annual, but so good and effective that it is worth the trouble of sowing and planting each season—it requires a good rich soil. *Poppies* *Papaver orientale*, *bracteatum*, and various hybrids, in a mass, is a sight worth seeing, and they are telling plants in the distance. In recommending *Oriental Poppies*, I would add that not only are they floriferous and most telling in colour, but they all have elegant foliage. *P. bracteatum* particularly so. The *Mexican Thistle* (*Erythrosea conspica*), is a very ornamental plant, and the large *Scotch Thistle* growing 6 to 8 feet high, is very stately. I also wish to say a good word for the double pink *Soapwort* (*Saponaria officinalis*), which makes itself at home anywhere, and soon forms a colony for itself.

Foliage plants suitable for grouping are endless. Of dwarf plants there are *Plantain Lily* (*Funkia*). Large-leaved *Saxifragas* (*Megasea*). *S. peltata*, this is a very handsome species. *Bear's Breech* (*Acanthus*). *Blessed Thistle* (*Carduus benedictus*). Of

taller subjects Adam's Needle (Yucca), Giant Fennel (Fenja), Plume Poppy (Bacconia), Spiræa (A. tilbe rivularis). The Honey Flower (Melianthus), has exceedingly handsome foliage. Ricinus Cambridgensis, is a grand variety of the Castor-oil plant, and as you know, an annual.

Where room can be found to plant the Peruvian Lily (Alstrœmeria), it should certainly be tried, I find a mixed peaty soil suits it best.

The Pœony in both double and single varieties of the herbaceous section, make very handsome plants for grouping in the wild garden they should be in a sunny position. The Tree Pœony also must not be forgotten; they are grand subjects for cutting, but do not last so long cut as flowers of the herbaceous section. They are not only bright, cheerful, and lovely in form and colour, but they are beautifully scented as well.

In wild gardening, bulbs should play a very important part. Where a good breadth of grass can be had, it is surprising how effective large masses of Daffodils and other bulbs are when in bloom. The different varieties of Daffodils should be planted separately, Aconites, Snowdrops, Scillas, Snowflakes, Anemone apennina, A. fulgens, A. stellata, &c., are very lovely when grown amongst the Daffodils in grass. Again, the ground above the bulbs can be filled with masses of Cowslips, Oxlips, Columbines, &c. It would be no detriment to the grass, as it could be cut for hay if required. We do this at Whiteway.

I have said nothing yet about Ferns for the wild garden. A whole volume might be written on them without exhausting the subject by those who cultivate and care for them. There is no place too bleak or exposed for them. In such places Ferns will hold their own, and add a wealth of beauty; and amongst our own lovely Ferns, those of other countries grow side by side in the happiest condition. New Zealand, America, and other countries contribute year after year fresh subjects for our hardy gardens. Cyrtomium Fortanœi, Davallia novæ zelandiæ, Lomaria Boryana (magellanica), Pteris scaberrima, and many others grow in the greatest luxuriance. From the far Alps also, many of them adapt themselves to their new home as if growing in their native habitat. One can plant Ferns in such shady places as few other plants will grow in. Nothing can be more graceful and refreshing to the sight than a collection of healthy Ferns, and one need never tire in admiring the individual beauty peculiar to each separate variety.

I have not spoken of Tree Ferns, as they require more care, and our treacherous climate is liable to injure them severely, although I have known stems which, thrown to the rubbish-heap as dead, after twelve months have shown signs of vitality, and have been potted and housed in a cool-house, where they are now plants that one may well be proud of. This teaches us not to be too ready to discard them. Wherever a warm sheltered spot can be found, I strongly recommend Tree Ferns to be planted, and surely there are many places where they could be tried.

### DENDROBIUM WARDIANUM.

WITHOUT doubt, difficulty is experienced by some cultivators of Orchids in growing and flowering this beautiful species, and preserving it in good health for any great length of time. It is a fact well known among growers of experience, that an established plant of D. Wardianum is a rarity at the present day. By the term "established," I do not mean the being in the cultivator's hands for two or three seasons, but a plant which has thriven for eight or ten years, and accordingly produces each year as good pseudo-bulbs equally well bloomed as it did the first year or two after its importation. Probably there are instances of plants which grow on unchecked, but I have never seen or heard of such successful culture. Although our methods of Orchid-culture have much improved of late years, some species still remain that try how one may gradually deteriorate, and so

far as my experience goes, D. Wardianum is one of them.

I should say to your correspondent, Mr. Day, respecting his plant, that it would be advisable for him to obtain several imported pieces, planting some in baskets, and others in shallow pans, to be suspended from the roof, others being potted and stood upon the stage, and then to adopt that method which affords the best results. I do not think that it is so much a matter of basket or pot as of light, heat, air, and moisture whilst in growth, and the thorough ripening of these growths when this is completed. The following general directions will serve as a guide to his treatment of his plants, still much will have to be left to the cultivator's judgment. During the growing season, the temperature of the East Indian-house or a humid plant stove, where air is admitted on all favourable occasions, is probably the best place for this species, regular supplies of water being applied at the root till growth finishes for the season. When the new pseudo-bulbs have attained to their full size, root-waterings should be gradually withheld, and the plants placed in a vinery, if such accommodation is at hand, where the Grapes have been gathered. Here the plants will pass from moderate shade to full sunshine by degrees; and throughout the season of rest, a very small quantity of water will be required if the pseudo-bulbs were properly matured, only just enough to prevent their excessive shrivelling. At the present time, the flower-buds are becoming prominent; the new pseudo-bulbs and the plants will therefore be gradually enured to greater warmth. W. H. W.

### ORIENTAL LILIES.

THE leading writers on this fascinating subject are Mr. Ewee, Dr. Wallace of Colchester, and Mr. J. G. Baker of Kew. To Mr. Wallace we are mainly indebted for what may expressively be termed their analysis; to Mr. Baker for their classification. I have for many years been a cultivator of eastern Lilies, and I have in my garden all the more important varieties, including the great Himalayan Liliun giganteum. This magnificent Lily is found on the lower slopes of the Himalayas, at an elevation of 8000 feet. It belongs to the sub-genus Esulirion, to which also L. longiflorum, Wallichianum, nepalense, and candidum belong. Dr. Wallace, in a comprehensive contribution to the *English Flower Garden*, asserts that giganteum literally revels in manure, but I know from sad experience that a single application of this stimulant in liquid form was found sufficient to undermine the vitality of one of the finest specimens I ever possessed. Mr. Harry J. Veitch is strongly of opinion that this substance should be entirely withheld from L. giganteum, and I feel certain that he is right. All that oriental Lilies require, as a general rule, for their successful culture is peat or leaf-mould, with a considerable amount of sand, whereby adequate drainage is secured. Those who give them the kind of treatment essential for Rose-culture will soon discover their mistake. My near neighbour, Mrs. McDonall, of Logan House, is an enthusiastic cultivator of Lilies; so also is another kind friend, the Duchess of Sutherland, to whom I recommended some years ago the special varieties grown so successfully at Trentham by her Grace's head gardener, Mr. Blair. They are not an equal success at Danrobin Castle in Sutherlandshire, though I cannot doubt that they receive sufficient attention from Mr. Melville, who assuredly must be conversant with their requirements, seeing that he has the superintendence of millions of bulbous flowers, some of which, and notably the Snowdrops, are of world-wide fame. If oriental Lilies, as the duchess asserts, do not succeed so well at Danrobin as they do at her Grace's Staffordshire residence, it must be entirely owing to the nature of the soil.

Mrs. McDonall, of whom I have already spoken as a Lily cultivator, is especially successful with L. auratum and Kramerii, the latter of which I have always regarded as difficult of culture. I have an

idea that its bulbs which are, compared with others, sufficiently small, have a peculiar attractiveness for insects, by whom they are destroyed. It is also probable that it requires a special soil strongly impregnated with peat and fibrous mould. At Logan House, several bulbs of this beautiful Lily, originally called Kramerianum, were obtained by Mrs. McDonall from Messrs. R. Wallace & Co., and planted in borders between the mansion and the garden formerly occupied by Azaleas, which had succeeded admirably, and flowered luxuriantly there. Every one of them has proved, *mirabile dictu*, a gratifying success. Never elsewhere have I seen L. Kramerii in flower, and I have an idea that its successful cultivation is exceedingly rare. As much may be said of the open-air culture of an attractive Lily of more recent origin, Liliun sulphureum, primarily named by Mr. Baker, Wallichianum superbum. I tried it in my garden, but very soon discovered—at the period when its obvious duty was to appear above-ground—that it required "bottom-heat," and therefore had it, in company with nepalense, forced in a conservatory. Neither of these Lilies is, even under such atmospheric conditions, remarkably prolific; the latter contenting itself generally with the production, not without difficulty, of one solitary flower of unique complexion; and for this and other reasons, among which is their expensiveness, I cannot venture to recommend them for general cultivation. They should be cultivated, if only for the sake of their distinctive beauty, by affluent specialists, to whom expense is a secondary consideration. I am, however, in a widely different category; my financial resources very frequently putting the brakes on my aspirations, and therefore I have to satisfy my passion for the culture of the noblest of Eastern flowers with L. davuricum (incomparable × erectum) in June; L. candidum, excelsum, and dalmaticum in July; L. giganteum and longiflorum Harrisii in the beginning of August; L. auratum, Henryi, chalcadonicum, and L. Browni in September; October being glorified—I can use no term less expressive of its combined splendour and ineffable sweetness—by Liliun speciosum. It was my first love among the Lilies, and it will assuredly be my last. It has not the gorgefulness or imperial aspect of Liliun auratum, whose loveliest form is the stateless L. a. virginale; it does not glow in the summer twilight with the splendid impressiveness of L. candidum or L. longiflorum, but in absolute perfection of substance, of form, of complexion, and of fragrance, it stands supreme. In no family of Lilies can I discover such a strikingly artistic contrast as that which exists between Melpomenæ and Kæzari, Liliun Browni, or longiflorum Takes mi, however beautiful, would not constitute such a picture, if placed beside the Catanian dalmaticum. David R. Williamson.

### THE VERSAILLES SCHOOL OF HORTICULTURE.

THERE is more work done at the École Nationale d'Horticulture than most persons imagine. If a new method of cultivation is being discussed, a scientific discovery, or an improved instrument, it is submitted to examination and experimentation before the eyes of the students—by them and for them. Situated on the site of La Quintinye's kitchen-garden at Versailles, according to a decree passed on December 16, 1873, at the proposal of M. Joigneaux, the school has so far received twenty-one increases, making a total of 751 pupils. All branches of horticulture as well as the applied horticultural sciences are here taught. The pupils acquire practical experience in executing, under the direction of qualified superintendents, all the cultural work undertaken by the school.

The total area of the school is about 22½ acres (9 hec. 40 ares), of which, 3 acres are allotted for fruit-growing; 2½ acres for kitchen-garden, four-fifth acre for the Botanical School, seven-tenth acre for greenhouses, ½ acre for a nursery-school, and the



remainder for buildings, pleasure gardens, walks and terraces, the arboretum, &c.

The first director and real founder of the École was the lamented and respected M. Hardy, a monument to whom, placed not far from that of Li Quintinye, will soon perpetuate his memory. His successor, M. Nanot, continues the work which was so well begun, and always endeavours to make continual progress. Thus, he has asked and obtained the foundation within the precincts of the school of a laboratory for horticultural experiments, entrusted to the care of the distinguished agricultural experimentalist, M. Petit. He has also caused to be added a workshop where the pupils are required in turn to make or to repair most of the instruments and gardening tools used at the school.

## COLONIAL NOTES.

### CHRYSANTHEMUMS IN HONG-KONG.

*CHRYSANTHEMUM indicum* is one of the wild plants of Hong-Kong, and a very pretty plant it is. Its flowering season is November, and during that month if you happen to go for a ramble over the hills, you will come across it with its bright yellow flowers peeping above the long grass in many and varied situations. Sometimes just a single plant, at other times dozens of them, but whether one or more, always attractive. Here you find it in a sunny, dry situation at the top of a hill, and there in a shady, damp position at its base. As you gather a flower and look at it, you cannot but be struck with astonishment at the marvellous monstrosities which have been produced from it and its ally, *Chrysanthemum sinense*. It is of these monstrosities as grown in Hong-Kong that I wish to write a few words. *Chrysanthemums* are just as great a feature here during the autumn months as they are at home. Everyone who makes any pretension to gardening whatever, has his show of these flowers in the proper season.

As most flowering plants have to be cultivated in pots, owing to the limited amount of ground suitable and available for horticulture, the national emblem of Japan is one of the best plants that can be grown to give a good return for the labour bestowed upon it. Its flowering season is also in its favour, as it is a time when most of the tropical plants are past flowering, and the winter-flowering annuals not yet in bloom. The best collection that I have seen in this part of the world was grown by Mr. Dorabjee, a wealthy Parsee gentleman who takes a special interest in horticulture, at his establishment in Kowloon—the peninsula immediately opposite and belonging to Hong-Kong. When they were in bloom, Mr. Dorabjee kindly invited the public to see them, and accordingly I paid a visit to his garden on November 21. The collection was made up of about 500 plants in forty-one varieties, including the following kinds, incurved, reflexed, Japanese, Pompon and Anemone-flowered. None of them were named—in fact, there are no named varieties in Hong-Kong; they are simply called No. 1, No. 2, and so on. This is a favourite way the Chinese have of indicating varieties, No. 1 standing for the best variety, No. 2 for the next best, and so forth. Mr. Dorabjee told me that he brought nearly all the varieties from Japan last year, as those which he previously had were destroyed by the 1894 typhoons. The largest of the plants were about 3 feet across, and carrying upwards of forty blooms. Every plant was perfectly grown, being furnished with foliage from the flowers to the pots, and staked like specimens at an English exhibition. One of the best of the incurved varieties was a sulphur-yellow, 5 inches across, and 4 inches deep—very compact. Another good incurved was a creamy-white, similar in all respects to the former, except in colour. Amongst the Japanese was a very fine white, with very broad petals, 7 inches across, and 4 inches deep. In the same class was a lovely pink, not quite so large as the white, but very striking. Of course, it would be useless to mention

the varieties individually, but I will just jot down the colours of some of them—bronze, purple, claret, lilac, crimson, orange, and chestnut of various shades.

The method of cultivation is as follows:—The cuttings are taken off in February, and put into pots, 6 or 7 inches, several in a pot, in fine Canton soil, or Canton soil and sand. Canton soil is mud obtained from the banks of pools near to Canton, and is largely used in the cultivation of plants in Hong-Kong after having been first dried. As soon as the cuttings are rooted, which is about the end of February or beginning of March, they are put into Chinese 7-inch pots, in a mixture of fine Canton soil and pig's-hair, one in a pot. These Chinese pots are very unlike English pots; they are 7 inches in diameter at the top it is true, but they are only about 3 inches deep, and saucer-shaped. The plants are transferred to their flowering-pots about the end of May, the same kind of compost being used as for the first potting. The pots generally used for this purpose are 14-inch and 16-inch Chinese. They are different in shape to the 7-inch pots, as well as different from the English flower-pot. The 14-inch pots are 1½ inches in diameter at the top, and 12 inches at the bottom, the depth being 7½ inches. The 16-inch pots are 16 inches across the top and 13 inches across the base, having a depth of 9 inches. When the plants are put into these pots, the pots are only half filled with soil; as they become filled with roots more soil is added, until only sufficient room is left at the top for watering. The first top-dressing takes place in July, the second in August, and the third and last, in September. After the first top-dressing, the plants are trained and staked; of course, all superfluous growths are removed as soon as they make their appearance.

The flower-buds begin to show in September, and all with the exception of the crown-buds are removed in the large incurved and Japanese varieties. Liquid-manure in the form of urine is given to the plants after they have become established in the flowering-pots, and this is continued up to the time that the blooms open. The plants are grown in a position where they get the sun for three or four hours a day; if they have the sun all the day long it is impossible to keep the leaves on them. Strict attention has to be paid to watering; in the summer time this operation has to be done three or four times a day to insure success. Mr. Dorabjee's gardener kindly obliged me with the above remarks on cultivation, and it was very evident from the plants which I saw that he knew the way to grow *Chrysanthemums* better than anyone else in Hong-Kong. *W. J. Tutcher.*

### FILMY FERNS FOR THE WARDIAN-CASE.

The Wardian-case as a room decoration enjoys far less popularity than it deserves, and this is due to the fact that in most cases (we beg pardon, instances), although they are very pretty when first planted with Ferns, these speedily become drawn and lose thereby their natural grace, while the more rapidly-growing species overwhelm the others, forming a confused and unsatisfactory growth, which, short of very drastic measures, is incurable. The faults here are two, viz., a badly-lighted position for the case itself, and injudicious selection of the Ferns employed, and since the mere fact of the installation of a case inside a room, with the windows usually partially veiled by curtains, renders it next to impossible to afford adequate light for healthy growth of ordinary Ferns, it is clear that we are restricted to species which can thrive with a minimum of this vital essential.

These Ferns are the Filmy Ferns, one and all of them marvels of delicate beauty, and amongst which there are a number of hardy ones, as defiant of frost as the wild Ferns of our native hedgerows and commons. Another advantage possessed by these Ferns is their evergreen nature, the fronds of some of them lasting for years, so that they are just as beautiful in the depth of winter as in the height of

the growing season. Finally, to sum up their virtues as room plants, they enjoy a peculiar immunity from vermin, and if properly installed at the outset, will succeed for years with the smallest amount of trouble to the cultivator.

As regards the conditions upon which future success depends, the case, the principle being always the same, whether it be an oblong case proper or a round pan covered with a bell-glass, must first be thoroughly well drained. Usually there is a double bottom, the upper one being pierced, and a vent-pipe being provided at one end of the case for the exit of surplus water. Over all the holes thus provided hollow pieces of clean broken flower-pots should be placed, and the spaces between these filled up with other pieces arranged as hollowly as possible; a layer of dead sphagnum-moss should be spread over this in sufficiency to prevent the soil from settling down and choking the crocks (broken pots). Some best brown Orchid peat should then be broken up into rough lumps, the coarse refuse, roots, &c., being spread over the sphagnum moss, the rest can be heaped up so as to form a kind of mound, level with the edges of the box of the case all round. A very liberal allowance of coarse silver-sand should be sprinkled into the peat, as this is done so that it has a grey appearance. Provide next a number of rough pieces of sandstone, and embed these well into the compost so as to form a rude rockery, and our ground is now prepared. I well remember the first Fern-case of this class I made. I obtained some long pieces of sandstone, and built up a sort of Druidical Kilt Coty House, a fine moss-grown slab resting on two uprights, with charming effect, and upon this slab, strange to say, our first plant of *A. f. f. Victoria* made its appearance as a stray. The next thing is to water the whole erection thoroughly until it is quite soaked, when any weak points in the construction will manifest themselves. This settlement, by-the-by, should be allowed for in building up the mound, as this saves meddling with the soil while wet, which should always be avoided as far as possible. On this account planting is better deferred for a day or two, though this is not absolutely necessary.

I now come to the question of the tenants, the domicile being thus prepared for their reception, and these of course depend upon the size of the bell-glass or case concerned. Our native species of Bristle Fern (*Trichomanes radicans*) is certainly best adapted for fair-sized cases, but a small plant will form a very pretty object even in a 12-inch bell-glass; while the small *Hymenophyllums*, *H. tanbridgensis* or *H. Wilsoni* may be used to cover the soil under its shade with their much-smaller frondage. *T. radicans* has afforded some half-dozen distinct varieties, all of which are handsome. Besides the normal, there are *T. r. Andrewsii*, *cambricum*, *crispum*, *dissectum*, and *dilatatum*, the last of which is a splendid large form, and should find a post of honour on the top of the rockwork. A prolific form was sent us some years ago from Dublin, but though we raised a clump of plants from the little ones with which its fronds were dotted quite as freely as *Asplenium bulbiferum*, the progeny have so far been barren; this, however, with us is a small, dense, neat form—a capital foil to the others. The green translucent fronds of these *Filmy* are exquisitely lovely. *T. reniforme*, an utter contrast in form, since the fronds, instead of being delicately cut, recut, and cut again, are simply slightly-frilled round discs the size of five-shilling pieces on stalks an inch or two high. This grows very slowly, and though not so hardy as *T. radicans*, thrive with us for years in a cold frame, and was repeatedly frozen, though last winter proved too much for it. Indoors, however, it would be perfectly safe; and sets off its relatives to great advantage, besides being very pretty in itself. *Hymenophyllum demissum* is a delicate slender-growing filmy, much larger than our native species, and amenable to precisely the same treatment as the others.

Now all these Ferns possess creeping root-stocks, very thin in the *Hymenophyllums*, being quite thread-like in one or two indigenous ones, and

thicker in the *Trichomanes*, whose travelling root-stocks, densely covered with rich brown hair-like scales, resemble exactly the trimming known as chenille. As these root-stocks are purely surface growers, and attach themselves to rocks, the roots proper being sent down through the chinks and crevices into the soil beneath, we must humour this peculiarity by our mode of planting. The best way, if we start with small plants, i.e., only an inch or so of root-stock, with a frond or two attached, is to cut a number of wooden pegs, and peg the pieces with the fronds in their natural upright position, either into the soil itself, or gently hedged between two pieces of stone—anyhow, fix the plants firmly. If it

task being practically over. The moisture condensing in the glass finds its way into the soil again, and if the door be kept close, it will not need watering more than half-a-dozen times per annum. It may be as well to state here that growth at first is very slow, but once they have taken hold, it is astonishing how soon the emerald-green transparent fronds assert themselves, the chenille-like roots meanwhile creeping about and over the stones until they have quite invaded them. So far, so good. But what, my experienced filmy Fern friends will say—what about the *Todeas*? Well, I have left these to the last as a *bonne bouche*, and because they can be planted with greater ease, belonging

for years down to case size, and form little gems of the first water. *T. pellucida* is less dense in growth, and very distinct. Treatment the same. Both stand cold at zero. *T. grandipinnula* is like a grand *Trichomanes radicans*, with the *Todea* habit of growth. Its genesis is a mystery, but space precludes going into that, and its knowledge is not essential to good culture, as it is as easily grown as the others, but in our experience it is not so hardy, last winter having all but killed our only specimen. When these *Filmies* have been grown successfully, there is a host of others, rarer and very distinct, but too expensive for the 'prentice hands, for whom we write. *Chas. T. Druery, F.L.S.*



FIG. 11.—ODONTOGLOSSUM C. STEDL. (SEE P. 79.)

be a clump, it is best to bed it well upon the soil, and insert pieces of sandstone between the fronds, covering the rhizome or root-stock as little as possible. Do this until your case is neatly dotted over with pieces; then prepare a mixture of peat, rubbed fine between the hands, and coarse silver-sand, half and half, and after spreading this thinly over the surface, drench it in with a vigorous application of water from a spout, so that it is washed well among the roots, and repeat this operation until all the plants are firmly bedded without the rhizomes being buried. Now polish up your glass inside and out, and place your case as near the window as you can get it—i.e., a north or east window, where the sun has no power; leave it severely alone for a month or two, your part of the

to the category of crown or caudex Ferns, that is, they have no travelling root-stock, but grow from a centre, shuttlecock fashion, so that the ordinary procedure of planting applies. The composts and drainage, however, must be as above described. Another reason for leaving them until the last, is also that the *Todeas* are large growers, and I started by treating of more or less permanent planting. The members of this family available are three, viz., *T. superba*, *T. pellucida*, and *T. grandipinnula*. Of these, *T. superba* is the finest, it grows splendidly in a case with the same kind of treatment as that given above. It should have a central position in the case, and ample space. I have a plant measuring nearly 5 feet across, demanding, of course, a frame rather than a case; but plants cramped in pots may be kept

## THE WEEK'S WORK.

### PLANTS UNDER GLASS.

By Jno. McINTYRE, Gardener, Woodside, Darlington.

**SOILS AND TEMPERATURES.**—Complete the preparation of soils for the general repotting of stove and greenhouse plants. If a good potting-shed is available, there need be no difficulty in obtaining soil in good condition. Much injury to plants is done by the use of soils not properly prepared; and it is important that such work should be done before the busy season commences. In warm-houses the temperatures may now be raised 5°, in order to stimulate growth. I like to see all stove plants nicely on the move previous to giving them their annual repotting, and particularly specimen plants,

**CLERODENDRON BALFOURIANA.**—Where specimen-plants of these are required to flower during April and May, they should now be started, and as soon as they commence to make growth, they may be re-potted. A compost in which Clerodendrons do well, consists of two parts good fibrous peat, one part rich loam, one part dry cow-manure, which should be rubbed through a 3-inch sieve, and one part coarse Raigets sand. The peat and loam must not be broken up too fine. Excellent specimens can be grown in 16-inch pots, and there is no necessity to exceed this size. It is much better to reduce the plants annually, and re-pot into those of same size. It is essential that the pots and crocks be made thoroughly clean. Clerodendrons as specimen-plants are invaluable for exhibition purposes, and for cutting from; and they will repay the extra care bestowed in doing them well. As soon as the plants break into growth, all superfluous wood should be removed. If the plants are on balloons, they must be cut well back in order to give room for the coming season's growth, but if trained on pillars or roofs, severe pruning will not be needed. The Clerodendron does not need a very high temperature at any time, and contrary to the assertion of some growers, the finest specimens are produced when given a moderately warm house without bottom-heat. A maximum temperature of 70° will suit them until coming into full bloom.

**GARDENIAS.**—Push on these by placing them in the warmest part of the stove, and give them a sprinkling of a more reliable fertilizer once a week. It is essential to keep Gardenias remarkably clean, or otherwise their usefulness and beauty are marred. They are rarely given to us hasz that they cannot be given in July. Black-fly may be killed in strong soap-suds at a temperature of 90°. For mealy-bug add a wineglassful of petroleum in the mixture.

**CHRYSAANTHEMUMS.**—All cuttings possible should now be got in, but cuttings of some varieties may be yet unobtainable. The best time to propagate, in order to get large blooms, is in December, although good results will follow if they propagated any time in January. Use thumb-pots, and insert the cuttings singly, there will then be no check. Use for compost good leaf-soil two parts, and one part wood-ashes. Place a mound of silver-sand where the cutting is to be inserted, that it may run into the hole made for the cutting. They should be kept near the glass in a cool house, but in all cases it is desirable to have them so placed that they can be examined daily, and all decayed leaves removed. In cold frames, during severe weather, it is sometimes impossible to do this for weeks together.

**HARD-WOODED PLANTS.**—Look over these, and do the necessary training. In the case of Ericas, a few stakes as possible should be used, as a large quantity of stakes will destroy many of the fine roots, and they detract from the appearance of the plants. Use few stakes, and a network of green thread, now in the market for this purpose. To this network of thread the trainer can regulate the shoots, and when finished, the whole is neat. Specimen Azaleas can be perfectly trained with thread without stakes. All Indian Azaleas intended for exhibition purposes during the spring, should have the shoots regulated now, in order that the leaves may assume a natural appearance before the plants flower.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton on Trent.

**ORCHARD TREES.**—It is only too evident in many places that these seldom get the necessary attention paid to them in the way of pruning and training, although a great amount of labour is bestowed yearly on trained trees of small dimensions, from which not more than a bushel of fruit each is obtained. The fruit from the smaller trees is of superior quality to those from the orchard; still, it is to these trees we look for the bulk of fruit for general purposes. In many old orchards there are some trees of no use whatever, the fruit being small and worthless. Grab all such up, and well-trush the ground a couple of spits deep adding plenty of old mortar-balls and road-grit if the land is stiff, and clay marl where it is of a light nature, mixing these and the staple well together, and taking care to remove all roots belonging to the old trees. Strong healthy young trees may then be planted in their stead. Early healthy trees of good standard varieties, such as Blenheim and Ribston Pippins,

Lord Derby, Beauty of Kent, and others, may be greatly improved if all dead wood be cut away, and the heads well thinned by cutting out all cross branches, so that plenty of light and air may have easy access to all parts of the tree. The sun's rays will then be able to penetrate through the branches to the soil. If the trees are infested with moss or lichen, it should be removed from the stem and main branches by scraping the bark with a kind of hoe made for that purpose, or with a piece of hoop-iron, brushing it afterwards with a stiff brush. The trees should then be dusted with some fresh quick-lime, if possible, on a still day, when the branches are wet; or the trees may be sprayed over with a solution of potash and soda, made by dissolving half a pound each of commercial potash and caustic soda in 5 gallons of water, and using it at the temperature of 120°. The hands of the operator must be protected by gloves. If the latter method is carefully done, it will destroy all insects, as well as the moss and lichen. A thin layer of turf from about 8 to 10 feet round the stem, according to the size of the tree, should be taken off, and a dressing of fresh lime given at the rate of 1 lb. per square yard, pointing it lightly into the soil. Afterwards give a good mulching of half-decayed farmyard manure, and replace the turf. Copious applications of manure-water, from the manure-heap or from the cesspool attached to the stables, and slightly diluted with water, will greatly assist old orchard-trees, if given during the winter when the ground is not frozen.

**FILBERTS AND COB NUTS.**—If suckers were allowed to grow on these during the past season, they must be now removed. The best way to do so is to take the soil away down to the roots, and cut the suckers clean away. Replace a portion of the soil, and give a good dressing of manure, covering it with the remainder of the soil. Strong growths that may be required for extension, or to take the place of a worn-out branch, should be shortened to about a third of their length, and all such growths not required should be cut back to two or three buds. Further pruning that may be necessary is best left until the female buds are distinguishable.

### THE KITCHEN GARDEN.

By C. HERRIN, Gardener, Drogheda, Maidenhead.

**FERMENTING MATERIALS.**—Collect leaves in quantity and use them in the preparation, either alone or mixed with strawy manure from the stables, of hotbeds in pits, frames, vineries, &c.

**GENERAL REMARKS.**—If the weather keeps mild, great care should be taken in the storage of seed Potatoes. Dispose them as thinly as possible to prevent untimely sprouting. Digging and trenching should be pushed forward as much as possible when the state of the soil admits. It is desirable in soils of a light nature that trenching be completed early, to allow of the earth settling before the time arrives for the sowing of the various crops. A special effort should be made to trench and thoroughly manure the quarters to be devoted to Onion and Pea-crops, working in a good quantity of manure in the first and second spits of soil. Cauliflower-plants in frames should have thorough ventilation, and lights kept off entirely during mild weather. The same remarks apply to Lettuce and Endive. The latter has kept quite good in the open quarters up to the present time without any protection whatever.

**ORDERING SEEDS.**—It often happens at this season, that with a spell of frost, there comes some amount of leisure time for the gardener and when he can read the seed lists sent him, and select the seeds he will purchase for the current year. Up to the time of writing, however, the weather has kept open, and outdoor operations in the kitchen garden have not been hindered, the prevailing mildness being exceptional. As the seeds of some kinds of vegetables will be shortly required for sowing, the order to the nurseryman or seedman should soon be despatched, early orders, as a rule, ensuring prompt attention, whilst those which arrive late, if large quantities of seed are required, may have to wait all the while the ground is in condition, and the delay to receive the seeds may be prejudicial in several ways to the gardener. Where circumstances permit, I advise a trial of novelties in vegetables, which owing to the improvements that have taken place of late years in raising new, and rigorously employing selection in regard to older varieties,

are not few in number. At the same time, I would advise no one to rely to a large extent on any novelty, to the exclusion of standard varieties, till such time as it has been thoroughly tested in a small way, or a failure in the supply may be the result. As an instance of the use of rigorous selection, very few will, I assume, grow the old form of round summer Spinach, when such excellent varieties as Victoria and Longstanding can now be had which stand without bolting, in summer, a much longer time, possess larger and better leaves, and are good for autumn as for summer sowings. Many desirable varieties of Peas, Onions, Runner, French, and Broad Beans, and Kales have been recently introduced, and at least one novelty of each should, if possible, have a trial.

**SEAKALE ROOTS.**—The greater part of the roots intended for forcing in the Mushroom-house or in pots and boxes, should now be lifted, and the branching rootlets should be removed, and these latter covered with some litter and kept moist, to be made into sets on a wet day. When making these sets, the largest things should be chosen, and those that are less in size than an ordinary cedar-pencil rejected. The set should be 6 inches in length, and cut transversely at the upper or larger end, whence the crown will spring, and slanting-wise at the smaller or lower end. When the sets are prepared, place them closely together (not in bundles) in boxes containing some light sandy soil, the tops being just level with the soil. The stock of forcing crowns should also be kept moist and covered, so as to exclude frost. Where this vegetable is still forced with leaves and dung in the beds where grown, and which, although entailing much labour, is certainly productive of very tender Kale, the crowns may be forced readily from this date onward, and a good, regular supply maintained from a small area, unless very severe weather should set in; and even then it is simply a question of stable-dung and leaves, with a covering of bracken or dry litter over all. This sort of Kale culture should be carried out in some out-of-the-way corner of the garden. The roots may be allowed to stand in such beds for three or more years. If they are properly manured and the plants not allowed to flower, kept free from weeds and the land stirred, good produce is obtained either forced or simply blanched when growing naturally by drawing ridges of mould over the crowns before growth has made a beginning.

**PEAS.**—Peas sown in early winter will now be ready for the sticks, which will afford some slight protection to the plants against frost and wind, and further shelter should be afforded by sticking near the rows some small branches or twigs of the Laurel, Yew, and Spruce Fir, or bundles of bracken placed along the rows or tucked-in loosely between the Pea-sticks. The weather, being now suitable, sowing may be made in the open quarters, drawing the drills and leaving them open for an hour or two, and sowing the seeds thicker than is needed later in the season. If mice are troublesome, damp the Peas, and sprinkle them with powdered red lead, shaking them up well in a box, so as to coat them with it. I find that mice will eat Peas which have been previously sprinkled with petroleum. A part of the south border should be reserved for planting out rows of Peas raised in pots or turves in warmth towards the end of the present month, remembering that there is nothing to gain by sowing in this way at an earlier date.

**BEANS.**—A sowing of the Seville Long-pod Broad Bean may now be made in large 60-sized pots one seed in each, placing the pots in a recently-started vinery or Peach-house, to be planted out later on. These will furnish a supply so early, if not earlier than those sown out-of-doors in November.

### FRUITS UNDER GLASS.

By W. POVE, Gardener, Highclere Castle, Newbury.

**PINES TO RIPEN IN MAY AND JUNE.**—To be enabled to cut ripe fruits as early as the month of May, a selection should be made at this date of the most promising-looking plants of the Queen variety, placing them where more heat can be afforded them. Such plants should be growing in pots of a moderate size, with growth well matured with thick collars, and the centre somewhat low and open, or the chances are that they will start into growth instead of flowering. The soil at the roots should have a watering sufficient to thoroughly moisten the whole,

and afterwards the soil must be kept moderately moist, only till the plants show fruit. Should any of them show a tendency to make growth, they must be kept rather dry at the roots, till it can be seen that the fruit is forming. Let the bottom-heat for these plants range from 85° or 90° with an aerial temperature of 70° on mild, to 65° on cold nights. When the temperature rises to 80° by sun-heat, a small quantity of air should be admitted.

**RIPENING FRUIT.**—Fruit now colouring should be kept drier at the root than is advisable at any other season, no water being afforded after colouring has begun. If the soil be too moist during the ripening process, the fruit will be apt to become black at the core, especially if it should have to be kept for any length of time before it is consumed. Any that may have to be held over for a few weeks, should be cut as soon as ripe, and removed to a cool, dry fruit-room where the temperature can be kept at about 45°, or even a few degrees lower, and where they will keep much better than in the Pine-house.

**SUCCESSIONS**—These plants should be kept quiet for a time, a temperature of from 55° to 60° being sufficiently high, affording air in mild weather, and on bright days, and giving no more water at the root than is actually required to keep them healthy. If the plunging material be rather moist, it will be a good reason for affording water but seldom, and with caution, at this season. Where young stock is grown in low houses or pits, coverings for the glass should be made use of at night, it being very beneficial to the plants, besides saving fuel. If not already attended to, see that soil for potting uses is got under cover, so that it may be in fit condition for use at the February pottings. Good fibry loam is the best for Pines.

**TOMATOES FOR EARLY FRUITING.**—Some seeds should be sown at once where early fruit is required, two dozen plants, or thereabouts, being usually sufficient for an early crop. A selection should be made of a dwarf, medium-sized variety, and the seed sown singly in 3 inch pots, using a rich light soil, pressed moderately firm by the hand. The seed-pots if placed in a Cucumber-house with a temperature of 70°, will not need bottom-heat, as good seed quickly germinates without its aid. As soon as the plants are well above the soil, set the pots on a shelf near the glass, so as to keep the plants sturdy, this being an important item in the successful cultivation of the Tomato, when the pots are filled with roots, and before they become pot-bound, shift the pots into 32's, the soil this time consisting of good loam two parts, and half-decayed leaf-soil one part. Stake each plant before potting it, and plant firmly, and continue to keep the plants near the glass.

**THE ORCHID HOUSES.**

By W. H. WHITE, *Barford, Dorling.*

**THE ODONTOGLOSSUM-HOUSE.**—Where many *Odontoglossum crispum* or *Alexandree* are cultivated, scarcely a week passes without finding some of the plants being in bloom. At this season, many of the plants are showing their flower-spikes. Slugs and small snails, which have a great liking for them, must be carefully sought for every night, any failing in this respect will lead to the loss of flower-spikes. If slugs abound, it is a good plan to isolate the more valuable plants by placing them on inverted flower-pots stood in pans kept filled with water; even with this precaution constant watch is necessary, the slugs remaining hidden in the potting materials. The watch that must be kept for slugs takes up a good deal of the grower's time, but the results fully compensate him for the time and trouble taken. Those persons who bought imported plants of *Odontoglossum* last season will be anxious to see their flowers, and to ascertain if the spotted forms are amongst the purchases. A word of caution against allowing the flower-spikes to remain on the plants for a long period of time, or permitting small weakly imported plants to carry many flowers, to the detriment of the plants, by causing loss of substance and strength, and rendering it difficult, with the best kind of treatment, for them to recover and commence to grow. In the case of strong and well-rooted specimens, it is well to cut the spikes after the flowers have been open for a reasonable length of time. The flower-stalks may be stood in water in the cool-house, or used in indoors decoration; they will retain their beauty for several weeks. If the plants are small, remove most of the buds, leaving just one or two to open for the

determination of the variety; and this known, cut the flower-spike forthwith, and afford the plants a short period of rest, afterwards affording them such treatment that they may grow vigorously, and by next season be enabled to throw strong flower-spikes without loss of strength.

**ODONTOGLOSSUM CÆRSTEDI** (see fig. 11), ETC. —Contrasting greatly in point of growth with this large plant is the dwarf *O. Cæstedi*, and we have several well-bloomed tufts of this pretty white species, which form lovely objects in the cool-house at the present time. The same remarks apply also to the *Sophronites grandiflora* now in full bloom. Both species require an almost identical kind of treatment—that is, they should be grown in shallow pans, with but very little material about their roots; during growth to be well supplied with water, which must be gradually reduced in amount when the pseudo-bulbs are fully made up, but not entirely withheld, and the compost kept just moist even when at rest. *O. Cæstedi* succeeds if suspended close to the roof; and *Sophronites* when it is placed with the *Odontoglossum crispum* in a light part upon the stage, and more especially is this kind of treatment the proper one during the summer. *Sophronites violacea*, a species now opening its flowers, does better when suspended in the coolest part of the intermediate-house.

**ODONTOGLOSSUM CORONARIUM** (see fig. 12). —At present plants of *Odontoglossum coronarium* are in flower in this house. It is a

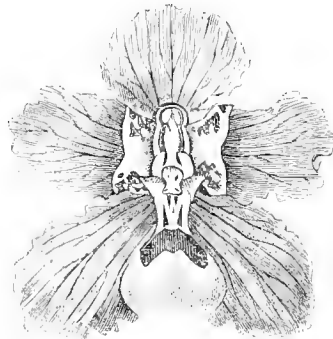


FIG. 12.—ODONTOGLOSSUM CORONARIUM.

species which is seldom to be seen in bloom. The flowers are of fine form, in colour a rich chestnut-brown, bordered with yellow, with a varnished surface, and very attractive. The successful flowering of this beautiful plant has, unfortunately, been attended in some gardeners' hands with difficulty, although at Barford not any has been experienced; and as regards its culture, we find that it thrives in the same temperature as that which suits *Odontoglossums* generally. It is always placed at the warmer part of the house, and where the light is greatest. It is a plant of strong scandent habit, each new growth extending from 4 to 6 inches. Owing to this habit, the plant should be cultivated in a long, narrow Teak-wood basket, with plenty of drainage and a little peat and sphagnum-moss well mixed with small crocks. The proper time for rebasketing *O. coronarium* is soon after it has flowered—that is, when the growth is about to recommence. Keep the plants near to the roof at all times, and afford it plenty of water the whole year round.

**MASDEVALLIAS.**—Such species as *Masdevallia cucullata*, *M. polycticta* with its spider-like flowers, *M. ludibunda*, and *M. striatella*, form pretty objects in the cool-house at this season of the year.

**THE FLOWER GARDEN.**

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**HERBACEOUS BORDERS.**—Weather permitting, such strong-growing subjects as *Chrysanthemum maximum*, *Pyrethrum uliginosum*, &c., which may, owing to size, require dividing and re-planting may be attended to. The soil, if exhausted, may be dressed heavily with decayed manure, burnt garden-refuse, road grit, &c., slightly burying the dressing with the digging-fork. In making new borders, the ground should be

well manured and trenched previous to planting. Amongst the various subjects selected for furnishing a border, the following should not be omitted:—*Asters* (*Michaelmas Daisy*), in variety; *Brodiaea congesta*, *Centaurea micropetalala* and *C. Ruthenica*, *Cephalaria alpina*, *Chrysanthemum Maurice Pritchard*, *Coreopsis lanceolata* and *C. grandiflora*, *Eryngium maritimum* and *E. O. O. O. O.*, *Gaillardia*, *Harpallium rigidum*, *Helianthus* in variety, *Heuchera sanguinea*, *Inula glandulosa*, *Iris* in variety, *Montbretias* in variety, *Pæonies*, *Palfoxes*, *Pyrethrum* (double and single), *Rudbeckia Newmani*, *Scabiosa caucasica*, *Thalictrum aquilegifolium*, *Tritoma Macowanii*, *Trollius japonicus*, *Anemone japonica*, &c.

**FLOWER BEDS**—In those beds which were filled in the autumn with bulbs and plants, losses are sure to have occurred, and these should be made good with plants from the reserves. The bulbs should be replaced from the stock of those potted up in small numbers of each variety, bedded out and kept plunged in coal-ashes or cocoa-nut fibre out-of-doors. If not already done, turf may be laid down in mild weather, and grass walks and verges renovated and repaired. Walks and lawns at this season present a tidier appearance, and they are improved in condition if occasionally rolled when the surface is not sticky; neatness and order in the vicinity of the flower garden compensating in a certain degree for the lack of flowers. Odd jobs of various kinds may now be pushed forward.

**PROPAGATION.**—Cuttings of bedding plants, such as *Lobelia erinus*, *Iresine*, *Alternanthera*, *Coleus*, *Ageratum*, *Heliotrope*, &c., may now be put in to strike, or rather the plants may be slightly hastened in warmth before this is done. Tubers of any section or variety of *Dahlia*, which will be required in quantity, after slightly covering them with light soil, may be placed in gentle heat for the production of shoots to serve as cuttings, but the bulk of these roots should remain dormant for several weeks longer.

**CANNAS.**—The rhizomes may be looked over, and if necessary, the stock increased by division, potting up the pieces, and placing them in a Peach-house or vinery that is being started; and when the new growths appear, removing the pots to a cooler house, always keeping them near the glass to maintain a sturdy habit.

**FOLIAGE PLANTS.**—The seeds of *Solanum robustum*, *S. marginatum*, &c., *Canna*, *Abutilon*, *Grevillea robusta*, *Phorarium tenax*, *Eucalyptus globalis*, and sub-tropicals generally requiring a long period of growth, prior to planting them out, may now be sown in pots and pans of light sandy loamy soil, in gentle heat, remembering not to cover them more than their own thickness with soil. Palms, *Ficus elastica*, and similar plants that may be required for use as "dot" plants, should now be re-potted or top-dressed as may seem to be required, in order to have them in good condition by the time they are required for planting out.

**TUBEROUS-ROOTED BEGONIAS.**—Seeds may be sown forthwith in heat, or the stock for bedding purposes may be increased by placing last season's tubers in cocoa-nut fibre in a growing temperature, and when growth has commenced by dividing or cutting them up into pieces each with a bud. It is well to sprinkle powdered charcoal over the raw surfaces of divided tubers, and pot up shortly afterwards in a light sandy mixture. Cuttings may also be struck, taking the young growths when of sufficient length. In sowing seeds, use a sandy peaty compost in well-drained pans (not new ones), and do not cover the seed with soil, but after sowing on a perfectly level surface, water it in with the finest rose-can.

**SWEET PEAS.**—A sowing of Sweet Peas may now be made in pots, for planting out on a sheltered border later on. In light warm soils a sowing may be made in the open, and as soon as the seedlings appear above the ground, affording the patches or lines a dressing of soot to deter insects and birds from molesting them.

**SOLITARY PLANTS ON LAWNS.**—Any of these which appear to need assistance may now be top-dressed. Before doing this, the turf round them should be cut and rolled back, and if the soil is at all dry, afford weak liquid-manure in quantity. Apply the dressing of soil, and relay the turf, making all level and neat again by rolling and beating it.



## APPOINTMENTS FOR THE ENSUING WEEK.

## SALES.

MONDAY,	JAN. 20	{ Plants, Palms, Azaleas, &c., at Protheroe & Morris' Rooms.
TUESDAY,	JAN. 21	{ Paeonia, Carnations, Iris, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 22	{ Japanese Lilies, Fruit Trees, Roses, Gladioli, &c., at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 23	{ Begonias, Roses, Gladioli, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 24	{ Tuberoses, Begonias, Peonies, Dahlias, &c., at Protheroe & Morris' Rooms. Imported Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—37° 8'.

The common white Jasmine, long been cultivated in this country, that all traces of its original introduction seem to be lost. It is a native of Persia, Kashmir, and the Himalayas, but is quite at home in this country, no frost ever seeming to injure it. In books, as in *Nicholson's Dictionary*, the date of its introduction is given as 1548, but upon what authority or under what circumstances we have not yet had the opportunity of ascertaining. We may, however, call attention to the circumstance that in the collection of pictures by the Old Masters now on view at the Royal Academy, is a portrait of Don GARCIA DE MEDICIS, by ANGELO BRONZINO, in which the lad bears in one hand a spray of Lily of the Valley, and a similar one of white Jasmine. Now, according to the biographical dictionaries, ANGELO BRONZINO was born in 1502, and died in 1572, so that we may assume that this is probably one of the oldest, if not the oldest, representations of the Jasmine in existence. The plant is not mentioned in Turner's *Libellus de Re Herbaria*, 1538. GERARDE, at p. 745 of the *Herbal*, writing in 1597, says, "There be found at this day fower sorts of Jasmine, differing as well in the color of the flowers as in greatness of the same," and goes on to mention: "1, the white Gessamine; 2, the great white Gessemine; 3, the yellow Jasmine; and 4, the blew Jasmine."

As to the latter he writes:—"There is likewise another sort that differeth not from the former in any respect but in the color of the flower; for this plant hath flowers of a blew colour, and the others not so, wherein consisteth the difference."

"Gelsimine (continues GERARDE) is fostered in gardens, and is used for arbora, and to cover banquetting houses in gardens; it groweth not wilde in England that I can understande of, though Master LYTE be of another opinion; the white Jasmine is common in most places in Englands, the rest are strangers, and not seen in these parts as yet." GERARDE adds, "Jasmine or Gelsimine is of the number of those plants which hath neede to be supported or propped up, and yet notwithstanding of itself clasped not, or windeth his stalks about such things as stand neer unto it, but only leaneth and lieth upon those things that are prepared to sustaine it, about arbors and banquetting houses in gardens, by which it is held up."

MILLER, in his *Gardeners' Dictionary* says:—"This grows naturally at Malabar [an error], and in several parts of India, yet has been long inured to our climate so as to thrive and flower extremely well, but never produces any fruit in England."

The Jasmine fruits indeed very rarely, even on the continent, but once, if not oftener, we have seen it, and from the specimens then sent, the illustration, fig. 13, was taken.

Winter-flowering Calanthes.

THERE is scarcely any Orchid or other plant whose flowers are more useful at mid-winter than those of the *Calanthe*. No great amount of skill is wanted to produce satisfactory results; no stove plant is more easily cultivated. Till a few years ago, all that gardeners had available were *C. cristata*, which has white flowers with red and yellow eyes, and the pure white variety, which goes under the name of *C. Turneri*, and *C. Veitchii*. It is a rather curious fact, that notwithstanding the great beauty of the last-named variety, the result of cross-fertilisation, no attempt was made for about twenty years to obtain new varieties from seed. The next to be brought out was *C. Sedeni*; and since that variety was raised, some amateur raisers have been fortunate in obtaining many varieties, and these are almost as common now as those of the *Carnation*. It is known that the raising of crosses and hybrids of Orchids is, as a rule, a slow process, requiring much skill and patience. The *Calanthe*, however, is an exception, the capsules ripening in three months from the time ferti-

lized, the long spikes seem to be a mass of snowy-white flowers, but down the throat a blotch of rich ochre-yellow is noticed, and from this blotch radiate faint lines of pale yellow over the broad lip.

*C. William Murray* has the most vigorous growth of any of the set, producing large pseudo-bulbs, and spikes 3 feet in length. The sepals and petals are white, the throat is maroon, shading off to crimson, and the deeply-cleft lip has a wavy appearance. *C. Bryan* is also a striking variety of vigorous constitution, producing tall, arching spikes. The flowers are ivory-white, with a rich maroon-purple blotch. It was remarked of a batch of plants of this variety in flower at St. Albans, that in the mass "they resembled so many snowflakes spotted with blood."

*C. Clive* is very distinct in appearance, not so vigorous in growth as some others; the colour is a soft rosy-carmine, the sepals fading to white at the margin; the basal part of the lip white, changing into deep rose. *C. Arnold* is also of medium growth, the prevailing colour, like that of *Clive*, is rosy-carmine; the throat, and that part of the lip immediately in front of it, is a soft velvety-crimson; the lateral petals are suffused with pink, fading off to white at the margin.

A few short remarks on culture must not be omitted, for the *Calanthe* must not be treated like *Cattleyas* and *Laelias*, merely because it is an Orchid. Peat and sphagnum-moss are not required, but good fibrous loam three parts, dried cow-manure one part, and a small quantity of leaf-mould, with enough coarse white sand to keep the compost porous. The first week in February is a good time to re-pot the plants. The pots used should be clean and well-drained, over the drainage being placed a handful of the fibrous part of the soil, the latter being shaken out of it, and some of the rougher portions of the cow-manure. Afford no water for ten days after re-potting the plants, and water but sparingly until roots appear; and when the plants are in full growth, weak manure-water is a help to them. Let the night temperature be about 65°, with the usual rise by day.

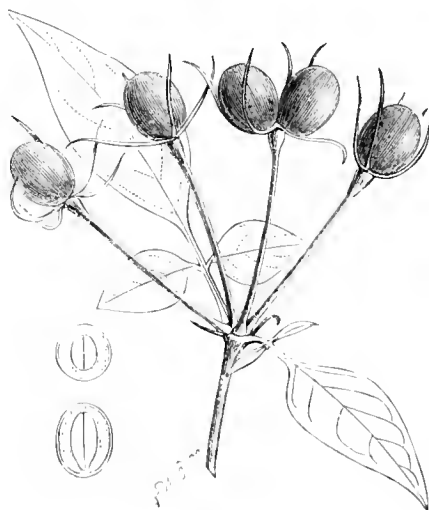


FIG. 13.—FRUITS OF THE COMMON JASMINUM.

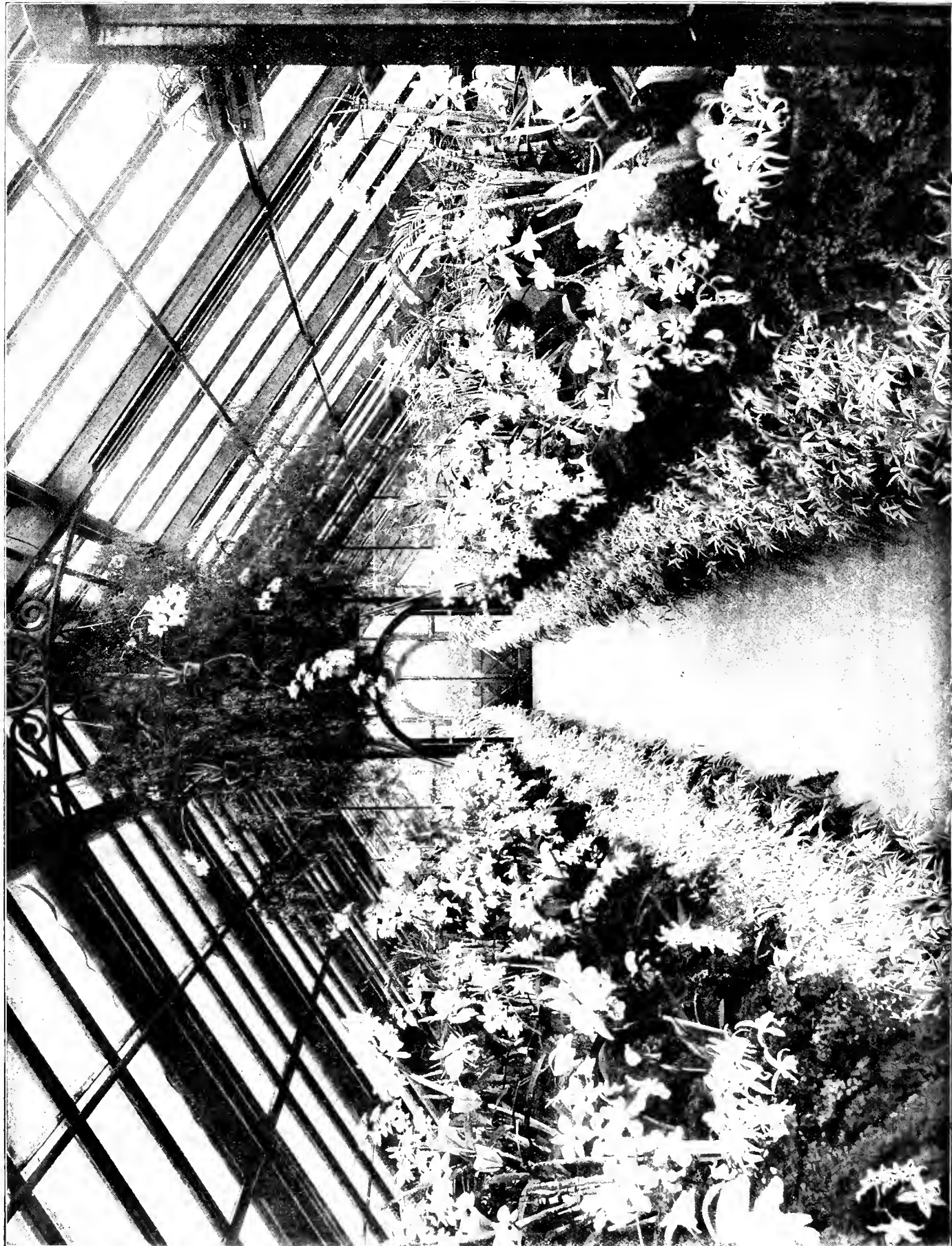
ation takes place; the seed germinates in two or three months, and the young plants produce flowers in three years.

We write about *Calanthes* at this season, because gardeners and amateurs possessed of hot-houses ought to cultivate the plants. We have some out spikes before us, arranged in vases with Fern fronds, and some with spathes of *Anthurium*, which will remain in perfection as cut for a period of several weeks. Those who saw the fine display of new *Calanthes* shown by Messrs. SANDER & Co., St. Albans, at one of the Royal Horticultural Society's meetings towards the end of the last year, will remember how much superior they were to the older forms! and they were well cultivated and exhibited to the best advantage. Most of these varieties were raised by NORMAN C. COOKSON, Esq., Oakfield, Wylam-on-Tyne, an amateur who has worked on the genus for many years, not only raising many new and distinct varieties, but some which had been previously raised by other cross-breeders, notably the pure white *C. Veitchii*. Some of the best of those raised by Mr. COOKSON, and exhibited by Mr. SANDER are *C. Cooksoni*, the name by which this splendid white variety is known in Mr. SANDER'S collection. At first

ROYAL HORTICULTURAL SOCIETY.—There is generally a certain amount of grumbling among provincial and other Fellows of the society that the nominations to the Council are mostly made by the existing Council. We may point out that this is a matter which rests with the Fellows themselves, and if they do not exercise their rights, it is necessary some one else should do so. It would be well if the Council would each year remind their constituents of their duty and of the time when they should be executed.

ROYAL HORTICULTURAL SOCIETY'S COMMITTEES, 1896.—The following gentlemen have been elected to serve on the several Committees. SCIENTIFIC.—Sir J. D. Hooker, K.C.S.I., C.B., F.R.S., &c., The Camp, Sunningdale, Chairman. Dyer, W. T. Thistleton, C.M.G., F.R.S., Royal Gardens, Kew; Foster, Prof. M., Sec. R.S., Great Shelford, Cambridge; Masters, Maxwell T., M.D., F.R.S., &c., Mount Avenue, Ealing, W., Vice-chairmen. Rev. Prof. G. Henslow, M.A., F.L.S., Drayton House, Ealing, W., Hon. Sec. Allen, J., Park House, Shepton Mallet; Baker, J. G., F.R.S., Royal Gardens, Kew; Balfour, Prof. I. B., F.R.S., Botanic Gardens, Edinburgh; Bonavia, Dr. E., 5, Harrington Mansions, South Kensington; Barbidge, F. W., M.A., F.L.S., Trinity College Gardens, Dublin; Church, Professor A. H., M.A., F.R.S., Shelsley, Kew Gardens; Clarke, Colonel R. Trevor, Welton Place, Daventry; Darwin, Francis, F.R.S., Wychfield, Huntingdon Road, Cambridge; Dod,





ORCHID-HOUSE, AT THE DUKE OF WESTMINSTER'S, EATON HALL,

Rev. C. Wolley, Edge Hall, Malpas, Cheshire; Elwes, H. J., F.L.S., F.Z.S., Coleborne, Andoversford, Glou.; Engleheart, Rev. G. H., M.A., Appleshaw, Andover; Farmer, Prof. J. B., M.A., Royal College of Science, South Kensington; Frankland, E., F.L.S., The Yew, Rigate Hill, Rigate; Godman, F. D., Cane, F.R.S., 10, Chandos Street, Cavendish Square; Lindsay, R., Botanic Gardens, Edinburgh; Llewellyn, Sir J. T. D., Bart., F.L.S., Penllergaer, Swansea; Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge; Maxwell, W. H., Muache, Dilbeattie, N.B.; McLachlan, R., F.R.S., Westview, Clarendon Road, Lewisham, S.E.; Michael, A. D., F.L.S., Cadogan Mansions, Sloane Square, S.W.; Morris, D., C.M.G., M.A., F.L.S., D.Sc., 12, Camberland Road, Kew; Müller, Hugo, Ph.D., F.R.S., 13, Park Square East, Regent's Park; Oliver, F. W., D.Sc., F.L.S., 10, Kew Gardens Road, Kew; Plowright, C.B., M.D., F.L.S., 7, King Street, King's Lynn; Russell, W. J., F.R.S., Ph.D., 31, Upper Hamilton Terrace, N.W.; Savin, Osbert, F.R.S., Hawkfold, Fernhurst, Haslemere; Scott, D. H., M.A., Ph.D., F.R.S., F.L.S., The Old Palace, Richmond, S.W.; Sutton, A. W., F.L.S., Reading; Veitch, H. J., F.L.S., King's Road, Chelsea, S.W.; Ward, Professor Marshall, F.R.S., The Laurels, Englefield Green, Staines; Wilson, Geo. F., F.R.S., Heatherbank, Weybridge Heath.

FRUIT AND VEGETABLE COMMITTEE.—Crowley, Philip, F.L.S., Waddon House, Croydon, Chairman. Hogg, D., LL.D., F.L.S., 99, St. George's Road, S.W.; Rivers, T. Francis, Sawbridgeworth, Vice-chairman. Balderson, H., Corner Hall, Hemel Hempstead; Barra, A. F., Sutton Court Road, Chiswick, W.; Bates, W., Poulett Lodge Gardens, Twickenham; Bennett, W., Rangemore Park Garden, Burton-on-Trent; Casal, Joseph, Crawley, Sussex; Crisp, T. H., Osberton Hall Gardens, Woking; Crump, W., Madresfield Court Gardens, Malvern; Cummins, G. W., The Grange Gardens, Wallington; Dean, A., 62, Richmond Road, Kingston, S.W.; Dears, W. H., Belvoir Castle Gardens, Grantham; Dinn, Malcolm, The Palace Gardens, Dalkeith, N.B.; Farr, W., Spring Grove House Gardens, Isleworth; Fife, Robert, Debbie's Nurseries, Orpington, Kent; Glen, T., Worth Park Gardens, Crawley; Goldsmith, Geo., Leonardlee Gardens, Horsham; Harris, C., Dropmore Gardens, Maidenhead; Iggulden, W., North View, Frome, Somerset; Laing, J., Jun., Forest Hill, S.E.; Lane, Fred, Q., Berkhamsted; Meladon, James, Hatton Hall Gardens, Guisborough; Miles, G. T., Wycomb Abbey, High Wycomb; Norma, G., Hatfield House Gardens, Hatfield; Pearson, A. H., The Nurseries, Chilwell, Notts; Pops, W., Highclere Gardens, Newbury; Reynolds, G., The Gardens, Gunnersbury Park, Acton; Ross, Charles, The Gardens, Welford Park, Newbury; Sage, G. H., Ham House Garden, Richmond, S.W.; Saltmarsh, T. J., The Nurseries, Chelmsford; Smith, James, The Gardens, Meutmore, Lighton Buzzard; Veitch, J. H., King's Road, Chelsea; Veitch, P. C. M., The Royal Nurseries, Exeter; Ward, H. W., Longford Castle Gardens, Salisbury; Willard, Jesse, Holly Lodge Gardens, Highgate, N.; Woodward, G., Birham Court, Teeton, Maidstone; Wright, John, 171, Fleet Street; Wythes, G., Syon House Gardens, Brentford.

GLOBAL COMMITTEE.—Marshall, William, Auchincraith, Bexley, Chairman. D'Oubrain, Rev. H. H., Westwell Vicarage, Ashford, Kent; Fraser, John, The Nurseries, South Woodford; Paul, George, The Old Nurseries, Chesham, Vice-chairman. T. Humphreys, R.H.S. Gardens, Chiswick, W., Secretary. Bain, W., The Gardens, Barford Lodge, Dorking; Barr, W., 12, King Street, Covent Garden, W.C.; Beckett, E., Aldenham House Gardens, Eistree; Blick, Chas., The Warren, Hayes Common, Beckenham; Briscoe Ironside, Henry, Cedar Lodge, Burgess Hill, Sussex; Cannell, H., Swanley, Kent; Dean, R., Ranelagh Road, Ealing, W.; Drury, C. T., F.L.S., 25, Windsor Road, Forest Gate; Fitt, J. H., The Frythe Gardens, Welwyn; Fraser, John, Willow Cottage, Kew; Gordon, G., Eidsleygh, Priory Park, Kew; Harbit, H., Kew Road, Rich-

mond, Surrey; Hogg, R. M., 99, St. George's Road, Pimlico, S.W.; Hudson, J., Gunnersbury House, Acton; Jeffries, C., Boston House Gardens, Brentford; Jennings, J., Ascot Gardens, Leighton Buzzard; Jones, H. J., Ryecroft, Hither Green, Lewisham; Laing, J., Forest Hill, S.E.; Low, R. B., Ashridge Gardens, Berkhamsted; McLod, J., Dover House Gardens, Rushampton; May, H. B., Dyson's Lane, Upper Edmonton; Mawley, E., Rosebank, Berkhamsted; Molyneux, E., Swanmore Park Garden, Bishop's Waltham; Nicholson, G., Royal Gardens, Kew; Noble, C., Sunningdale Nursery, Bagshot; Owen, R., Castle Hill, Maidenhead; Pawle, J. D., 12, Stanley Gardens, Willesden Green, N.W.; Pearson, C.E., Chilwell, Nottingham; Perry, Amos, Hardy Plant Farm, Winchmore Hill, N.; Salter, C. J., Woodhatch Gardens, Reigate; Selte-Leonard, H., Hitherbury, Guildford; Stevens, Geo., St. John's Nursery, Putney; Thomas Owen, Royal Gardens, Windsor; Turner, H., Royal Nurseries, Slough; Walker, J., Ham Common, Surrey; Watson, W., Royal Gardens, Kew.

ORCHID COMMITTEE.—Veitch, H. J., F.L.S., Royal Exotic Nursery, Chelsea, S.W., Chairman. Lawrence, Sir Trevor, Bart., M.P., 57, Princess Gate, S.W.; Masters, Maxwell, T., M.D., F.R.S., Mount Avenue, Ealing, W.; Schröter Baron, The Dell, Staines, Vice-chairman. O'Brien, James, West Street, Harrow-on-the-Hill, Hon. Secretary. Ashworth, E., Harefield Hall, Wilmalow, Cheshire; Ballantine, H., The Dell Gardens, Staines; Bogaerde, A. V., The Woodlands, Great Barr, Birmingham; Bond, T. W., Elstead House, Gardens, Godalming; Broomin-White, R., Ardarroch, Garelochhead, N.B.; Broome, Joseph, Sunny Hill, Llandudno; Barberry, H. A., Highbury Gardens, Birmingham; Chapman, H., Cambridge Lodge, Flodden Road, Camberwell; Cobb, W., Broadwater Down, Tabridge Wells; Cookson, Norman C., Oakwood, Wylam-on-Tyne; Crawshaw, D. Barri, Rosefield, Sevenoaks; Fowler, J. Garney, Glebeland, Woodford; Gabriel, J. T., 32, Palaca Road, Sreat-ham Hill; Handley, Rev. E., 19, Royal Crescent, Bath; Hardy, Fred, Tyatesfield, Ashton-on-Mersey; Hill, E., Tring Park Gardens, Tring; Ingram, C., 86, Onslow Gardens, S.W.; Jacob, E. B., Ewell House, Ewell; Jaques, J., Waddeaden Manor Gardens, Aylesbury; Latham, W. B., Botanic Gardens, Edgbaston, Birmingham; Lindsay, R., Botanic Gardens, Edinburgh; Low, E. V., The Nurseries, Clapton, N.E.; Lucas, C. J., Warham Court, Horsham; Mason, Major, The Fire, Warwick; Paed, Thomas, Roupell Park Nurseries, West Norwood; Pilcher, Charles, 81, Ringford Road, Wandsworth, S.W.; Pollett, H. M., Ferside, Bickley, Kent; Protheroe, W. H., 67, Cheapside, E.C.; Sinder, F., St. Alban; Snee, H. J., Wallington, Surrey; Thompson, W., Walton Grange, Stone, Staffs.; Toi, D., Eastwood Park, Thornliebank, N.B.; Wells, M., Braomfield, Sale, near Manchester; White, W. H., Burford Lodge Gardens, Dorking; Williams, H., Victoria Nurseries, Holloway, N.; Winn, C., The Uplands, Solly Hill, near Birmingham.

NARCISSUS COMMITTEE.—Professor M. Foster, Sec. R.S., Shelford, Cambridge, Chairman. Baker, J. G., F.R.S., Royal Herbarium, Kew; Dtd. Rev. C. Wolley, Edge Hall, Malpas, Cheshire; Engleheart, Rev. George H., Appleshaw, Andover; Wilks, Rev. W., Shirley Vicarage, Croydon, Vice-Chairman. Scrase-Dickins, C. R., Coolhurst Park, Horsham, Hon. Secretary. Barr, P., 12, King Street, Covent Garden, W.C.; Bennett-Pugh, John T., 29, Ashley Place, S.W.; Bourne, Rev. S. E., Dunston Vicarage, Lincoln; Burbridge, E. W., M.A., Trinity College Gardens, Dublin; Cammell, G., Brookfield, Hatherage, near Sheffield; Cammell, M., Lockwood House, Billingshurst, Sussex; Cowan, C. W., Valleyfield, Penicuik, Midlothian; De Graaff, S. A., Leyden, Holland; Goldring, W., 52, Gloucester Road, Kew; Jenkins, E. H., Queen's Road, Hampton Hill, S.W.; Kingsmill, A., Esq., The Holt, Harrow Weald, Stanmore; Krelage, J. H., Haarlem, Holland; Leichthia, Max, Baden-Eden; MacMichael,

Rev. C., Walpole Rectory, Wisbech; Marsh, Rev. T. H., Cawston Rectory, Norwich; Milne-Redhead, R., Hilden Clough, Bolton-by-Bowland, Clitheroe; Moore, F. W., Royal Botanic Gardens, Glasnevin, Dublin; Perry, Amos I., Hardy Plant Farm, Winchmore Hill, N.; Vilmorin, Henry L. De, Quai de la Mégisserie, Paris; Walker, James, Ham Common, Surrey; Ware, Walter T., Inglescombe Nurseries, near Bath; Willmott, Miss, Warley Place, Great Warley, Essex.

RULES FOR JUDGING.—One of the most useful tasks which the Royal Horticultural Society has undertaken has been the formulating a code for the benefit of judges and schedule-makers. This code will be published in a few days at the cost of 1s. 1d. We reserve detailed comments till a future issue, merely stating that such a code must necessarily be, to a large extent, arbitrary, and that, although it will not satisfy the requirements of everybody, and may be susceptible of improvement in detail, yet we trust it will be gratefully accepted, and as loyally obeyed, as circumstances permit. The code has been drawn up by a highly-competent body of committee-men, comprising many of our best exhibitors and judges. We trust this committee will not be dissolved, but will meet once or twice a year to discuss proposed improvements and alterations. The terms "kind," "variety," "genus," "tribe," "family," have been, as usual, stumbling-blocks, but some of the difficulty might have been evaded if the terms in question were used in the sense adopted, for convenience sake, by botanists. The muddle on p. 5, for instance, would thus have been avoided, and something would have been done to improve the extraordinary laxity and confused manner in which terms which have a definite signification are treated by gardeners and others, who ought to know better, as synonymous and interchangeable. So long as this is the case, so long must there be confusion. The word "amateur" is a much-debated term. In any case, the members of the horticultural press who have to act as umpires and interpreters of schedules more frequently than the Royal Horticultural Society, will be glad to be relieved of their duties in future, and to refer their questioners to this Code.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The annual meeting of this praiseworthy Institution is being held at 'Simpon's,' in the Strand, during the time these pages are being prepared for press. A general meeting of members, "to consider and adopt partial alterations and additions to the existing rules of the Institution, recommended by the Committee of Management," was held at 2.15 p.m. The fifty-seventh annual general meeting, for the purpose of receiving the report of the committee and the accounts of the Institution for the present year, electing officers for the ensuing year, and other affairs, including the election of fifteen pensioners on the funds, was held at 3 p.m. Some alterations in the rules, set forth in the report published on another page, were proposed and carried. We have neither time nor space at this moment to mention these in detail; suffice it to say, that by the new rules "market growers," as well as nurserymen and gardeners, are eligible for the benefits of the institution, and that a check has been put upon the proceedings of those who subscribe for a few years for a particular purpose, and having achieved that purpose, forthwith discontinue their subscriptions; that twelve gentlemen living more than 50 miles from the Office shall, as country members, form part of the committee; other rules refer to financial matters. The general effect of these new rules should be to strengthen the Institution, especially in the provinces. The report and balance-sheet were adopted unanimously. The committee reported that, "In consequence of S. Chinery, of Boxford, Suffolk, aged 71, gardener, a yearly subscriber of £1 ls. for fifteen years; A. H. Holmer, of Balham, aged 74, gardener, a yearly subscriber of £1 ls. for twenty-five years; W. Plester, of Elenham, aged 72, gardener, a life



member for twenty-four years; M. Bridger, of Finsbury Park, aged 70, gardener, a yearly subscriber of £1 1s. for fifteen years; and Elizabeth Simpson, of Slough, aged 60, whose late husband was a yearly subscriber of £1 1s. for nineteen years, being in distress, and having in every way complied with the regulations, the committee will recommend that these five applicants be placed on the pension list without the trouble or expense of an election in accordance with Rule III, 5." An election then took place for the remaining ten vacancies. There were forty-one applications, including six that now applied for the fourth, eight for the third, fourteen for the second, and thirteen for the first time. The following are the names of those successful, together with the number of votes given for each:—

WILLIAM BISHOP	...	...	4921
JOHN EWING	...	...	3834
GEORGE FLETCHER	...	...	3739
HESLER FALCONER	...	...	3227
HENRY WOOD	...	...	3131
THOMAS BANNISTER	...	...	2946
JOHN PEARCY	...	...	2809
SAMUEL PICKSTONE	...	...	2513
JAMES FIELD	...	...	2489
WILLIAM CROSHIER	...	...	2468

In the evening will be held the usual friendly supper, at which Mr. P. C. M. VEITCH, of Exeter, will preside.

**ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.**—On the completion of the prize schedule by the directors of this Society one night last week, their chairman, Mr. J. MURRAY, of Glenburnie Park, entertained them at supper. A deputation representing the directors of the Society had an interview with Lord Provost MEARNS on Saturday, on the subject of a site for the next show. The site suggested by the directors is the grounds of Gordon's College.

**ROYAL BOTANIC SOCIETY OF LONDON.**—It is proposed to hold a Conference and Show of Daffodils, also exhibition of other spring flowers, at the Gardens, Regent's Park, London, in the month of April next. Public notice of the date of the Conference will be given as soon as it can be ascertained when the Daffodils will be at their best. Particulars of the show and conference can be obtained on application to Mr. J. BRYANT SOWERBY, the secretary.

**FLOWERS FROM SCILLY.**—The Scilly Islands flower season, says the *Daily Western Morning News* of the 10th inst., has already commenced, though as yet only small quantities have been sent from the islands. About 300 boxes were yesterday despatched from Penzance Station, for the London and midland markets. It is expected that much larger consignments will be made in a week or two.

**THE SURVEYORS' INSTITUTION.**—The next ordinary general meeting will be held on Monday, January 20, 1896, when a paper will be read by Col. G. W. RAIKES (Fellow), entitled "The Re-apportionment of Rates and Taxes." The chair to be taken at 8 o'clock.

**CUCKFIELD CHRYSANTHEMUM SOCIETY.**—Owing to lack of financial support, this now defunct society gradually became weaker, and at the last autumn show very few prizes were offered. The receipts of the society enabled it, however, to clear off all its debts, and it was decided to distribute the balance and dissolve the society. The Chrysanthemum show was originated about ten years ago, when, for two years, it was held in the Drill Hall, and the entire proceeds given to the Gardeners' Royal Benevolent Institution, by which the committee became a life subscriber to that body. A Chrysanthemum society was then formed, with its headquarters at the Talbot Hotel, Mr. TUGWELL being the first secretary.

**A YEAR'S IMPORTS OF FRUITS, ETC.**—There is no reader of this journal but is interested to

the subject of fruit and vegetable consumption, and in the importations from abroad. Month by month we give in as simple a style as possible a record of the importations extracted from the returns published by the Board of Trade. The returns are not so full as they might be, but all in good time. The returns for the year 1895 are a wonderful mass of figures, and the accompanying table, which has been made of additional value by affixing a "difference column," will doubtless be found of great interest to even the most general of readers:—

IMPORTS FOR YEARS	1894.	1895.	Difference.
Fruits, raw:—			
Apples ... .. value	1,389,421	980,273	-409,148
Cherries ... .. "	165,899	95,043	-70,855
Plums ... .. "	392,105	163,045	-229,060
Pears ... .. "	411,316	166,706	-244,610
Grapes ... .. "	470,425	485,978	+15,553
Unenumerated ... .. "	553,859	513,370	-40,489
Onions ... .. "	765,040	696,428	-68,612
Potatoes ... .. "	1,030,091	1,173,392	+143,301
Vegetables, raw, unenumerated ... .. value	1,090,370	1,277,058	+186,688

It is certainly high time that the last heavy item in the list was abolished, by the enumeration of all the articles "lumped" in what may term an "etcetera."

**WILLIAMS' MEMORIAL.**—At a meeting of the Williams' Memorial Trustees held on January 2, Dr. MASTERS in the chair, it was decided to offer two Memorial Medals at the Grand Jubilee Celebration of the National Chrysanthemum Society at the Royal Aquarium, Westminster; one Memorial Medal at the exhibition of the Cardiff Horticultural Society; two Memorial Medals to the Royal Horticultural Society to be competed for at the Temple Show, and at the grand Fruit Show to be held at the Crystal Palace in the autumn.

**MEETING OF THE EDINBURGH SEED TRADE.**—The assistants held their first annual dinner in ARCHIBSON'S ROOMS, Queen Street, on Friday, 10th inst., Mr. HARRY ESKINE presiding over a large gathering. All the leading Edinburgh houses were represented.

**THE EMBANKMENT GARDENS.**—"The Gardens during last year have been fully as unsatisfactory as they were when we last called attention to them. The shrubs are crowded, badly grown, and uninteresting; the beds have been ill-kept, and the plants in them often unsuitable, e.g., the Indian Pinks and the Portulacas, which, brilliant enough in bright sunshine, are at all other times dull and colourless. But it is in the borders which encircle the grounds that incapacity is most manifest. Weedy annuals, and others effective only in mass, have been dotted about as "single spies," not "in battalions;" and at a period when "herbaceous" gardening has almost become a craze, we find no recognition of its value—hardly, indeed, any indication of its existence. To particularise somewhat: the various handsome smaller Sunflowers, with which private gardens have been aglow from summer to late autumn, have been represented only by the coarse and ugly double form of one of them—the worst of its race. The tall white "Marguerites," as the shrubby Pyrethrums are called, have been almost entirely absent; the hardy Lilies have been ill represented; of the beautiful Japanese Anemones, pink and white (more especially the latter), which, once planted, increase with almost weed-like rapidity, and are invaluable in spaces such as the Embankment Gardens offer, we could not find a single example. Chrysanthemums, again, which carry us on with varied colour late into November, are almost unknown, the few there are being of the commonest and poorest kinds. It would be easy to multiply examples, but these will suffice to show the need that exists for reform. Even so simple a matter as the renewing, when necessary, of the Ivy which surrounds the borders, is not attended to; there was a large blank patch in

the end border by the National Liberal Club, which was left unfilled for months. If it be urged that the question is one of expense, that objection can readily be answered. It is not a matter of money, but of intelligence. All the plants we have named are exceedingly cheap; the money spent in digging holes in the lawns and sticking in wretched little *Euonymuses*, of which there are already far too many, would suffice to stock the gardens throughout. This preposterous piece of folly, by the way, has lately been carried out also in Kennington Park—where there is some excellent bedding to be seen near the gates facing Kennington Road—with the result that the once restful sweeps of grass now present the appearance of a badly-planted nursery-ground." *Nature Notes*.

**NEW POTATOS AT CHRISTMAS.**—Many of our readers may have had occasion to remark the exceptional mildness of the climate in the Isle of Wight, but possibly fewer are prepared to hear that Potatoes planted in sheltered slopes on the Undercliff in September may be lifted for consumption at Christmas. Nevertheless, this is what has been attempted at Ventnor, and partial success has followed. The District Council Technical Education Committee, with a view to testing the practicability of encouraging the production of new Potatoes at Christmas in the open as an island industry, arranged an exhibition, which took place last week, when prizes were offered for the best produce. Mr. S. HEATON, Horticultural Instructor to the I. W. County Council, acted as judge, and has furnished a report to the Committee, which has been published in the *I. W. County Press*. The report is not a satisfactory one, notwithstanding the exceptionally open weather preceding Christmas. It may, however, be interesting to quote a few of the conclusions arrived at:—

"1. It is obvious from the results of these experiments that in a fairly mild season new Potatoes can be produced in the neighbourhood of Ventnor by protection at night, and the planting of old sets which are well spered, even if planted so late as the middle of September; but for cooking purposes the quality is improved by planting much earlier than this, and not later than July.

"2. The flavour of those I had cooked, which were planted in September, was very poor, whilst those planted in July were much better, and by some people would possibly be appreciated; but for my own part I prefer good old Potatoes at Christmas.

"3. That for the production of new Potatoes at Christmas it is useless to plant new sets which are in a dormant condition, particularly after the month of July.

"4. That the best crops are produced if no manure is added at the time of planting; this should be done some time previously, so as to become soluble, and thus able to meet the demands of the growing crop.

"5. That amateurs and cottagers and others wishing to have a dish of new Potatoes for Christmas Day can do so in a mild season, if they plant early in a sunny situation, and afford not only night protection, but also protection from the north and north-east winds.

"6. That as a commercial industry the prospect is not very bright. (a) The price would be too high, and only within the reach of a few. (b) Most people would prefer the old Potatoes for flavour.

These experiments prove one important thing, even if the Potato crops have not realised expectations, and that is, that the Undercliff is much warmer than most parts of England, and any other part of the island."

From the above quotation it will be seen that new Potatoes may be obtained by the enthusiastic amateur, at Christmas, provided old tubers already making growth are planted in July. We have only to add, that the estimated price at which these Potatoes would pay is five shillings a pound, in order to show what poor prospect there is of the culture ever becoming of economic significance to the Island.

**THE MOVEMENTS IN THE LEAVES OF SPRUCES\***—In this communication the following points were laid before the meeting:—In the flat-leaved Spruce Fir, in which the stomatal leaf-surface is morphologically the upper one, and which forms WILKONIA's section *Omorica* of the genus *Picea*,

\* Read before the Botanical Society of Edinburgh by Mr. A. D. Richardson.

the twisting of the leaves upon their bases on the horizontal shoots, in order to assume the most advantageous position for the performance of leaf-functions, differs from that in flat-leaved Silver and Hemlock Fir, and in the Douglas Fir, in being reversed in direction, and that as a result of this reversion the order of succession in which individual leaves twist upon their bases on the shoots from zero to the maximum of 180° is also reversed—that is to say, instead of being from below upwards, as in Silver and Hemlock Fir, and in the Douglas Fir, it is from above downwards. In these flat-leaved Spruce Fir a leaf springing from the top of a horizontal shoot does not twist upon its base, while that on the opposite (under) side of the shoot twists through 180°, the amount of twisting in the intermediate leaves being equal to their angular divergence from the point of insertion of the leaf in which no twisting takes place. In flat-leaved Silver and Hemlock Fir, and in Douglas Fir, on the other hand, a leaf springing from the under side of a horizontal shoot does not twist upon its base, while that on the opposite (upper) side of the shoot twists through 180°, the amount of twisting in the intermediate leaves being, as in the case of the Spruce Fir, equal to their angular divergence from the point of insertion of the leaf in which no twisting takes place. A "pseud-distichous" arrangement of the leaves on the horizontal shoots therefore never occurs in Spruce Fir.

**PRESENTATION TO MR. WILLIAM COOMBER.**—A meeting of exhibitors, judges, &c., at the exhibitions of the Royal Botanic Society, took place at the Albert Hotel, Victoria Street, S.W., on the 14th inst., among those present being Messrs. H. J. Veitch, G. Paul, J. Laing, H. Williams, H. J. Cutbush, R. Dean, J. O'Brien, H. Appleby, J. Hudson, J. Jaques, Geo. Wythes, G. Reynolds, G. H. Richard, T. W. Sanders, &c. A preliminary statement was made by Mr. Jesse Willard, the convenor of the meeting, to the effect that the council of the Royal Botanic Society had dismissed Mr. Coomber from the post of superintendent of the society's gardens after he had filled that position for a period of twenty years, on the ground that the strained circumstances in which the society finds itself placed, necessitated the cutting down of expenses, and though the council had treated Mr. Coomber with consideration and courtesy, they were unable to give him a pension or to make him a retiring allowance. He thought the circumstances of the case justified him in calling together a few of Mr. Coomber's friends, to take the matter into consideration, and he desired to thank those present for their attendance. It was resolved that a fund be opened for making a suitable presentation to Mr. Coomber, that it should take the form of a purse of money, that those present should form a committee, with power to add to their number; that Mr. J. Willard, The Garden, Holly Lodge, Highgate, be secretary; and Mr. H. J. Veitch, chairman and treasurer; and that a circular be prepared and sent to the Fellows of the Society, and others. The sum of £36 10s. was subscribed in the room, and regarded as a very satisfactory commencement. A hearty vote of thanks was passed to Mr. Willard for convening the meeting, and to Mr. H. J. Veitch for presiding.

**ABERDEEN GARDENERS' AND FRUITERS' ASSEMBLY.**—The gardeners and fruiterers in Aberdeen and district held their annual re-union in the Albert Hall, Aberdeen, in the end of last week. The gathering, as in former years, proved highly successful and enjoyable. This year the customary social meeting was dispensed with, and the proceedings took the form of a ball, with a supper served during the interval. There was a capital turn out, some 300 being present.

**SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.**—On Saturday last, the annual banquet of the above society was held at the Hotel des Vrais Amis, Soho Square, in commemoration of the seventh anniversary of its foundation. Mr. C. HARMAN PAYNE, the energetic secretary of the National Crysanthemum Society, occupied the chair, and

several English representatives of the horticultural world honoured the society with their presence. We may mention Mr. H. J. Cutbush, Mr. P. M. Barr, Mr. B. Wynne, and Mr. G. Tivey, besides eighteen active members of the International Society headed by their President, Mr. Geo. Schneider, the well-known authority on Ferns. On the removal of the cloth, Mr. Geo. Schneider introduced the chairman to the members, proposed the first of numerous toasts. Speeches by Messrs. C. Harman Payne, Geo. Schneider, and H. J. Cutbush followed.

**GRAND YORKSHIRE GALA.**—The annual meeting of the guarantors and life members of the Grand Yorkshire Gala was held at Harker's Hotel, York, on the evening of 10th inst., Ald. Sir JOSEPH TERRY presiding. There was a large attendance. The Chairman said that the council had waited upon the Bootham Asylum authorities, who had granted them the use of the customary field for the gala on the 17th, 18th, and 19th of June next on the usual terms. Sir Joseph moved that the Lord Mayor be elected president of the gala for the ensuing year. Mr. J. W. Craven seconded the motion. Mr. Councillor Lancelot Foster proposed that Ald. Sir Joseph Terry be re-elected chairman of the council, and paid a tribute to the admirable services he has rendered in years past. Mr. Geo. Kirby seconded. Mr. Edward Rooks was re-elected vice-chairman; Mr. Joseph Wilkinson, treasurer; Mr. C. W. Simmons, secretary; and Messrs. Pearson and Taylor, auditors, for the ensuing twelve months. The Floral, Entertainments, and Finance Committees having been appointed, the following grants were made:—Floral, £600; music, £200; fireworks, £130 (an increase of £30); balloons, £60; and amusements, £175.

**THE SYNCHRONISM OF VARIATION.**—One of the most puzzling things about variations is the simultaneous appearance in widely different localities of the same "sport." A little while since we published a figure of a dwarf Sweet Pea, which reached us from America. Now we learn, that at the same time Mr. Eckford had the same dwarf variety in his grounds at Wem, in Shropshire.

**PHOTOGRAPHING THE INVISIBLE.**—For some time past rumours have been current as to the proceedings of a German professor who claims to be able to photograph the bones of the skeleton, even when clothed with the muscles and skin. The same professor has succeeded in the presence of the German Emperor in photographing a coin enclosed within a box. This will appear to some very wonderful and too like magic to be quite "canny." Scientific men, however, will not find the alleged new discovery at all matter for scepticism. They are quite familiar with such things as conductors and non-conductors of electricity, of polarization, refraction and decomposition of light by prisms, diathermancy, and other illustrations of the "invisible powers of nature." The potential applications of the new discovery are great. To medical men especially they may be of the utmost value, whilst who knows but that the phrase, "seeing what is passing through another's mind," may ultimately become less metaphorical than it now is?

**A HYBRID TULIP.**—In the *Bulletin* of the Royal Tuscan Society of Florence for December, 1895, is given a coloured plate of a Tulip said to have originated as a cross between T. Greigii and T. Kaufmanniana. The plate represents a dwarf plant with very broad spotted leaves, and a short scape, bearing a cup-shaped flower, the segments of which are yellow, flushed in the centre and at the base of each segment with red. It was raised by Mr. SPRENGER, of Messrs. DAMMAN'S nursery, near Naples.

PLANT PORTRAITS.

**BOMBAX MACROCARPUM**, K. Sch.; syn.: Pachira macrocarpa, Solms.—A handsome stove shrub or tree, with digitate leaves, and long funnel-shaped flowers, with free, revolute, leathery leaves and numerous projecting pink filaments (Malvaceae). *Gartenflora*, 1422.  
**LILIUM NEPALESE**, Dou. *Revue de l'Horticulture Belge*, January 1.

**NERINE CURVIFOLIA**, *Revue de l'Horticulture Belge*, January 1.  
**PHILODENDON DEYANSAYEANUM**.—The stalks and under-surface of the leaves of this Peruvian Aroid are of a wine-purple colour. It was introduced by the Horticultural Internationals of Brussels, and is figured in the *Illustration Horticole*, t. 48.  
**SARRACENIA FLAVA** and **S. RUBRA**, *Wiener Illustrirte Garten Zeitung*, t. 19.

BOOK NOTICE.

THE ORCHID HYBRIDS. By George Hansen. (Dalau & Co)

PASSING over the preamble and opening chapters, the greater part of which had better not have been written, and the speculative views and inferences, which are relatively of minor importance, the real purpose of the work, which the author has so patiently and carefully compiled, becomes apparent, viz., the enumeration and classification of the species and varieties used in obtaining hybrid Orchids, with an attempt at scientific classification of the progeny. The author has been as successful as anyone dealing with the difficulties of the task could expect to be, the result of his labours being a compilation that will be very serviceable, especially to those who have sufficient acquaintance with the subject to enable them to grasp the somewhat complicated theories evolved, and the deductions which the author has put forth. At the outset the author laments the unavoidable shortcomings of one who is entirely dependent on the records of the raiser, and on the remarks accompanying the plant, when it is recorded or reported for the first time. After the enumeration of the hybrid *Calanthes*, classified according to their reputed percentage (often erroneous, we fear), the author finishes thus:—"The hybrids, Oakwood Seedling, Phœbe, and Bryan, raised by Murray for Cookson, could not be identified by the notes published with them." But it is to be feared that others, about which the evidence appears more conclusive, might have been placed in the same category. Again: '*Calanthe rosea*, v. *concolor*, r. *pallida*, caeta, *nivea*, *Veitchii lactea*, *V. alba*, and *versicolor*, all raised with Lawrence, Dorking, are names attached to seedlings about which no record was kept." In this the gardener appears to have the best of it, for he identifies and arranges some as varieties of *C. x Veitchii*; whereas the compiler of this work does not know where he should place them.

On the next page (p. 85), under the heading '*Cattalæia*,' is a list of synonyms of *Cattleya x Lælia*, in which the varieties of *Lælio-Cattleya x elegans* figure very prominently with their varietal names placed in one row, and the type "elegans" in the other as their synonymy. This is not admissible, for the plants have always been recorded as varieties of *L. C. x elegans*, and at this it had better rest. In the same column, '*Brysiانا*,' also appears as a synonym of "elegans;" but if we mistake not, it is a variety of *L. purpurata*.

When the compiler comes to the lists of the great genera already published in full in the *Gardeners' Chronicle*, he is on safer ground, and those errors which are made there may be mainly found in the classification, and probably in most instances owing to erroneous records, which the writer in his far-away home had no means of checking.

The lists of natural hybrids and their synonyms, and especially in the case of the *Odontoglossums*, are perhaps the most intricate parts of the work; and as in the classification of the *Odontoglossums*, no two persons can or would arrange them in the same manner, the author is at least entitled to his own views on the subject, and the study of his plan will doubtless be of service to others.

The first supplement has already appeared with the main work, and as it is proposed to issue supplements periodically, we recommend those of our readers who are interested in Orchids to procure the first issue and test it for themselves, for to define all its merits or demerits in this brief notice is not possible. The work displays the most unflinching patience on the part of the author, and the assimilation of nearly everything written by

anyone on the subject, renders the work of value to orchidists, if it be but for the purpose of bringing altogether every record, and placing them in a handy way for reference.

## BELGIUM.

### GHENT HORTICULTURAL MEETING.

At the first meeting of this year Orchids were the only flowers staged, and nearly all of them were from the houses of the well-known grower, M. Jules Hye-Leyson. We may mention *Cypripedium* × *Jeanne Voortman* (× *Sallieri* × *Spicerianum*), a remarkably beautiful hybrid, which won a Certificate of Merit, *par acclamation*; the standard resembled that of the latter parent, with a trace of the thick mid-rib of the former; it is fall, carved back gracefully round the edges, and in colour a very distinctive shade of ivory; the sepals and petals are like those of *C. Sallieri*, but of an exceptionally striking and graceful form. *Odontoglossum crispum*, var. *Mary Peeters*, is one of the most charming and remarkable varieties known; the form, the size, the pure white colour, the large, dark spots, all render this plant unusually beautiful. Another variety of the same species, beautiful in form and in its white colouring, received an award, together with a fine specimen of *Odontoglossum* × *Wilckeannum*, var. *albense* with a raceme of thirty flowers of great beauty. A specimen of the beautiful *Cypripedium* × *Albertianum* bore eight fine blooms. In addition to these beautiful Orchids, M. J. Hye showed six new, unnamed, hybrid *Cypripediums*: 1, *C. Spicerianum* × *villosum*, flower very glossy, robust, of remarkable form, the standard with a white ground and green base, veined with purple, with, in the centre, a wide band of ultra deep purple; 2, *C. Sallieri* × *insigne*; 3, *C. Spicerianum* × *villosum*; 4, *C. Chantini* × *Sallieri*, resembling greatly the former parent, the standard is exceptionally fine, with its wide white border and large spots; 5, *C. Spicerianum* × *insigne* Wallacei, a fine hybrid; 6, *C. Spicerianum* × *Boxalli* like the former varieties it recalls other hybrids. M. Jules Hye also showed *Odontoglossum Warscewiczii*, now very rare, a recently introduced specimen; but very few specimens grow into good plants. On the one shown were many blooms.

MM. Edm. Vervaeet et Cie. staged a hybrid *Cypripedium*, C. × *Reté Vervaeet*, raised from *C. Boxalli atratum* and *Chantini*. The standard is remarkably fine, and has a wide white edge, large blood-red spots, and a very delicate powdering of the same shade; it is fine in form. M. Steinmetz staged a fine *Lycaste Skinneri* variety, *Madame Steinmetz*, described by Mr. O'Brien in our issue of February 2, 1895 *Ch. D. B.*

## FLORISTS' FLOWERS.

### THE CARNATION.

At this season of the year the prudent florist takes stock of his plants and arranges beforehand the details of the work to be done during the next three months. I am now preparing the potting-soil for Carnations, of which a large quantity will be need, and as the staple consists of turfy loam, I have to be careful that it is freed from wire-worm before using it, and this, when cartloads have to be looked over, is an expensive and troublesome affair. In order to avoid the time and labour involved in a personal search amongst the loam-fibre, I now make up a large square heap of loam and manure fresh from the stable, and the two ferment sufficiently to evolve a heat that destroys the wire-worm, leather-coated grubs, and other pests. The loam is freshly cut, and in that condition it contains a good deal of grass, and heats gently without the manure, but never sufficiently to destroy the wire-worm. The ammonia arising from fresh stable-litter may also have a destructive action; at any rate, the troublesome pests are found to be dead when the heap is

turned over. It is advisable also to turn over the heap whilst the heat is good, and thus place what was the centre at the outside, and *vice versa*. I find unless this be done, a few grubs escape. Leaf-mould and sand are added in due proportions afterwards. The plants require to have all dead and decaying leaves removed, and those infested with aphid dipped in a painful of soap-suds. The last week in February or early in March is early enough to re-pot the plants, but it may be performed during March and April. I potted some last season, and planted others out as late as the last week in April, which did remarkably well. It is only right to add that autumn-planting always gives the best results. The plants in frames require plenty of air, and unless very severe weather sets in, the lights may be tilted night and day.

Slips of tree or perpetual-flowering Carnations should now be pnt in, and it is better not to put more than one variety in each flower-pot. I find large and small 60's is a desirable size of pot, the slips being inserted pretty closely together, and the pots plunged in slight bottom-heat in a close frame in the forcing-house, or otherwise kept from the air. The small side-slips pulled off with the finger and thumb, form roots more quickly than the central one, which are thicker, and require a much longer time in which to strike.

### THE ANRICULA.

My plants are still furnished with more leaves than is usual in January, the reason being that sharp frost has been rare. A frost of 20° or so about the new year, if of any duration, soon causes the outer leaves to decay. Some growers prefer their plants to be well frozen, whilst others do not; and it does not seem to matter much as both classes of growers are able to boast of securing good results. Frosts of less than 10° or 12° make no difference to them; but the excessive frosts of last year did punish the Anriculas severely, denuding them of leaves to such an extent, that the best trusses of such sorts as George Lightbody, Richard Headley, Silvia, Mrs. Moore, &c. were outside of the leaves altogether, instead of pushing up in the axils thereof. This was so much opposed to their usual habit, that a general weakness and occasional deformity was observable wherever the plants had been so exposed. Of course, when they had been put into a house heated sufficiently to keep the frost out during its greatest intensity, this was not observable.

The seedlings now vegetating in the seed-pans, or those that appeared above-ground during the autumn months, do best if placed on a greenhouse shelf. Frost has the effect of throwing the tiny seedlings out of the ground, as they have but slight root-anchors to hold them there. The plants must be pricked out as soon as they are ready—a dozen in a small 60. The minute thread-like roots are near the surface, and on that account the soil must always be kept in a moderately moist condition. Now is a good time to sow the seed. It should be sown on a level surface, and very slightly covered with finely-sifted soil, so that none is too deeply covered, nor any not sufficiently. *J. Douglas.*

## HOLLAND.

### THE NEW HORTICULTURAL SCHOOL.

With the appointment of Dr. J. T. Cattie as a Director of the new School for Horticulture, the first step has been made towards carrying out the scheme recently approved by the First Chamber of the Netherlands Parliament. The State Horticultural School will be established in connection with the Agricultural School at Wageningen, where all branches of cultural instruction will be united under one general management. Each separate department of agriculture, horticulture, colonial forestry, &c., will have its own director and teachers. Some details about its organisation may be given later.

### PROFESSOR OUDEMANS

celebrated his seventieth birthday on December 7, and received numerous proofs of his pupils' and friends' affection and respect. Professor Oudemans is not only an appreciated scientist, but has always had an eye for horticultural interests, having been connected with various international exhibitions either as a judge, or as a member of the committee. A most elaborate gardening periodical was issued by Professor Oudemans from 1865 to 1867, with numerous coloured plates and descriptions of new and rare plants. We beg to express our congratulations to the Professor on his recent anniversary, and regret to state that he has had to resign his duty, in accordance with the Dutch University Law.

### PHYTOPATHOLOGICAL INSTITUTE AT AMSTERDAM.

Experimental stations for the study of plant diseases exclusively are at present still rather rare. In Holland, the Government yearly allowed the appropriation of a certain sum for experiments in plant diseases at the Wageningen Agricultural School. Dr. Ritzema Bos, the well-known agricultural scientist, who was in charge of these experiments, received so many applications and enquiries about plant diseases from practical agriculturists, that his time became far too limited for any regular correspondence on these subjects. Meanwhile, it happened that Mr. and Mrs. Scholten-Commelin, of Amsterdam, intended to establish a fund for the maintenance of an institute for the general use of students in biology, in memory of their only son who died in his twenty-fifth year, and was a student of botany and zoology. Mr. Scholten approved of the foundation of a phytopathological school, suggested by Professor Hugo de Vries, of the Amsterdam University; and Dr. Ritzema Bos was appointed Director. The latter became also an extraordinary Professor at the Amsterdam University, and delivered his introductory lecture in December; the school, which already contains a splendid collection of specimens and instruments relating to plant diseases and injurious insects, was opened at the same time. Both scientists and practical nurserymen must render their best thanks to the generous founders of this most important establishment, which will be known as the Phytopathological Laboratorium Willy Commelin Scholten.

### NEW PERIODICALS AND BOOKS.

The number of gardening periodicals in Holland is much more extensive than an outsider would imagine. The most attractive paper is the monthly *Tydschrift voor Tuinbouw*, of quite recent date, the first number having appeared in May last. It contains coloured plates and engravings which hitherto have all been original and well executed. The editors are Dr. B. (botany), Mr. Ide (pomology and fruits), Mr. E. Krelage (bulbous plants and perennials), Mr. Piemper van Balen (floral and greenhouse department), and Mr. Springer (trees and shrubs, landscape gardening).

The official paper issued by the Netherlands Royal Horticultural and Botanic Society appears in a new shape. It is conducted by Mr. Kayk, and as a weekly periodical.

Another journal of equal importance is the weekly *Semperiurens*, conducted by Messrs. Witte, of Leyden, and Groenewegen, of Amsterdam. Besides these, there are *Floralia* (Editor, Mr. Piet), and *Flora and Pomona* (Editor, Mr. Kayk); and a special paper is issued for bulb growers (*Weekblad voor Bloembolter-cultuur*), and another for Rose-lovers (*Rosarium*). The bulb-growers are anxious to have good coloured plates of their trade varieties of the different bulbous plants. Some ten years ago, the firm of A. C. van Eeden & Co., which no longer exists, issued a beautiful collection of plates under the general title of *Album van Eeden*, in which the best-known Hyacinths, Tulips, &c., were represented by excellent drawings. The Bulb Cultural Society now intends to supervise the publication of a similar album, which is in preparation, and the first fascicle of which will leave the press in the present month. The plates will be of the same shape as those in the former

album, and descriptions will be added in the Dutch, English, French, and German languages. No plate will be published without the approval of the Council of the Bulb Cultural Society. The subjects of each plate will be chosen by a majority of votes by the members of the Society. The first series will be completed in five years, and twelve plates are to be published yearly.

NEW PLANTS.

A good opportunity for making known novelties raised or introduced in Holland is afforded by the

an offspring of a cross between *B. metallica* and *B. Scharffiana*, of very vigorous growth, and very floriferous—a really first-class plant; *Incarvillea Delavayi*, the highly prized hardy perennial of the Yunnan, and a plant of the future; a variety of the pink *Calla* with conspicuously reddish-violet spathe, a shade exactly like the drawing sent by Mr. Medley Wood to Kew, and distinct from the pink type introduced two years ago. *Sambucus racemosa plumosa* fol. aur. is a fine golden-leaved Elder, raised by Mr. Wegelenburg at Hazerswoude, and is a decidedly meri-

shown *Abies concolor*, *argentea*, *Watteni* and *Picea excelsa fastigiata*.

A cross between *Gloxinia* and *Streptocarpus* attracted much attention at the local Begonia show held at Haarlem, where also could be observed a tuberous Begonia, with yellow-bordered leaves. If the latter proved to be a persistent character of the variety, it would be a valuable border plant of the future. This special Begonia show was a great success, chiefly owing to some private gardeners, who staged collections both of single and double specimens of a very high standard of perfection. *Correspondent.*

HAKEA MULTILINEATA VAR.

Our illustration of this stately shrub (fig. 14) was kindly furnished by Mr. G. H. Adcock, of Geelong, Victoria. The plant is now very rare, but, as it seeds freely, it could soon be propagated were the taste of the day to veer round in favour of these very beautiful but much-neglected plants. The photograph gives no indication of the beauty of the flower, which is carmine in the centre, shading gradually to a pale pink at the tips of the styles. Mr. Adcock recommends that it be grown in calcareous soil, and adds that, like so many Australian plants, it prefers a soil that has been burnt. The plant was at one time called *Hakea grammatophylla*, F. v. M., but is now considered to be a variety of *H. multilineata*, Meisner.

TYNTESFIELD ORCHIDS.

TYNTESFIELD, the residence of Fred. Hardy, Esq., is situated on the flat lands of Cheshire, midway between Sale and Altrincham. All round about there is a wonderful wealth of tree life, the English Elms particularly being notable for size. This tree seems to revel in a dampish bottom, the bark corrugations being pronounced and healthy, many of the trees that margin the roadside girthing 9 feet, and of proportionate altitude. In the paddock adjoining Mr. Hardy's residence are groups of hybrid Rhododendrons and Hollies, which were sadly disfigured during the severe frosts of the two bygone years, but are now made up and recuperated, and form a fine bit of greenery confronting the house. The glass-houses have been increased quite to quadruple extent within the last two years. Mr. Hardy, as is well known, was by far the largest buyer at Pickering Lodge sale, when that renowned collection was brought to the hammer; indeed, the mantle of the father has fallen on the son, and now the Tyntesfield collection is much larger and more valuable than that of Pickering Lodge. No expense seems to have been spared in constructing a class of houses which, while they look well in themselves, seem admirably adapted for the large and varied lot of tropical, subtropical, and temperate Orchids located therein, and moreover to the credit of the owner and his excellent gardener, Mr. Stafford, they are in the pink of good keeping. Among the tens of thousands presentable as one passes along, there is no semblance of disorder, and cleanliness seems to be the standing order throughout.

Entering by a corridor filled with *Odontoglossum crispum*, the first house, 55 by 18 feet, is filled almost entirely with *Cattleyas*. The span roof rises from the eaves to the apex with wide astragals, and clear 21 oz. glass, admitting plenty of light to the plants. The centre stage is about 6 feet wide in two tiers, and the side stages about 3 feet wide, leaving a passage of 3 feet in width right round. The stages are double, as is now generally the case, and water supply is copious, the whole of the centre covered by the stage being occupied by a water tank.

A good water supply in such a house is very necessary, particularly in the summer; and the extra light tells with advantage on such plants, for instance, as *C. Warszewiczii* (or more popularly, *gigas*), in encouraging it to flower. It is not often in this country that *C. gigas* produces six and seven flowers on a spike—indeed, in many collections it is backward to flower at all. It is different on the Continent,



FIG. 14.—HAKEA MULTILINEATA VAR.; FLOWERS CASMINE. (REDUCED.)

monthly meetings of the Floral Committee of the Netherlands Royal Horticultural and Botanic Society. The most regular exhibitors are some of the leading bulb firms, who, owing to their vicinity to Amsterdam, where the meetings are held, can easily stage cut flowers and specimen plants. The greater number of plants gaining certificates, therefore, are bulbous and hardy plants, to which many beautiful additions have been made of late. Among the most interesting novelties shown this year, we may mention the following, viz., Hybrid Begonia, Glory of Aalsmeer,

torious novelty. *Vriesea Saringariana* is one of Mr. Witte's most recent hybrids, named in honour of Professor Suringar of the Leyden Botanic Gardens, and worthy of its name. The matchless white *Tigridia* (alba immaculata) was shown in August. A dozen varieties of Mr. Krelage's Darwin Tulips and broken amateur Tulips received special awards. A great many new Cacti and single Dahlias formed the chief attraction of the autumn meetings, and about fifty varieties received Certificates and Awards. Of new Conifers, there were



owing to stronger sunlight and better ripening season. In this house there are all the species and sub-species that we can think of, *C. Percivalliana*, and following it in numbers, *C. Trianaei* var. *Schroderae*, *C. Mossiae*, *C. Mendeli*, and other white forms, all of which are represented here; then *C. Bowringiana*, a grand thing—grandly done, the pseudo-bulbs being in many instances like stout Malacca canes for length and bulk, and offering such a variety of colour and such a profusion of flowers that beggars all of the popular *C. Skinneri* by comparison. The collection here, too, of *C. labiata* is a very large one, and comprises some of the most beautiful varieties, as we might well expect from the quantities under cultivation. *C. labiata Cookei* is here, as is also a good form of *C. alba*. The tsetse-fly, which evidently came over with *C. labiata*, has made ravages, and nothing short of cutting out the newly-formed pseudo-bulbs through which this pest borer, and burning everything cut, seems to be efficacious. Many hundreds of pseudo-bulbs, we were told, had been sacrificed; and no doubt Mr. Stafford and his staff are still carefully on the watch. *Cattleya aurea* seems to do wonderfully, and there are hundreds of plants in baskets, suspended from the roof. It is a species that wants abundance of light; and were *Dowiana*, which is more difficult to grow, treated in a similar manner, it might get over the tendency of forming pulpy sheaths round its growing pseudo-bulbs.

A house of similar size to that above described is filled with *Cattleyas* and *Laelias*, of which *L. purpurata* is still one of the most distinguished. It is a free grower, and produces here plenty of flowers. The tendency now is not for plants of elephantine size, but rather for quality; and where quality comes up, then the dividing process comes in. It is pleasant to see *Laelia elegans* growing stout, and looking generally well—it is not always so; pity there are so few now of *L. e. Wolstenholmie*. It would be so useful to the cross-breeder; indeed, here there are some seedlings coming up of that crossed with some of the congener *Cattleyas*. *Brassavola Digbyana* and *glauca* do well among the rack, and form fine material for choice crossing. In this house also is a very fine set of *Sobralias*—pity they are so short-lived as flowers, but then, like the fine *Cingalæa Hibiscus*, they come frequently. The pure white one is here, and so is *Veitchii*, *leucantha*, and *xantholeuca*, and the showy *Lucasiana*. *Cymbidium* are strong and fine—indeed, there is little difficulty in growing them; by far the better one is the hybrid of *Veitch's C. eburneo-Lowianum*, an excellent flower, which will always hold front rank.

The adjoining house is a small span called the Seedling-house, in which all plants that have embryos showing on the surface of the pot are taken in and treated with that care which is requisite. Lots of hybrid *Cattleyas* and *Laelias*, and *Brassavolas* show up. In a house of smaller size running parallel to this are the select *Cattleyas*, which cost a lot of money to begin with, and want painstaking care to keep them moving on. There is this advantage in seedlings of all kinds, that given a fair start, there is not much harking back. It is pleasant to see the embryo bulbs, then the secondary, tertiary, and so on, each one bigger than its fellow, until the flower-sheath half presents itself, and then there are hopes and expectations not always realised. The best-looking pseudo-bulb of any given plant does not always bring the best flower; indeed, it is often the converse, although when we are young, and look very wise, and pick out something, as we think, superior, it is a terrible humiliation to find out that it is practically a weed. To enumerate the gems here would be almost a reproduction of Mr. Chapman's catalogue, so we will forbear, only observing that those who go to see them will not come away disappointed.

Out of this division we enter a corridor filled almost entirely with white *Laelias*—anceps predominating. Of course, there are others of the autumnalis and atro-rubens type, and some of those

beautifully-coloured anceps themselves, which are always telling. There is the pure white anceps, then the coloured blotched lip ones, of which *Dawaoni*, *Schroderae*, and *Williamsi* represent the more prominent. Unfortunately, neither of them are very free flowering. The plants here are of considerable size, and are not wanting in vigour.

Entering from this corridor, we come upon the *Cypripedium*-house, which is 70 feet by 10 feet, and there is enough and to spare of all the best sorts. It seems ungracious to remark to those who have struggled in the earlier days of hybridising, that it would be no loss if three-fourths of the seedlings dignified with names disappeared. The Orchid Committee, we know, are careful in their awards of distinction, and it is right that it should be so. No one with a curled dorsal sepal ought to be tolerated in a collection; we have abundance without them. Look at the type, *Cypripedium insigne*! In point of form that is a model flower. Get as great a variety of colour as possible, but insist upon shape. Here among many hundreds we noted *Lathamianum giganteum*, *macrochilum giganteum*, the fine *Harrisii*, the model *Rothschildianum*, a worthy parent; *Winnianum*, the chaste *Wallisei*, *Jas. H. Veitch*, a gain as being *Curtisii* × *Stonei platyneum*; the pretty *bellatum*, and the still *ne plus ultra*, *niveum*.

Passing through the *Oncotoglossum crispum*-house, which is 37 by 10 feet, there are the usual lot of well-grown plants, many of which have taken high positions wherever exhibited. The one named *Harlyanum* in flower was beautifully spotted all over, and the flower of good formation. We liked *Catherinae* best of all the batch when it was in flower. It is making a grand plant. Then there are numbers of *Pescatori*, *Andersonianum*, *Harryanum*, a beautiful yellow *odoratum*, like cloth of gold, with a fine flower-spike, and many others. Passing out we go through another house, 37 by 10 feet, in which there is a miscellaneous assortment of plants, comprising *Dendrobium Jamesianum*, *Lycaste Skinneri* in many varieties, the white one included—a most valuable species in sending up flowers from now onwards. We noted here the rare *Laelia præstans alba*, and some nicely-grown bits of *Vanda cœrulea*.

The last house in this division is the *Paalæropsis*-house, which is also 37 by 10 feet, and it is full of plants of considerable size in unexceptional health. This is the only house in the whole of the divisions that may be said to be closely shaded in summer. Now, while we write, it gets the full light of day, and it is all needed to finish up and give a constitution to these evergreen plants. And yet a gentleman well-known to me, who has lived in Borneo, says that the majority of the larger plants shed their leaves in the season, and burst out fresh on the return of growth. To practice this experiment in our artificial climate would not do, so that we must come and go in our treatment. The great bugbear to the grower is the pulpy spot that overtakes them, occasioned, no doubt, by perpetual greenery. Here the plants were all remarkably vigorous, even *P. grandiflorum*, which, like the Bornean and those from the Philippines, the most difficult to cultivate, barring *Lowii* and some of its tiny companions. The plants are grown on cylindrical rafts of Teak, and the roots clamber over and seek their way in again among the crocks and charcoal in the interior.

The *Dendrobium*-house is 50 by 10 feet, with a span roof a little more acute-angled than the other houses, and filled with all the best species and varieties in quantities. The seedlings suspended from the glass are numerous, and there are many others; while the commoner herd is treated to pot-spaces on the shelving. The best forms of *D. nobile* still keep to the front, notwithstanding many excellent seedlings. What, after all, is better than the select forms of *D. nobile nobiliss?* and what a length of time it lasts in bloom! the plants of *D. nobile giganteum* grown here are wonderfully fine, and the variety *splendideum grandiflorum* is indispensable in all collections. The hybrids are

in large variety, and the show of bloom is always a fine sight.

In some detached houses there are 5000 plants of *O. crispum*, full of vigour; and then there is also a fine lot of *Dendrobium Phalaenopsis*. The whole of the ranges are heated from one centre by three saddle-boilers, working either together or separately, and the fuel used is anthracite coal, which, although a little dearer, is cheaper in the end than ordinary coal, Mr. Stafford declaring that it saves the work of one man in winter. The stoking, when done at 10 o'clock at night, is generally sufficient for the night; and then there is little dust and soot, not so much as to begrime the stoker; and the vapours from the chimney, if noxious at all, are unseen to the eye. I have had no experience with this coal, but if it can be had at reasonable rates where heating on a large scale is done, it must be a boon. *J. A.*

## HOME CORRESPONDENCE.

**AQUILEGIA SKINNERI.**—Having recently been questioned about this plant, I have looked up information respecting it, and find that the accounts of its native place are not consistent. I believe the original authority for the species is *Bot. Mag.*, t. 3919, and though I have not the volume in which that portrait is contained, I think I am right in saying that it is there described by Sir W. Hooker as having been raised at Woburn Abbey from seeds sent home by Mr. Skinner from Guatemala, and as having flowered in the open ground in the summer of 1841. This information is given in Mrs. Loudon's *Ladies' Flower Garden of Ornamental Perennials*, in which there is a good portrait of the plant taken, it is presumed, from the *Botanical Magazine*. I say a good portrait, because twenty years ago, I, two or three times, raised *A. Skinneri* from seed obtained from Mr. W. Thompson, of Ipswich, and the flowers corresponded in every respect with this portrait, being very long in the trunk, vivid scarlet in colour, and edged at the mouth with very bright pea green. I have frequently grown a Columbine called *A. californica hybrida*, which is earlier to raise, more robust, less bright in colour, and often sold in nurseries under the name of *A. Skinneri*. As for the true *A. Skinneri*, it was decidedly "miffy," seldom flowering till the end of July or beginning of August, and in wet seasons often withering up before flowering. As I could seldom make it ornamental, I gave it up. I understood in those days that Mr. Thompson got the seed from the garden of Mr. Nelson, at Aldborough, where the dry winters suited the plant better than the wet climate and soil of Cheshire. I now ask if any correspondent can tell me the more recent history of this plant, as a wild species. I find in the *Genera Plantarum* that *Aquilegia* is limited to five or six species, and is confined to the temperate zone of the northern hemisphere. *Index Kewensis* prints *A. Skinneri* as a true species, giving the habitat Mexico. The *Kew Hand list* gives it as a native of North-western America; therefore, an inquiry for further information is fully justified. *C. Wolley Dod, Elgje Hall, Malpas.* [See "Answers to Correspondents" in this issue. Ed.]

**BUDBS ON THE SEEDLING PLANT.**—Allow me to tell you of a particularly interesting botanical fact which occurred in a garden in Bohemia. Mr. Tofer, of Reichenberg, sowed seeds of *Trochæolum*, which when they grew, became very spindling, and he cut them off, and in consequence of lack of room elsewhere, placed them in a warm glasshouse. To his surprise these decapitated seedlings pushed out two germs. It would thus appear as if *Trochæolum* might be propagated in this irregular manner. I should be glad if you would afford an explanation, and also tell me if the phenomenon is anything more than temporary. I should be glad if you would tell me under what botanical circumstances these two germs appeared. It may be only temporary, and a method of propagation in this manner cannot be accepted. Again, the reserve of albumen could not possibly produce two plants equally vigorous with the first one. In this garden I have frequently observed *Cobæa scandens* forming shoots between the roots and the (cotyledons?). Do you think that these two cases are identical? *Ad. W. Mayer, Perchtoldsdorf.* [The

formation of adventitious buds on the tigellum or "hypocotyl," has frequently been observed in *Linaria*, *Euphorbia*, and other plants. The development of buds in this situation as the result of accident and the removal of the cotyledons, is very interesting, and might as you say, be utilised for purposes of propagation. Our correspondent might readily make the experiment and ascertain whether similar results followed removal of the cotyledons as a general rule, or whether it was only accidental. En.]

**THE FRUIT SUPPLY OF COVENT GARDEN.**—It afforded me, and doubtless many others, much pleasure to read the article by Mr. G. Monro under the above heading on p. 21 of the *Gardeners' Chronicle*, and I think that gentleman deserves great commendation for his public spirit in penning such a lengthy and instructive letter on this very important subject. It will be apparent to everyone that it is useless to plant fruit orchards, and prune and tend the trees, if there is not a good market and fair prices for the produce; and in most experimental attempts in growing fruit for market, the sale of the produce has been the most unsatisfactory factor, railway rates, and salesmen's commissions having generally taken the lion's share of the market value. Mr. Monro is particularly hard on growers in the matter of packing, or the lack of it. A good many gardeners have charge of young orchards planted with choice varieties, such as Ribston Pippin, Cox's Orange Pippin, &c., and we all know how the most of the fruit is packed in the old sieves and half-sieves, with its bony ribs and unprotected top. Will Mr. Monro kindly give us through your columns a description of the best kind of package, and mode of packing, calculated to meet the wants of Covent Garden Market. *R. M., Newbury.*

**THE CERTIFICATES GIVEN BY THE NATIONAL DAHLIA SOCIETY.**—Your correspondent, "J. S. W.," refers to the certificates awarded in London. I quite agree with him that many first-class and other certificates were awarded to worthless objects at the National Dahlia show held at the Crystal Palace last year. Exhibitors were asked in the schedule to show all seedlings as cut, no wiring being allowed; yet certificates were freely awarded all round, and mostly to those with wired stems, and not, therefore, in accordance with the requirements of the schedule, not one certificated Cactus Dahlia flower being moreover, in my opinion, worthy of a first-class; and many were worthless, and will never be grown again. While I am anxious to get anything good in Cactus Dahlia, scarcely one of those would I grow. What is wanted are flowers like Bertha Mawler, Ma'chless, Mayr Haskins, Harmony, Gloriosa, &c. *Jno. Pope, The Ericas, Northfield, Birmingham.*

**PELARGONIUM MR. GORDON.**—On looking over some back numbers of the *Gardeners' Chronicle* recently, I came across an illustration of the above, grown by Mr. Comfort at Knowle Hall, near Birmingham; and I should feel much obliged if he would kindly state in these pages his methods of culture; also the age of the plant figured. I cultivate several plants of Mr. Gordon, but I fail to find it in any nurseryman's catalogue. I should be pleased if some grower would kindly furnish me with six names of the best varieties of Pelargoniums for winter-work. *A Grower.*

**GAME AND TIMBER.**—"Game's" assertions that keepers do not buy eggs for hatching is absurd, in the face of the lucrative market for pheasant-eggs advertised in every sporting paper, and of the fact that the owners of the greatest game-preserves not only buy eggs, but buy birds also; and that pheasant-egg stealing is one of the most lucrative pursuits of the poachers, who dispose of the eggs to dealers, a subject that has often been dwelt on in the sporting papers as one of the evils of the system. "Game's" figures as to the number of birds reared or brought to the gun by hatching, he cannot furnish the ghost of a proof of, and has no doubt been deluded on the subject by someone to whom he has been writing. S.

**DO OUR WILD BIRDS NEED PROTECTION?**—In answer to this question, I append the following advertisements as samples of what appear week after week in various papers all the year round: "Lovely tame robin, 2s. 6d. each; other birds later on; apply Rectory, Yorkshire;" "Hawks—Wanted, hobby falcons; apply Solicitor, Newcastle-on-Tyne;" "Cock skylarks, 2s. 6d. dozen, plenty more

on hand; apply Dealer;" "Haudsome snow buntings, 1s. 6d. pair, apply Yarrow;" "For sale, clean shot sea and shore birds, for stuffing; state wants; apply Scotland, N.B." These few advertisements should be enough to convince the most sceptical, of whom there are many, who believe that the Wild Birds Protection Acts of 1880 and 1891 are far too stringent, and need no further action from the Government. Yet only the other week a deputation waited on Sir Matthew White Ridley to urge the importance of more species of birds being added to the list of birds that come under the above Acts. Some of the birds mentioned by the deputation (owing to the above feeble Acts having no power to prevent the so-called sportsmen from killing rare species of birds during the autumn and winter months), such as the osprey, the hobby, the buzzard, the ruff—are now almost as rare as the great auk, are only seen in glass cases, and are quite unknown to thousands of the rising generation. Many men look back with pride and love to dwell on the thoughts of the happy moments spent bird-nesting, and I for one would not wish to deprive our boys of to-day from being allowed to go bird-nesting; but I would have them to learn at school, the great need of all birds being cared for and protected, and the great amount of good they do in our fields and gardens. Such information, if taught to our youngsters, would be far more effectual than the hand-bills that are posted up by the police every spring with the lists of birds under the so-called Protection Acts. Many rare birds which are driven inland through want of food or stress of weather, if seen, soon fall before the gun of the ruthless sportsman. To hear me out one has only to see natural history notes in all the sporting papers during many months of the year, where the death of many a rare bird is reported as something to eulogise. Again, one has only to look into our poultry and fish shops to see the thousands upon thousands of larks there are annually slaughtered to appease the appetite of the epicure; also the thousands of plovers that share the same fate, with many more that I could mention—all of which birds are of the greatest use to mankind in clearing the land of various insect pests. In these days of advancement, free education, and lectures on various subjects that are of importance to the present and rising generation, no technical knowledge has been so much neglected in our schools as the knowledge of bird and plant life. I say bird and plant life, because both are so closely associated with each other. Apart from their great beauty, all birds, with few exceptions, will ere long cease an Act passed that shall prevent them from being shot or otherwise destroyed. This will be the only means of preventing the beautiful kingfisher from being killed and his feathers sold to make artificial flies to catch the fish that were sent to feed both men and birds. Many other species of birds in this country are killed and sold for artificial fly making. Not twenty miles from where I am writing, kingfishers are destroyed by the score in severe weather, and this gay and beautiful bird will soon be a thing of the past. The species of woodpeckers which can take care of themselves during the breeding time are, owing to their beauty, much sought for and shot, some to be stuffed and put in glass cases, while many are dressed, and go to form the headgear of women. In conclusion, I would say: Foster a love of birds in the home and schools; teach our youngsters the need of them. The youngsters who live in large towns, and who take cheap trips to the country, often take a delight in destroying our birds wholesale. These same lads, if taught beforehand, would protect the birds rather than destroy them. In regard to birds being used as head-gear, I trust that in a short time some lady or ladies will form a school for drawing and painting all kinds of gay-plumaged birds, and with feathers plucked from fowls and game birds, and with the use of powerful dyes, good artificial substitutes could be made which would be a great saving of bird life. As regards the sportsman, nothing but a stronger Act, or Acts, than those which now exist, will give to our lovely birds that freedom so essential to real life. *W. C. Leach.*

**STEAM ROLLERS.**—If your correspondent, "C. W. W.," who wrote in last week's issue of the *Gardeners' Chronicle* on the modification of a steam-roller, will communicate with Mr. W. J. Stephenson-Peach, Askew Hill, Repton, Burton-on-Trent, he will find both a steam-roller and mowing-machine combined, either worked separately, to suit use, at the low cost of 2½d. per hour. When not in use for rolling, it can be used for pumping, or watering lawns, or for any other purpose for which moderate power is required. *Thos. G. H.*

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 14.—The first meeting of the committees for the year was held on Tuesday last, in the Drill Hall, James Street, Westminster. There were numerous members of each committee present, and the show was highly satisfactory, no doubt due in some measure to the open weather, which permitted exhibitors to stage many more Orchids than was possible at the similar meeting held in January last year. Primulas occupied a very prominent position and considerable space in the hall on Tuesday, and there were, as usual, a few groups of miscellaneous plants, &c. Considering the advanced date of the season, there was a remarkable show of Apples, the fruits being shown in very fresh condition. There were several awards granted by the Fruit Committee, but this occasion was remarkable as being one when the Floral Committee did not bestow either a First-class Certificate or an Award of Merit.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Jno. Fraser, O. Thomas, Jno. Laing, C. T. Drury, H. B. May, H. Herbst, R. Dean, J. H. Fitt, Geo. Stevens, Jas. Hudson, J. F. McLeod, R. B. Lowe, J. D. Pawle, Chas. Jiffries, H. Selfe-Leonard, Wm. Bain, C. E. Pearson, Rev. H. H. D'Ombrian, Chas. E. Shea, Jas. Walker, Ed. Mawley, H. J. Jones, Ed. Beckett, Chas. Bick, H. Turner, Geo. Paul, and Geo. Gordon.

A very extensive group of Primulas was exhibited by Messrs. H. CANNELL & SONS, Swanley, which occupied the whole of one of the side tables. The most interesting feature of this group was some plants of the variety known as The Lady, with a decided tier above tier character, but the plants were not yet in full flower, being about a foot high instead of two feet or more. A sport from this variety has been named Purple Lady; White Lady has already been used for hybridising purposes, and crossed with good varieties of the ordinary Primulas, has given rise to a new type, which is known as pyramidalis. The second and third crosses were exhibited, and in each case the character of the flowers of White Lady, together with the habit of the inflorescence is observable in the seedlings, though the flowers are larger and have more substance. Possibly this hybridising will assist the grower to obtain a strain with as good flowers as the best of the old ones have, and a fixed habit of throwing the flowers very much higher than formerly.

Primulas, White Perfection, Cannell's Carmine, Cannell's Pink, Purple Fern-leaf, Cannell's White, Swanley Blue, Cannell's Gem, an excellent pink-flowered variety, and others of the old type were praiseworthy, but will be better at a later date, and we think the pots used for the plants were rather larger than necessary (Silver-gilt Banksian Medal).

Mr. JNO. R. BOX, West Wickham and Croydon, staged a collection of Primulas of a very commendable strain. White Perfection, Intensity (deep red), Cannell's Pink, Princess Mary (white), Wickham Surprise, large-flowered white variety, fringed petals, and robust foliage; Wickham Beauty, very pretty pink; The Queen, bluish-pink; King of the Blues, Marchioness of Lorne, bluish-white; Wickham Giant, large red-flowered variety, with good habit, and a few others were included in the group, all of which were well flowered (Silver Flora Medal).

A group of varieties of Decorative Dracaenas, very fresh-looking, and well coloured, was shown by Messrs. JNO. PEED & SONS, Norwood Road Nurseries, London, S.E.; including Norwoodiensis, Jamesii, Lord Worsley, Mrs. Sladin Wallis, Bartelli, Alberti, and Madame Bergman, which are all capital coloured varieties; and there were shown also Madame Heine, a handsome plant, with broad green leaves, having white margins, the well-known Goldiana, D. terminalis alba, and Alexandra, a partially erect-habited variety, with green and white leaves (Silver Banksian Medal).

A few Chrysanthemum plants in flower of the variety Janette Sheehan were exhibited by Mr. H. J. JONES, of the Ryecroft Nurseries, presumably to show its merit as a late flowerer. The blooms had kept well, but were much past their best when exhibited.

Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, S.E., staged a fine group of miscellaneous stove and greenhouse plants. In addition to some nice Palms, Crotons, Heaths, Cyrtipediums, Primulas, and Solanums, there were a few small but well-flowered plants of the excellent rose coloured Begonia Gloire de Lorraine (Silver Banksian Medal).

Mr. G. McDUGALL, gardener, Ravenna Cottage, Stirling, sent plants of a variety of *Pteris tremula*, called P. t. Ravenna; but no award was made to this, nor another one called P. t. superba. *P. serrulata cristata* McDougalliana was also sent with these.

From the Royal Botanic Gardens, Glasnevin, were blooms of *Hippocrepis alium grandiflorum*, *Erica Mediterranea* alba, and *F. F. intermedium*.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, Chelsea again exhibited some of their Rhododendrons, Javauco-Jasminiflorum hybrids.

## Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. Jas. O'Brien (Secretary), H. Williams, Jas. Douglas, E. Hill, J. Jaques, W. Cobb, E. Ashworth, T. Statter, H. J. Chapman, T. W. Bond, H. Ballantine, Chas. Pilcher, J. Gabriel, W. H. White, Fred. Hardy, H. M. Pollett, R. Brooman-White, T. B. Hayward, F. Sander, C. J. Lucas, and Chas. Winn.

There was a good attendance, and a great number of meritorious exhibits. Sir TREVOR LAWRENCE, Bart., Burford, Dorset (gr., Mr. W. H. White), contributed a pretty group, the centre plant of which was a magnificent specimen of *Lælia Gouldiana* with about twenty-five spikes, which was awarded a Silver Banksian Medal. Also in the group were the rare *Oncidium* × *Wheatleyanum*, a pretty stand of many varieties of *Lælia anceps*, a fine inflorescence of *Odontoglossum coronarium* minutum, the richly coloured *Cypripedium* × *Lawrebel*, a noble plant of *Lycaste plana* *Measuresiana* (Cultural Commendation), *Cypripedium* × *Morganiae* *Burfordiense*, C. × *Lecanum Albertianum*, and other *Cypripediums*; *Masdevallia ludibunda*, M. *striatella*, M. *polysticha*, and M. p. *purpurea*, to each of which a Botanical Certificate was awarded; M. *occulata*, *Oncidium cucullatum*, *Dendrobium æmulum*, &c. A Silver Flora Medal was awarded for the group.

A Silver Flora Medal was also awarded to Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, for a very interesting and showy group, in which their pretty pure white *Phaiocalanthe* × *Sedeni albiflora* secured a First-class Certificate; *Selenipedium* × *Schrodærae cnsidulum* (caudatum *Wallisii* ♂, × *Sedeni candidulum* ♀), an Award of Merit; a spotted and a purple form of *Cypripedium Euryleas* (*Boxalli* ♂, *Lecanum* ♀), two very pretty and distinct things, each an Award of Merit; and prominent objects were noted in the yellow C. *isanguine Sanderianum*, C. × *Lathamianum*, C. × *Niobe*, *Epiphronitis* × *Veitchii*, *Epidandrum* × *Endresio-Wallisii*, *Dendrobium* × *eoussum roseum*, the pretty orange-scarlet *D. subclausum*, &c.

Messrs. F. SANDER & Co., St. Albans, staged a very effective group, the chief attraction in which was the new hybrid *Cypripedium* × *Minnie Ames* (*Curtisii* × *concolor*), a very pretty and distinct hybrid, with wax-like yellowish flowers, delicately tinged with soft rose. Other good things were C. × *Said Lloyd* (*Godefroyæ* × *venustum*), C. × *Henri Vander-Stræten* (Mrs. O. Canham × *Lecanum*), both pretty; C. × *A. R. Smith* (*callosum* × *Druryi*), with yellow and purple-brown, highly polished flowers; C. *nitens*, *Sander's* var.; *Phaiocalanthe* × *Araucidius superbum*; *Dendrobium Johnsonia*, *Platyclinis glumacea*, *Lælia anceps alba*, *Bull's* var., and other *Lælias*; *Lycaste Skinneri*, *L. lanipes*, *Odontoglossum Rossii* *album*, O. *asperum*, &c. (Silver Flora Medal).

Mr. Wm. BULL, King's Road, Chelsea, showed five fine plants of *Cattleya Trianaei* *alba*, whose ivory-white flowers made quite a feature in the show, and gained a First-class Certificate; also showed three well-flowered examples of *Cattleya Walkeriana* *nobilior*.

ELIJAH ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. H. Holbrook), showed a really remarkable collection of cut examples of rare *Cypripediums*, in which all the finest of the season were represented, comprising fifty distinct flowers, including thirty-six hybrids and fourteen species. The group also contained *Lælia* × *Fitchiana*, and its two reputed parents, *L. alba* and *L. anceps Sanderiana*, and the handsome *Cattleya Trianaei* *Bachhausiana*, grown at its best (Silver Banksian Medal).

R. I. MEASURES, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), showed a neat group, in which the centre plant was a noble specimen of *Vanda Amesiana*, with ten spikes; and with it the unique yellow *Cypripedium venustum* *Measuresianum*, the rich rose-red C. × *Olenus*, C. × *Fascinator*, C. × *Calypso superba*, *Odontoglossum Humeanum*, *Lycaste Skinneri*, *L. S. alba*, and *Oncidium cheiroporum* (Botanical Certificate). A Bronze Banksian Medal was awarded for the group.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), showed a fine plant of *Vanda Charlesworthii* with pretty flowers, smaller than those of *V. curvula* (of which it is said to be a natural hybrid); in colour pale lavender, with slightly rose-tinted labellum (Award of Merit).

The Honble. WALTER ROTHSCHILD, Triang Park, Triang (gr., Mr. E. Hill), showed *Lycaste trifoliata*, Lehmann, a species allied to *L. costata* and *L. lanipes*, with ivory-white flowers, having a curiously-fringed labellum (Botanical Certificate).

Messrs. HUGH LOW & Co., Clapton, staged an effective group of Orchids, including a splendid example of *Cymbidium Traceyanum*, and a noble form of *Cypripedium* × *Olenus*, with rich, vinous purple-tinted flower—the best example yet shown. In the group were also *Cypripedium Sanderianum* and other *Cypripediums*; *Cattleyas*, *Odontoglossums*, &c. (Silver Banksian Medal).

Messrs. B. S. WILLIAMS & SON, Upper Holloway, N., had a group of Orchids in which the *Cypripediums* were the chief feature. Among them were C. × *Fitchianum*, C. × *Huybrechtianum*, C. × *nitens superbum*, C. *insigne* *Fostermani*, C. *Hartwegii*, C. × *Sallieri*, and C. × *S. aureum*, C. × *vestilium superbum*, C. × *Lecanum superbum*, C. × *calophyllum*, C. × *Dautierii striatum*, C. × *Ashburtoniae*, O. *Argus*, &c.; and among other genera *Calanthe* × *Bella*, *Odontoglossum nævium* *msjus*, *Lælia anceps Fitchianum*, and *Lycaste costata* (Silver Banksian Medal), were remarked.

SIDNEY COITRAULD, Esq., Bocking Place, Baintree (gr., Mr. A. Wright), sent an interesting group of *Masdevallias*, which secured a Bronze Banksian Medal. Among them were M. *abbreviata* and M. *caloptera*, both of which received Botanical Certificates; M. *velifera*, M. × *Heathii*, M. × *Hincskiana*, M. × *Gairiana*, M. *fulvescens*, M. *hieroglyphica*,

M. *leontoglossa*, M. *picturata*, M. *Wagneri*, and M. *striatella* Mr. Jas. Fitt, gr. to Earl COWPER, Panshanger, Herts, showed an elegant stand of graceful cut spikes of *Calanthe* × *Bella* (Cultural Commendation).

C. B. POWELL, Esq., The Old Hall, Southborough, Tunbridge Wells (gr., Mr. Dupont), showed a very finely-grown plant of *Angraecum sesquipedale*, with fourteen flowers (Cultural Commendation).

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), staged the large and richly-coloured *Cypripedium* × *Calypso*, Stand Hall variety, with the large white upper sepal heavily coloured with purple over two-thirds of its surface (Award of Merit); C. × *Annuense* (*Ashburtoniae* × *Numa* ×), a very pretty hybrid, with a very irrelevant name; and C. × *Cores*.

C. L. N. INGRAM, Esq., Elstead House, Gudalming (gr., Mr. T. W. Bond), showed *Lælia-Cattleya* × *Cicero* (C. *intermedia* × *L.-C. elegans* *Turneri*), a very pretty hybrid, partaking somewhat of the aspect of *L.-C.* × *Schilleriana*, but very dwarf in habit, and having the front lobe of the lip developed as in *C. intermedia*; the sepals and petals are white, tinged with rose; the lip rich crimson (Award of Merit); *Cattleya Parcivalliana*, Ingram's var. (Award of Merit); and a *Dendrobium* of the *D. Ainsworthii* class.

JOHN BRADSHAW, Esq., The Grange, Southgate (gr., Mr. H. Whiffen), showed *Cattleya Trianaei*, The Admiral, a very fine flower; *Lælia anceps Sanderiana*, L. a. *Whiffeni*, and *Cypripedium nitens*.

A. WARBURTON, Esq., Vine House, Haslingden, sent flower of a *Cypripedium* said to be *Lawreceanum* × *Fairieanum*, but which the committee took to be C. × *Juno* (*callosum* × *Fairieanum*).

W. C. WALKER, Esq., Winchmore Hill (gr., Mr. G. Cragg), sent *Oncidium Cebolletæ*; Messrs. HEATH & SON, Cheltenham, showed varieties of *Cypripedium* × *Lecanum*, and other hybrids.

## Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. G. Buayard, Jas. H. Veitch, A. F. Barron, Jas. Cheal, T. J. Saltmarsh, J. Willard, J. Wright, Alex. Dean, Jno. A. Lalag, J. W. Bates, W. Farr, Wm. Pope, G. H. Sage, Geo. Wythes, F. Q. Lane, H. Balderson, G. Reynolds, G. Norman, and W. Wilks.

Mr. OWEN THOMAS, Royal Gardens, Windsor, was recommended an Award of Merit for Apple Royal Late Cooking, very like Bedfordshire Foundling or Lord Derby, especially the former, but the stalk was set in a shallower basin.

A similar award was recommended to dessert Apple Lord Hindlip, shown by Mr. JNO. WATKINS, Pomona Farm, Hereford, who described the fruit as a Worcestershire seedling, in season from December to March, a heavy cropper. It is a conical fruit of good appearance, but higher on one side than the other, and moderate in size, highly coloured on exposed side, and greenish-yellow, with russety spots on the opposite one. Eye set in an angular moderately shallow basin. Stalk, an inch long, deeply set.

C. W. LEA, Esq., Parkfield, Hallow, Worcester (gr., Mr. W. S. Hurlestone), was recommended an Award of Merit for Pear Beurré Perran, a short thick fruit, yellow nearly covered with russet, stem very long, in very shallow basin, eye open, also very shallow. Flavour rich and good for the season, flesh melting.

Messrs. R. VEITCH & SON, Exeter, showed dishes of Apples, Newtown Pippin, Cornish Gilliflower, Winter Warden, Cornish Aromatic, and D'Arcy Spice (Vote of Thanks).

W. ROUPELL, Esq., Harvey Lodge, Ruppell Park, had a dish of Apple Borden Paragon; and Mr. WM. PRIOR, Sawbridgeworth, an Apple called Sir Walter.

Mr. W. FARR, gr. to A. F. PEARS, Esq., Isleworth (Vote of Thanks), fruits of Tomato All-the-Year-Round (Vote of Thanks).

A magnificent collection of Apples, and a few Pears, were exhibited by Messrs. GEO. BUNYARD & CO., Maidstone, including a hundred varieties of kitchen Apples. The quality in regard to size and fresh-looking appearance was exceptional. Some of the most remarkable were Bass P. O., Annie Elizabeth, Tower of Glamis, Calville, Malings, Belle Pontoise, Emperor Alexander (as fresh-looking as in November), Bismarck, Belle Dubois, Lane's Prince Albert, Lord Derby, Hoary Morning, Newton Wonder, Calville Rouge, King of Tomkin's County. Smaller varieties were equally well shown.

A dish of green fruits of Bramley's Seedling, gathered since Christmas, illustrated the exceptional character of the weather last season. Some good dishes of stewing Pears were noted also (Silver-gilt Knightian Medal).

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, staged about twenty dishes of Apples and Pears, representative of newer or comparatively little known kinds, such as Atalanta, Armored, Wealthy, Bismarck, Sandringham, Emily Childs, Washington, and others. Pears included Marie Quai, Beurré Gendron, Duchesse de Nemours, Chas. Cogné, and Duchesse de Mouchy (Silver Banksian Medal).

From Messrs. JNO. LAING & SONS was shown a collection of Apples and Pears in about thirty dishes, all of the fruits being sound, and very firm (Silver Banksian Medal).

Mr. JNO. WATKINS, Pomona Farm, Hereford, staged a very interesting collection of Apples, being for the most part varieties but little known, and many of them local seedlings. Among a number of these was an excellent-looking dessert kind, intensely coloured (Silver Banksian Medal).

## Report of the Council for 1895-96.

The following is the report of the council for the year 1895-96, which will be presented to the annual general meeting of Fellows, to be held at the Society's offices, 117, Victoria Street, Westminster, on Tuesday, February 11, 1896, at 3 P.M.

The most important work of the Society during the past year, and that which will have the greatest effect on the gardening of the future, is probably the recent publication of the rules and suggestions for judges and schedule makers.

In response to a widely-expressed wish the council in the autumn of 1894 appointed a committee to draw up such a code of rules, and it is not saying too much to affirm that no committee has (of late years, at least) worked harder or devoted more time to the Society's interests. The most hearty thanks of the Society are due to the members of this committee.

Although actual experience and practice may at first call for divers modifications and additions, yet the result of their labour, as now set forth, is one which the fellows of the Society may well regard with satisfaction, and which will, it is hoped, form the foundation of a code by which all judging at shows will be conducted in years not far distant. The code is published at the Society's office, 117, Victoria Street, S.W., post free, 1s. 1d.

The year has also been marked by the retirement of Mr. BARRON from his long tenure of office as Superintendent of the Society's Gardens at Chiswick—a tenure of thirty years as superintendent, and eight years as foreman—reaching from the year 1857 to the present time. During those thirty-eight years Mr. BARRON has devoted his best energies and the most valuable years of his life to the service of the Society, and after due consideration the Council have thought it right to make him a retiring allowance of two-thirds of his salary, and have conferred upon him an Honorary Life Fellowship in the Society.

The Council desire on their own behalf, and that of the Fellows generally, to tender to Mr. BARRON their fullest acknowledgments of his faithful and valuable services during the many years of his work for the Society, accompanied with the hope that he may long enjoy a well-earned retirement.

In round numbers £1,765 has been expended at Chiswick this year on the general work, and repairs and keeping up of the gardens. The receipts from the gardens by sale of surplus produce amount to £337, making the net cost of the gardens £1,398.

Mr. S. T. WRIGHT, hitherto of Glewston Court Gardens, Ross, has been appointed superintendent.

The Council have thought that for the first year at least it would be best for Mr. WRIGHT to have a perfectly free hand at Chiswick, subject to the control of the Council alone. Whilst therefore expressing their best thanks to the members of the late Chiswick Board, they have decided not to propose the re-appointment of that body for the ensuing year.

Certain alterations which they hope to be able to introduce into the system at Chiswick will develop themselves as time goes on. It would not be wise to put forth an ambitious programme until Mr. WRIGHT shall at least have had time to become intimately acquainted with the garden, its capabilities, and its contents. All practical Gardeners will at once perceive the necessity of allowing 1896 to be a year of what it is hoped may prove unpretentious advance and improvement.

Eighteen Fruit and Floral Meetings have been held in the Drill Hall, James Street, Victoria Street, Westminster, besides the more extended Shows at the Temple Gardens on May 21, 22 and 23; at Chiswick Gardens on September 10; and at the Crystal Palace on September 16, 27, 28; and lectures have been delivered at fifteen of the meetings, exclusive of those given at the conferences. The number of awards has been as follows:—On the recommendation of the Floral Committee, 22 First-class Certificates against 71 in 1894, 174 Awards of Merit against 225, and no Botanical Certificates against 3. On the recommendation of the Orchid Committee, 48 First-class Certificates against 65 last year, 95 Awards of Merit against 134, 72 Botanical Certificates against 21. On the recommendation of the Fruit and Vegetable Committee, 8 First-class Certificates against 15, and 44 Awards of Merit against 132 last year.

For the simplification of office arrangements, and for economy in postage expenses, it has been thought well in future to make the Society's year of work begin and end (as far as allowed by the Charter) with the Annual Meeting in February. For this purpose all Fellows' tickets for 1897 will be available for the January meeting of 1897. The committees recently appointed will also continue in office until the same date.

At the request of several amateur growers a Narcissus Committee has been re-established.

The Council have also thought it well to make an attempt to encourage individual research and effort in obtaining new plants either by importation or hybridisation, and to this end are offering the Society's Medals as prizes, particulars of which will be found in the Schedule of Arrangements, 1896.

The Council desire to draw the attention of all fellows of the Society to the more extended use which the Scientific Committee might be to them if they availed themselves more freely of their privileges in submitting instances of disease or of injuries to plants, caused by insects or otherwise. The Scientific Committee is composed of gentlemen qualified to give the best advice on all such subjects, either in respect to the prevention or cure of disease. The Committee is also glad to receive specimens of malformation or other subjects of Horticultural or Botanical interest.

The Council wish to express their thanks to the Director of the Royal Gardens, Kew, for allowing them to consult Mr. MASSEY, F.L.S., on the fungoid diseases, &c., brought before the Scientific Committee, and to that gentleman for his readiness in giving them the advantage of his knowledge and advice.

The Society's Great Show held (by the continued kindness of the Treasurer and Benchers) in the Inner Temple Gardens, was as successful as ever, and it is a matter of satisfaction to the Council to find that this meeting is now universally acknowledged to be the leading Horticultural Exhibition of this country. The best thanks of the Society are due to all who kindly brought their plants for exhibition, or otherwise contributed to the success of this Show.

The Exhibition of Vegetables held in the Society's Gardens at Chiswick on September 10, was hardly of such practical utility as the Council had anticipated. Wonderful specimens of cultivation were shown, but many of the exhibits were distinctly too large for table use, and the number of exhibitors was comparatively small. It is hoped that whenever another Vegetable Show may be held, this meeting may, at least have taught us what to aim at and what to avoid.

The Great Show of British-Grown Fruit, held by the Society at the Crystal Palace on September 26, 27, and 28, was of even greater dimensions and excellence as regards the fruit shown, and was attended by far larger number of visitors than that of last year. It is needless to enter into details, as full particulars will be found in Volume xix. Part 2, of the Journal recently issued.

As an object-lesson in British Fruit cultivation, this annual show stands out unrivalled, and is of national importance. But its continuance year after year is a matter of the gravest concern to the Council, as it involves a large expenditure without hope of any return. Arrangements have been made with the Crystal Palace authorities for the Society to hold a similar show on October 1, 2, and 3, 1896, but these arrangements are absolutely conditional on a sum of £100 being subscribed by April, 1896, to assist with the Prize Fund.

Messrs. H. J. VEITCH, T. FRANCIS RIVERS, GEORGE BUNYARD, OWEN THOMAS, GEO. NORMAN, J. SMITH (of Mentmore), PHILIP CROWLEY, JOHN WRIGHT, and the Rev. W. WILKS have been appointed a Committee to revise the Schedule of Prizes, and a circular letter inviting subscriptions has been issued, but as it is impossible to send it to all, it is hoped that any who are willing to assist in the continuance of this show, will send their subscriptions to the Secretary, 117, Victoria Street, S.W.

The Journal of the Society has been continued so as to enable fellows at a distance to enter more fully into and reap the benefits of the study and work of those actively engaged at head-quarters. Vol. xviii., parts 3 and 4, vol. xviii., and parts 1 and 2 of vol. xix., were issued during the year, and vol. xix., part 3, is now almost ready for issue.

An examination in the principles and practice of Horticulture was held on May 1, concurrently in different parts of the United Kingdom, a centre being established wherever a magistrate, or clergyman, or schoolmaster, or other responsible person accustomed to examinations would consent to superintend one on the Society's behalf, and in accordance with the rules laid down for its conduct. No limit as to the age, position or previous training of the candidates was imposed, and the examination was open to both sexes. 169 candidates presented themselves for examination, and were divided into three classes. Twelve of the candidates gained 200 marks and more out of a possible 300 in the first class; 37 gained between 150 and 200 marks in the second class; 73 gained between 100 and 150 marks in the third class; and 47 having failed to obtain 100 marks, were not classed. The names and addresses of the successful candidates, together with the number of marks assigned to each, will be found in the Society's Journal, vol. xix., part 1, 1895, p. 1.

It is proposed to hold a similar examination on Wednesday, May 6, 1896, and candidates intending to sit for it should apply to the Secretary, 117, Victoria Street, Westminster, during March.

Acting in conjunction with the Liedley Trustees, the Council have devoted considerable attention to the library. All serial publications have been kept up to date, a large number of valuable volumes have been bound, and the following new books, amongst others, added to the library, viz., Sargent's *Forest Flora of Japan*; M. C. Cooke's *Introduction to the Study of Fungi*; Miller's *Figures of Plants*; Edwards' *Exotic and British Flowers*; *Flore de l'Île de la Réunion*; *Flore de l'Algérie*; Miss Amherst's *History of Gardening*, &c.

A sum of £120 has been received for the Catalogue Fund, which was started in 1694, and the MS. for the Catalogue is almost ready for the press.

The hearty thanks of the Society are due to the Chiswick Board, and to all the members of the standing committees—viz., the Scientific, the Fruit and Vegetable, the Floral and Orchid Committees, for the kind and patient attention which they have severally given to their departments.

The best thanks of the Society are also due to all those who, either at home or abroad, have so kindly and liberally presented books to the Library, or plants or seeds to the Gardens. A list of the donors has been prepared, and will be found in the Society's Journal, vol. xix., part 3, 1895.

The Council wish to express, in their own name and in that of all Fellows of the Society, their great indebtedness to all who have so kindly contributed, either by the exhibition of plants, fruits, flowers, or vegetables, or by the reading of papers, to the success of the fortnightly meetings in the Drill Hall.

The Council have the sad duty of recording the death of forty Fellows during the year, and amongst them they regret to find the names of Lord Aberdare, Dowager Duchesse of

Buccleuch, Thomas Baines, Thos. G. Barclay, C. F. Bause Lady Clarke, Jas. Crispin, Robt. Houlgrave, Prof. Huxley, C. T. Lucas, G. D. Owen, Chas. B. Phillimore, Henry D. Pochin, Geo. Tubor, T. R. Watt, John C. Weeks, and John Wills.

The Society has increased by the substantial number of 181 new Fellows.

A scheme for the affiliation of local horticultural societies was put forward in 1890, and seventy-nine local societies have availed themselves of it. The Council express the hope that Fellows will promote the affiliation of local horticultural and cottage garden societies in their own immediate neighbourhood.

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**

The Committee of the Gardeners' Royal Benevolent Institution have great pleasure in presenting their 57th Annual Report to the Subscribers to the Charity, whom they desire to congratulate upon the flourishing condition of the Institution, whose work they feel, is still a great and much-appreciated blessing among those who have been forced by adverse circumstances to solicit a share in its benefits. It is the greatest satisfaction to the Committee to be able to report that the Annual Festival Dinner, held in June last, was one of the most successful on record. They desire to take this opportunity of expressing their deep sense of gratitude to His Grace the Duke of Fife, who so ably presided on this occasion. It is also gratifying to know that his Grace's earnest appeal on behalf of the Institution was met with a very liberal and generous response. The Committee likewise offer their sincere thanks to all who acted as stewards and to all friends who in any way rendered assistance, thereby ensuring the success of the Festival.

In the past year 18 pensioners have died, five of them leaving widows, whose cases having been investigated and found to be deserving, have been placed on the Pension List at £16 per annum in succession to their late husbands under Rule III. 13. After careful consideration the Committee decided to recommend an increase of 15 pensioners to the number now on the books, five of whom having complied with the conditions of Rule III. 5, they ask the subscribers to place on the funds without the trouble and expense of an election. The remaining ten will therefore be elected in the usual way. It is a source of great satisfaction to the Committee to be enabled thus to increase their number of pensioners by two, making a total of 153, but at the same time they feel sorry that they are not able to render assistance to more of the exceptionally long list of applicants whose cases are all deserving of that aid which must perforce be denied them at present.

In their last report the Committee were enabled to announce the formation of an additional Auxiliary at Wolverhampton, they now have the pleasure to state that a new branch has been established at Worcester after a most successful inaugural meeting presided over by the Rt. Hon. Earl Beauchamp, and addressed by the Treasurer of the Institution, and the Secretary. To the organisers of the meeting, to the Honorary Secretary, and to all who worked so zealously in the cause, the Committee would express their hearty thanks.

The Committee desire to thankfully acknowledge the receipt of £237 3s. 5d. being in part the proceeds of the fund raised to perpetuate the memory of the late Mr. Wm. Thomson of Clovenfords. This sum has been invested, and will henceforth be known as the "William Thomson Memorial Fund." The sincere thanks of the Committee are also given to the promoters of the Concerts held at Altrincham, in aid of the funds. They would also cordially thank other friends throughout the Country who have in any way afforded help to the Institution during the past year.

To increase, as they believe, the usefulness of the Institution the Committee have recommended partial alterations and additions to the existing rules, one of which they desire to specially mention, namely: the addition of twelve gentlemen to their body, to be known as "Country Members," and who are resident more than 50 miles from London. They trust that this measure will tend to create a greater and more widely diffused interest in the affairs of the Institution amongst gardeners and horticulturists generally, as different parts of the country will now be directly represented on the Committee of Management. They would also point out that they have recommended that "Market Growers" should be included amongst those who are eligible to participate in the benefit of the Institution.

It is with regret that the Committee have to announce the resignation of their Chairman, Sir Alex. Arbuthnot, K.C.S.I., who, through ill-health, has been compelled to relinquish the position. They are glad, however, to know that he will still retain a warm interest in the Institution, and they trust he will long be spared to do so. The Committee are sincerely pleased to announce that Mr. Harry J. Veitch has been unanimously elected to fill the vacancy.

In conclusion, the Committee would again remind their friends and supporters that for fifty-seven years the Gardeners' Royal Benevolent Institution has dispensed its benefits throughout the United Kingdom, and the heartfelt gratitude of those who have been assisted from its funds show how highly its help is valued. The Committee earnestly desire to help more of the numerous applicants awaiting aid, and they therefore urgently appeal for additional support,

so that the present income may be augmented, and the good work which has been carried on with such signal success for so long a period, and the beneficial effects of which cannot be over-estimated, may be extended and enlarged.

**TRADE NOTICE.**

**HILL NURSERY, HARTLEY ROW, WINCHFELD, HANTS.**

Messrs. J. M. HENRY & SON have taken over the above nursery from Mr. Wm. Williams, and intend to carry it on as heretofore from this date.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				10ths Inch.	Ins.	Bright Sun.				
	ACCUMULATED.										
	Above (+) or below (-) the Mean for the week ending January 11.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.							
0	1 +	5	30	+ 9	46	10	0 8	10	9		
1	1 +	2	38	- 3	29	6	7	0 5	15	9	
2	0	aver	0	30	+ 8	44	3	6	0 8	5	3
3	1 +	0	32	+ 12	55	3	8	0 6	4	3	
4	1 -	0	39	+ 12	60	4	6	0 5	4	4	
5	1 -	0	32	+ 4	44	5	5	0 4	5	5	
6	0	aver	3	29	+ 5	31	12	7	1 0	17	10
7	1 -	0	27	+ 16	40	7	4	0 6	5	7	
8	3 -	0	29	+ 12	26	9	4	0 5	14	10	
9	1 +	7	20	+ 20	37	8	7	0 9	7	7	
10	1 -	8	22	+ 28	24	9	5	0 7	15	9	
*	3 -	8	17	+ 16	7	7	6	0 7	9	9	

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W. 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

**THE PAST WEEK.**

THE following summary record of the weather throughout the British Islands for the week ending January 11, is furnished from the Meteorological Office:—

"The weather over the kingdom, as a whole, was dry and settled, but much cloud was prevalent, and in the north and east some slight falls of rain or sleet were experienced at times.

"The temperature did not differ much from the mean, except in 'England, S.W.,' and the 'Channel Islands,' where there was a deficit of 3°. The highest of the maxima were recorded during the middle part of the week, when they varied from 53° in 'Scotland, E.,' to 45° over the southern, central, and eastern parts of England. The lowest of the minima occurred, as a rule, during the latter part of the period, and varied from 20° in 'Ireland, N.,' to 25° in 'England, N.E., E., and S.,' and to 33° in the 'Channel Islands.'

"The rainfall was much less than the mean. Over the greater part of the kingdom the fall was extremely slight, while at many of our western stations there was a complete absence of rain.

"The bright sunshine was again very deficient generally, but just exceeded the mean in 'Scotland, N., and E.,' and slightly exceeded it in 'Scotland, W. The percentage of the possible duration ranged from 10 to 17 in Scotland, from 7 to 15 in Ireland, and from 4 to 14 over England.'



MARKETS.

COVENT GARDEN, JANUARY 16.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Ficus elastica, each 1 0-7 6
Aspidistra, per doz. 12 0-30 0	Foliage plants, doz. 12 0-24 0
— specimen, each 5 0-15 0	Hyacinths, per doz. 9 0-12 0
Azalea, per plant ... 2 0-3 6	Lilium Harrisii, per dozen pots ... 18 0-36 0
Chrysanthemums, doz. pots ... 6 0-12 0	Marguerites, p. doz. 6 0-12 0
— (specimens), p. plant ... 1 6-3 0	Mignonette, p. doz. 6 0-8 0
Cyclamens, per doz. 9 0-13 0	Palms, various, ea. 2 0-10 0
Dracenas, each ... 1 0-7 6	— specimens, ea. 10 6-84 0
— various, p. doz. 12 0-24 0	Poinsettia, per doz. 12 0-18 0
Ericas, various, doz. 9 0-24 0	Primula sinensis, per dozen ... 4 0-6 0
Evergreen Shrubs, in variety, doz. ... 6 0-24 0	Tulips, bulbs, p. doz. 1 0-2 6
Ferns, small, doz. ... 1 6-3 0	Solanum, per doz. ... 9 0-12 0
— various, p. doz. 5 0-12 0	Spiras, per doz. ... 9 0-12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Arums, p. 12 blooms 3 0-8 0	Orchids:—
Azales, 12 sprays ... 0 6-1 0	Cattleya, 12 blms. 6 0 12 0
Bouvardias, per bun. 0 6-1 0	Odontoglossum crispum, 12 blms. 3 0-6 0
Carnations, 12 blms. 1 0-3 0	Pelargoniums, scarlet, per 12 bunch 6 0-9 0
Chrysanthemums, per 12 bunches 3 0-6 0	— per 12 sprays ... 0 9-1 0
— per 12 bunches 3 0-6 0	Poinsettia, 12 blms. 6 0 12 0
Eucharis, per dozen 3 0-5 0	Pyrethrums, 12 bun. 2 0-4 0
Gardenias, per doz. 3 0-5 0	Roses, Tea, per doz. 1 0-3 0
Hyacinths (Roman) 12 sprays ... 0 6-9 0	— coloured, p. doz. 2 0-4 6
— per doz. spikes 4 0-6 0	— pink, French, doz. 3 0-4 0
Lapageria, per doz. blooms ... 0 6-1 8	— yellow (Maréchal), per doz. 4 0-9 0
Lilac, French, p. bu. 3 0-5 0	— red, per dozen 1 0-1 0
Lilium Harrisii, per bunch ... 4 0-6 0	— Safrano, French per doz. 2 0-3 0
Lily of the Valley, per doz. sprays ... 1 6-2 6	Stephanotis, 12 sps. 6 0-9 0
Maidenhair Fern, per 12 bunches ... 4 0-8 0	Tuberoses, 12 blms. 0 3-0 6
Marguerites, per 12 bunches ... 3 0-6 0	Tulips, various, doz. 0 6-1 8
Mignonette 12 bun. 4 0-6 0	Violets, 12 bunches 1 6-2 6
Narcissus: White, French 12 bun. 3 0-6 0	— Parme, French, per bunch ... 3 6-5 0
— French 12 bun. 3 0-6 0	— Czar, do. ... 2 6-3 0
— Mimosa or Aca-cia, do. ... 1 0 2 0	

ORCHID-BLOOM IN VARIETY.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Blenheim, p. bushel ... 4 0-6 0	Coba, per 100 lb. ... 25 0-30 0
— From Nova Scotia, per barrel ... 14 0-22 0	Grapes, Gros Colmar, 1st quality, lb. 1 6-2 0
— Wellington, 1st quality, per bushel ... 4 6-5 0	— Gros Colmar, 2nd quality, p. lb. 1 0-1 3
— Wellington, 2nd quality, per bushel ... 3 0-4 0	— Alicante, 1st quality, p. lb. 1 9-2 0
Apricots, Cape, per box of 4 doz. ... 4 0-5 0	— Alicante, 2nd quality, p. lb. 1 3-1 6
	— Muscat, 1st quality, p. lb. ... 4 0-6 0
	Pine-apples, St. Michael, each ... 3 0-7 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Beans, Channel Islands, per lb. 1 3-1 6	Potatoes, Channel Islands, per lb. ... 0 5-0 6
— Madeira, p. bas. (5 to 10 lb.) ... 4 6-5 0	Seakale, per punnet 0 9-1 3
Cauliflowers, p. crate (5 to 8 doz.) ... 6 0-13 0	Tomatoes, Canary Islands, per case, 12 to 14 lb. ... 5 0-5 6
Mushrooms, per lb. 0 9-10 0	— Canary boxes, 4 to 4½ lb. ... 1 9-2 6
Cucumbers, per doz. 15 0-18 0	
Onions, Eng. cwt. 5 0-6 0	

POTATOS.

Trade remains very dull, and prices rule low.

NEW POTATOS.

Canary Island supply gradually increases in quantity. Myatt's from 3d. to 5d. per lb.; Magnums, 2d. to 3d. doz.; Malta Kidney (few only), 12s. to 16s. per cwt. J. B. Thomas.

SEEDS.

LONDON: Jan. 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market bare alike of buyers and business. With regard to Clover and grass seeds, although there is rather more inquiry for same, no great activity in them has yet sprung up, and values all round are consequently without material alteration. Spring Tares attract increasing attention. Fine Rape seed is getting scarce and commands higher prices. There is no change in Mustard. For bird seeds the sale is slow, on former terms. In Liverpool, Canary seed appears to be firmer.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending January 11, and for the corresponding period last year:—1896: Wheat, 25s. 4d.; Barley, 23s. 11d.; Oats, 13s. 9d. 1895: Wheat, 20s. 8d.; Barley, 21s. 3d.; Oats, 13s. 9d.

FRUITS AND VEGETABLES.

SPITALFIELDS, Jan. 14.—Quotations:—Brussels Sprouts, 1s. to 1s. 3d. per half-bushel; Beetroot, 1s. to 1s. 3d. per bushel; Kale, 9d. to 1s. per bushel; Artichokes, 1s. 6d. to 2s. 6d. do.; Leeks, 1s. per dozen; Parsley, 1s. to 1s. 6d. per dozen bunches; Celery, 9s. to 12s. per dozen rounds; bunch Greens, 1s. 3d. to 1s. 9d. per dozen bunches; Savoys, 2s. to 2s. 6d. per tally; Onions, English, 4s. to 4s. 6d. per bag; Turnips, 1s. 6d. to 2s. per cwt., and 30s. to 40s. per ton; Carrots, 22s. to 25s. per ton; Apples, cooking, 3s. to 4s. per bushel; dessert, 4s. to 5s. do.

FARRINGTON: Jan. 16.—Quotations:—Cauliflowers, 1s. 6d. per dozen (best); Celery, 15s. per dozen rounds; Sprouts, 2s. 6d. per bushel, 1s. 6d. per half-bushel; Leeks, 1s. 6d. per dozen; bunch Greens, 1s. 6d. per dozen bunches; Turnips, 2s. do.; Carrots, 2s. 6d. do.; Artichokes, 1s. 6d. per half-bushel; Horseradish, 1s. 1d. per bundle; Turnip-tops, 1s. per bushel; Kale, curly, 1s. per bushel; Rhubarb, 1s. per dozen bundles; Onions, 4s. per bag; Parsley, 2s. per dozen bunches; Apples, Blenheim, 5s. per bushel; Canadian Baldwin, 16s. per barrel; Newtown, 18s. do.; Greenings, 15s. do.; Grapes, English, 1s. 9d. per pound; Chestnuts, best, 8s., per bag, seconds, 5s. 6d. do.

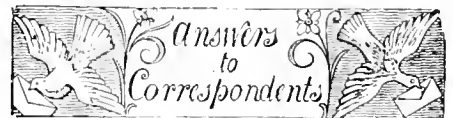
POTATOS.

SPITALFIELDS: Jan. 14.—Quotations:—Drones, 50s. to 60s.; Reading Giants, 40s. to 55s.; Bruces, 35s. to 50s.; Imperators, 50s. to 60s.; Snowdrops, 50s. to 70s.; Main Crop kidneys, 50s. to 65s.; Hebrons, 6's. to 80s. per ton.

FARRINGTON: January 16.—Quotations:—Main Crop, 80s. to 90s.; Saxons, 75s. to 85s.; Sutton's Abundance, 65s. to 75s.; Bruces, 50s. to 60s.; Magnums, 40s. to 50s. per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 80s. to 95s.; inferior, 50s. to 70s.; hay, best, 80s. to 90s.; inferior, 39s. to 65s.; mixture, 70s. to 87s. 6d.; and straw, 22s. to 49s. per load.



A HEDGE AGAINST SCHOOLBOYS: R. E. B. The plant you allude to, viz., *Maclura aurantiaca* (Osage Orange) is not procurable in sufficient quantity in this country. The Sloe, combined with Traveller's Joy, might serve the purpose; and barbed wire, where legal; but so far as our experience goes, the Hedge plant has not been discovered that would keep a boy in or out of a garden.

APPLES, CHERRIES, AND PLUMS: Pomona. Autumn-planted stocks would not be suitable for working scions upon in the spring, they would not be sufficiently established at the root, but would answer capitally for budding, which is equally as good as grafting, in July, August, and September. Stocks to be grafted should have been one year planted at the least.

ARAUCARIA: S. M. M. As a general rule only one whorl of branches is formed each year, but the rule is not absolute.

AQUILEGIA SKINNERI: C. W. D. The only wild specimen in the Kew herbarium is from the Sierra Madre, Mexico, Pringle, n. 1182. There is no specimen from Guatemala.

BETULA LENTA: W. H. M. This variety belongs to the group of Horbeam-leaved Birches, which have lough, pointed leaves, whose middle nerve has numerous parallel branches, which are connected by means of cross veins. The fruit scales towards the top are broad and tripartite. In Germany it is called the "Zuckerbirke," and it has the synonyms *B. nigra* and *carpiifolia*. It is a fast-growing tree, with black-brown bark, which it casts in broad, thick slabs, but mostly in flakes. The twigs when young are very hairy; leaves inclined to be long, pointed, mostly heart-shaped at the base, simply dentate, at the first hairy, later hairless, upper side shining. We do not know of any advantages in planting *B. lenta* over *B. alba*, the common or Silver Birch, excepting that the former will grow as fast and to a greater height (20 to 24 metres) as compared with the latter (16 to 18 metres). In America, sugar is obtained from *B. lenta*, but this is not generally the case in Germany. According to Nees's edition of *Bonpland's Forester*, vol. ii, p. 473, *B. alba*, the common Birch, is the variety chiefly planted in Prussia, Saxony, Wartenburg, and Posen. It is largely planted in Russia, and occurs as a common tree in

Switzerland and in most northern and mid-European countries, and none of the authorities we have dipped into mentions *B. lenta*.

BOOKS: T. S. B. *How to Grow Peaches and Nectarines in Small Gardens* (Hamilton, Adams & Co., London). *The Carnation; its History, Properties, and Management*, by the late E. S. Dodwell, published at the *Gardening World* Office, I. Clement's Inn, Strand, W.C. *The Rose*, by Rev. O. Fisher, published by Bradbury, Agnew & Co., Ltd., 10, Bonnerie Street, Fleet Street, E.C.

CORRECTION.—In last week's contents, for *La Mortala* read *La Mortola*.

DOUBLE WHITE ROCKET: E. W. Propagation by cuttings is best, and the cuttings may be taken off when growth begins in the spring, selecting shoots of rather weak growth, not the large sappy ones, which are apt to be lost by damp. Plant them in sandy soil, under a hand-glass, on a west border. Cuttings of pieces of the stem sometimes make good cuttings. If the floral display is desired, the plants may remain till August, and then be cut up and treated like the spring cuttings, only it will be advisable to place a frame over the hand-lit to protect them from very severe frosts. Division may be done after flowering, and practised with the double and single-flowered varieties of *Heperis matronalis*, performing the operation in showery weather. The pieces must be copiously watered when water is needed. The plant is really a biennial, although plants in favourable soils and situations live longer; and it is always safest to make some cuttings, &c., every year.

FOREIGN FELLOW OF THE ROYAL HORTICULTURAL SOCIETY: J. M. T. Foreign Fellows are eligible if they pay the annual subscription. You should write to the Secretary at the offices of the Society, 117, Victoria Street, Westminster, S.W., who will furnish all particulars of membership, &c.

GAS LIME: J. D. G. and G. C. Heavy dressings of quite fresh gas-lime should be afforded to land which has been roughly dug or trenched, which will not be sown or planted for four or five months. These dressings should not be turned in until they have been exposed to the weather for at the least two months. Quite slight dressings may be afforded land which is under crop, or will be cropped shortly; and heavy dressings may be turned to the bottom when trenching land three spits deep.

HEARTS OF STRAWBERRY PLANTS IN POTS EATEN AWAY: *Strawberries*. The work of the grub of a species of weevil, introduced probably in the soil. No kind of insecticide will clear them out of the soil that would not injure the plants at the same time. Turn out the balls and look for the grubs. Clear lime water might have the effect of bringing them to the surface, when they could be collected.

MIXED POLLEN: E. W. The fertilisation would doubtless be of a mixed character, and the progeny would necessarily be varied likewise.

NAMES OF FRUITS: J. Borlase Tibbits. Pear, Broom Park.—J. J. F. We do not know the Apple you send us. It seems to be a very good one.—W. J. J. B., T. O., Constant Reader, and *Ficus*, next week.

NAMES OF PLANTS: A. B. 1, *Davallia Tyermanni*; 2, *Polypodium aureum*; 3, *Crassula species*; 4, *Yucca aloefolia variegata*; 5, *Dracena rubra*.—J. R. T. *Ornithogalum longibracteata* n.—D. C. H., *Eucalyptus globulus*—No Name. Two shrubs; 1, *Cephalotaxus pedunculata hastigata*; 2, *Ilex crenata*.

ORCHID CULTURE: S. W. We do not think that you would find the management of the plants difficult, if due attention be paid to our caledariar articles each week. You should use soft water—either rain, pond, or river-water. Well-water, or that which contains lime, sulphur, &c., is very inimical to Orchids. The vapour arising from decaying tree leaves packed under the stages is said to do them good, but is not essential to their well-being. The Dandroses during rest should be kept dry and cool, that is, at a temperature not higher than 50°, and whilst growing and flowering they should have water at the root abundantly afforded. All Orchids, except, perhaps, the Cypripede, require to have the rooting material and drainage renewed either wholly or partially every year. Those growing on blocks, rafts, &c., with but little sphagnum-moss about them, may require looking

to more frequently, but there must be no piling on of moss about the rhizomes or harm will be done.

"ORCHID" SEED PODS: *F. A.* Certainly, neither is the seed-pod of an Orchid. No. 1 is the seed vessel of some species of Cassia, or nearly allied genus. No. 2 is probably the seed-pod of some plant allied to Bigonia.

PEACH SHOOTS DEAD IN PLACES: *W. W.* It is due to a mechanical cause, such as you surmise, viz. frost and drip; and it would not have occurred at all, or to the same extent, had the wood been thoroughly matured. We should suppose that the injury would scarcely show itself on the basal parts of the young shoots, which are sure to be better ripened than those portions you sent to us.

PRIMULAS: *J. M. Bicton.* The variety you send is a good one, and the plant has been well grown. The flowers, however, like others, are only comparatively blue.

ROSE GRAFTING: *Pomona.* It is practised at this season on potted stocks of the Dog-rose, seedling or other, high or low. Keep in a close, moderately moist place, not necessarily very light, with a temperature of 58°. Smear the point of union with grafting-wax; and afford light and air when growth begins. They will flower in the late spring, and make nice plants in six months. Your note was mislaid, hence the delay in answering your questions.

SPRAYING APPLES: *Pomona.* Not when the trees are in bloom, but once before and twice afterwards. Paris Green is a safe wash for caterpillars, and when it is used in the early stages, nothing remains on the fruits in the autumn. Be careful how you handle it, for it is a deadly poison. The same may be said of the Bordeaux Mixture, which is used against all kinds of fungus attacking the leaves or the fruit. We should not see so much specky, blemished fruit, if the latter were more frequently used.

STACHYS TUBERIFERA: *W. H.* The method of cultivation is simple. Having a quantity of the tubers in the month of March, draw drills 1 inch deep and 12 inches apart in ordinary garden soil which has been manured and well dug, and plant them at 6 to 8 inches apart; fill in the drills with the back of the rake, making level and firm by passing a light wooden roller over the surface. Beyond keeping the plantation free from weeds, and stirring the surface so long as this can be done without injuring the plants, nothing more is needed. The tubers are fit to use in late autumn, and onwards. There is no need to put them into store, the plant being quite hardy. The name the French give the tubers—*Crosnes*—is much handier than *ourr*, and ought to be adopted by us.

TOMATOS: *S. Yorks.* There is about as much difference between many of the varieties as between Tweedledum and Tweedledee: a matter of little consequence if the purchasers of the so-called novelties had not to pay a high price for the seeds.

COMMUNICATIONS RECEIVED.—*J. B.—N. E. B.—J. B. B.—J. L.—T. H.—Mrs. L.* is thanked for her suggestion, which has often been the subject of consideration.—*J. S.* you are mistaken. He does not write from that county.—*C. de R.—G. W.—S. M. M.—A. J.—M. D.* (with thanks).—*W. W.—G. H.—E. C.—G. H.,* Ealing.—*Ducie.—J. Brothers.—G. Truffant,* Paris.—*W. & N.,* Academy of Natural Science, Philadelphia.—*W. J. Stephenson* Peach.—*A. H.—R. A. R.—T. W.—H. Correvoa.—D. S.—G. B. & Co.*

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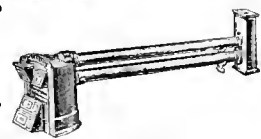
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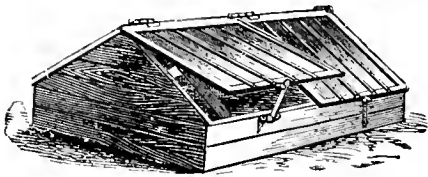
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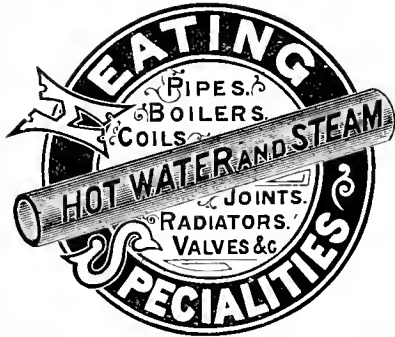
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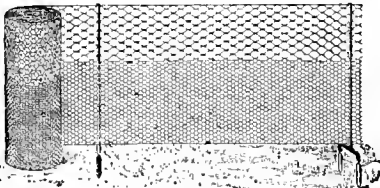


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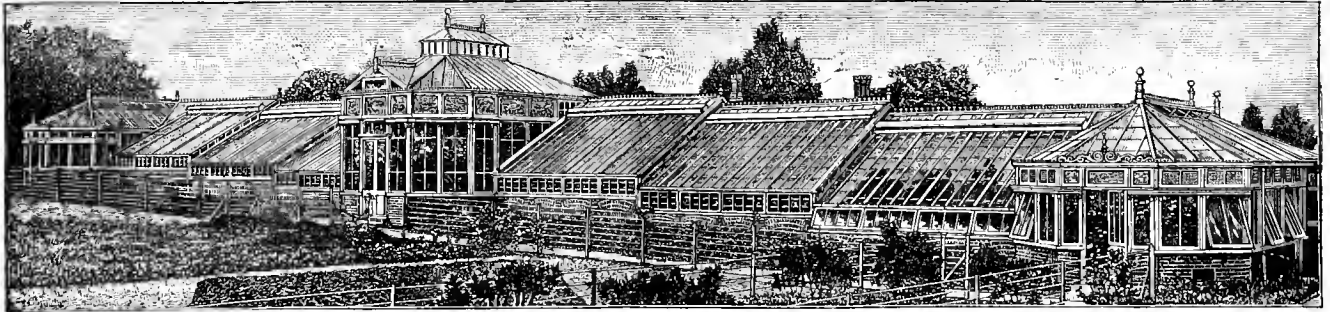
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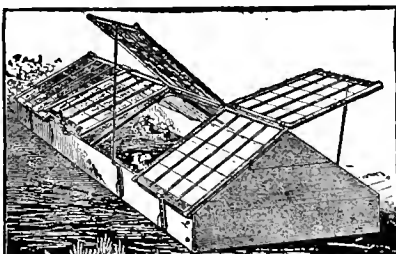
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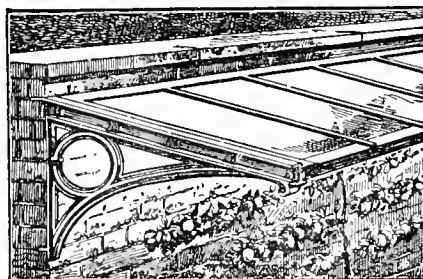
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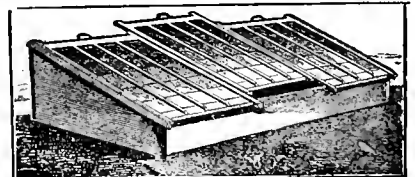
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## CONTENTS.

Antarctic exploration ... 113	Orchids, natural hybrid ... 105
Apples, Royal Late Cooking and Lord Hindlip ... 114	Pear, the Sudouth ... 108
Apricots from the Cape ... 113	Pears, richness of ... 116
Asparagus from Melbourne ... 105	Polyanthus, the ... 116
Books, notices of—	Riviera notes ... 112
Agenda Horticole ... 112	Rose Society's show, special prizes at the National ... 112
Introduction to the Study of Fungi ... 114	Royal Horticultural Society ... 115
La Culture du Poirier Les Broméliacées, &c. ... 113	Scolopendrium vulgare Daviesii ... 167
Rustic Adornments for Homes of Taste ... 114	Seeds, effect of growing upright ... 110
The Chrysanthemum Album ... 113	Soowdrop, the first ... 109
Wild Flowers of the N.E. United States ... 113	Societies—
Broccoli ... 106	Rivenhead Gardeners' Improvement ... 117
Canna, the white ... 112	Devon and Exeter Gardeners' Improvement ... 117
Carrot, an extraordinary ... 105	Ealing Gardeners' ... 117
Chrysanthemums ... 107	Horticultural Club ... 112
Colonial notes ... 105	Leeds Professional Gardeners' Friendly Benefit ... 113
Cypripedium villosum Truffauti ... 104	Lee, Blackbeath, and Lewisism Horticultural ... 113
Dahlia Certificates, by the National Dahlia Society ... 116	Newcastle Horticultural Mutual Improvement ... 113
Dendrobium Wardianum Farmers and fruit culture ... 114	Scottish Horticultural Shirley and District Gardeners' Improvement ... 113
Forestry ... 104	Weed-killers ... 112, 114
Fruit supply of Covent Garden ... 116	Week's Work, the—
Gardens and steam-engines ... 116	Flower Garden, the ... 108
Gardeners' requirements ... 113	Fruits under Glass ... 109
Gardeners' Royal Benevolent Institution ... 116	Hardy Fruit Garden ... 109
Greenhouse construction, Kew system of ... 112	Kitchen Garden, the ... 108
Horticulture at Cornell ... 117	Orchid Houses, the ... 108
Jardin d'Acclimatation, the, in Paris ... 103	Plants under Glass ... 109
Narcissus flowers from the Isles of Scilly ... 116	Wild gardens and pleasure grounds ... 107
Nectarines, the yellow ... 104	
Obituary—	
Cole, James ... 108	

## ILLUSTRATIONS.

Apple, Lord Hindlip ... 115
Apple, Royal Late Cooking ... 114
Carrot, an extraordinary ... 105
Palm-house in Jardin d'Acclimatation, Paris ... 111
Scolopendrium vulgare Daviesii ... 107

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2,150 EXTRA CHOICE EXHIBITION BEGONIAS, Single and Double, to colour, from a well-known English raiser of high repute, 300 Dwarf ROSES, STOVE and GREENHOUSE FERNS, PÆONIES, GLADIOLI, ANEMONES, CARNATIONS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 29, at 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, January 31. SPECIAL SALE OF HARDY PERENNIALS. New Importation of North American Plants, including Hardy Cypridiums, Lilium Humboldtii, Lilium Washingtonianum, &c.; Calochortus, Tigridias, Gladioli, Iris Kæmpferi, in all the best varieties; Iris germanica, finest named kinds, TUBEROUS BEGONIAS, extra fine tubers; all will flower this year. Gold Medal and First Prize Strain. DAHLIAS, Pot-roots, in the most popular sorts, HOLLYHOCKS, double varieties, in all the most distinct colours. NEW CARNATIONS, very fine stuff, the best varieties, including, among others, Lady Wantage, white; Mrs. Chas. Daniels, bluish; Yellow Queen, yellow. PÆONIES, double and single, very fine roots, splendid varieties. PYRETHRUMS, single and double, clear, distinct colours. IVIES, green and variegated; and other Climbers.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT January 31, at 12 o'clock. On view morning of Sale, and Catalogues had.

Wednesday, February 5. HEMEROCALLIS AURANTIACA MAJOR, A Magnificent New Species, ONE OF THE FINEST INTRODUCTIONS OF RECENT YEARS. Large importation of 900 Clumps, just received from Japan. By order of Messrs. Hurling & Sons, the entire shipment of 45 cases being offered.

The Plant is described and figured in the Gardeners' Chronicle, July 20, 1895, where, on p. 62 Professor BAKER states that it is the finest HEMEROCALLIS he has seen. It has also been figured in the Gardeners' Magazine and Journal of Horticulture for August 17 and August 15, 1895, respectively, and is most highly spoken of in every report. It received F.C. Certificates, Royal Hort. Soc., July 9, 1895, and also at the Manchester Royal Horticultural Society, August 24, 1895.

A Coloured Plate will be on view at the time of Sale. Messrs. Hurling & Sons were the first to introduce this valuable plant, receiving a few from Japan two years since, and the figure in the Gardeners' Chronicle was taken from a plant bloomed at their nurseries. It is quite hardy and very vigorous, foliage deep green, flower spikes strong, bearing as many as twelve flowers in succession, 7 to 10 inches across, of a rich orange-yellow, quite distinct. The flowering period lasts from July to the end of August. It is in every way a most valuable acquisition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, February 5, at Twelve o'clock. On view morning of Sale, and Catalogues had.

PRELIMINARY NOTICE.

10,000 DENDROBIUMS, FROM BURMA AND ASSAM, INCLUDING WARDIANUM AND OTHER BEST KINDS, in magnificent condition, to be SOLD, on FEBRUARY 14, 1896, WITHOUT ANY RESERVE, AT MESSRS. PROTHEROE AND MORRIS', 67 & 68, CHEAPSIDE, LONDON, E.C.

Friday Next, January 31, 1896. GREAT SALE OF ORCHIDS.

By order of Messrs. F. Sander & Co., St. Albans, comprising splendid consignments of CYPRIPEDIUM STONEI, distinct-looking plants, in grand order, obtained from the C. Masterianum district. Great variation is evidenced in the foliage, and varieties are confidently expected. The unique and wonderful C. Stonei platycanum was obtained from an imported batch of plants, and there is no reason why it, O. S. Cannanum, &c., should not again appear.

VANDA CEBULEA, 1000 plants, in the best order, specially collected in the district from which was obtained the huge richly-coloured forms now in the collections of J. Gurney Fowler, Esq., Lord Ardilaun, Lord Rothschild, &c. The floriferous character of these plants is evidenced by the number and length of the old flower-spikes, and their unimpaired vitality is shown by the firm plump leaves.

A CATTLEYA SPECIES, a small batch of distinct-looking plants, somewhat resembling C. choconensis in habit, but gathered in a district far away from the habitat of that species. Collector says they have white sepals and petals, and rosy and crimson labellums.

HABENARIA SUSANNE, 1000 fine imported tubers. The flowers of this delightful Orchid are of a pure snow-white, borne on tall elegant scapes. It is a grand decorative Orchid, of the easiest culture, requires but little room, and is invaluable for cut-flower work. Awarded a First-class Certificate August 28, 1895.

DENDROBIUM DENSIFLORUM, from the Dokela districts, &c., &c. MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 31, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

IMPORTANT SALE.

A Choice Selection of Standard, Pyramid, and Dwarf-trained FRUIT TREES, including many of the leading sorts.

1000 Standard, Half-Standard, Dwarf, and Climbing ROSES, of named sorts, including many of the best, from an English nurseryman.

A Collection of Flowering Shrubs and Trees, CURRANT and GOOSEBERRY TREES, SPIRÆA JAPONICA, in quantity, ARUMS, &c.

An Extensive Collection of Carnations, Iris, Home-grown LILIUMS, LILY OF THE VALLEY CROWNS, LILIAM AURATUM from Japan, BEGONIAS, Pearl and South African TUBEROSES.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, January 29, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Thursday Next.

By order of Messrs. W. L. Lewis & Co. ESTABLISHED ORCHIDS.—In grand health and condition, including Cattleya labiata Youngiana, C. Trianei plumosa, Cypridium bellatulum album, C. Constance, C. Davianum, Miltonia vexillaria Cobbiana, M. v. maculosa, Lælia grandis, L. tenebrosa, Odontoglossum Hallii, exhibition specimen, eight flower-spikes; together with other Cattleyas, Odontoglossums, &c., chiefly in flower or bud. Also—

IMPORTED ORCHIDS, in the finest possible order, comprising Odontoglossum Roscii majus, Cattleya citrina magnifica, Epidendrum vitellinum majus, Cattleya Harrisonæ violacea, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, January 30, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

ORCHIDS! ORCHIDS!

JOHN COWAN AND CO. have just received large and fine Importations of LÆLIAS, CATTLEYAS, DENDROBIUMS, ODONTOGLOSSUMS, ONCIDIUM, CYPRIPEDIUMS, &c., &c., all in fine condition. Descriptive and Priced Catalogues post-free on application to the Company—

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

WANTED, Small MARKET NURSERY, or PARTNERSHIP with Gentleman in same. ARMITSTEAD, Wimmerleigh, Garstang, Lancs.

WANTED to Rent, Thames Valley preferred, a MARKET NURSERY, about 2 to 2½ acres, with Greenhouses.—Apply GALE, Percy Road, Hampton.

WANTED, to Rent, NURSERY, from 1000 to 2000 feet run of Glass.—Suitable for Fruit and Plant Growing. Apply, stating all particulars, to— A. C. B. Whiteley's Buildings, Hillingdon Heath, near Uxbridge, Middlesex.

WANTED, to Rent or Purchase, about 800 ft. run of GLASS, in good condition; suitable for Tomatoes and Cucumbers. Must be near to station, and on Great Eastern Railway. BROOKS, 23, St. James' Road, Edgbaston, Birmingham.

To Nurserymen, Fruit Growers, & Market Gardeners. TO LET, or SELL, extensive FREEHOLD MARKET NURSERY (Middlesex). Large number of modern Greenhouses, in full working order, and necessary Gut-buildings, with about 30 acres of Market Garden Ground. Immediate possession. Principals only.—Apply, in first instance, letters only, 16, Jephson Road, Forest Gate, London.

TO LET, Six-roomed COTTAGE, with Twelve GLASSHOUSES in rear, all heated by hot-water. Good opening for energetic man understanding Cucumber and Tomato growing; good neighbourhood, no stock, no land attached.—K., 53, St. James' Place, Plumstead, S.E.

CUCUMBER SEED.—The Rochford (true to name, as last year), 5s. per 100. Cash with order, to B. J. WICKHAM, Grower, Sutton-Scotney, Hants.

TECOMA SMITHII.—The finest new flowering plant; as easily managed as a Chrysanthemum. It produces in Autumn large heads of brilliant red and yellow blossoms. New seed of all Seedsmen.

CHRYSANTHEMUMS.—Sturdy Cuttings, Sources of Or and Golden Gem, 2s. per 100; L. Lawrence and L. Canning, 2s. 6d. per 100. Cash with order. ARAHIN, Belmont Nurseries, Portsmouth, Southampton.

CUCUMBER SEED.—Covent Garden Favourite, Rochford's strain, 4s. per 100; 25 dozen plants, same variety, now ready. Price on application. ANCRUM MARSHALL, Holly Bank, Potter's Bar, Middlesex.

THE CHEAPEST IN THE WORLD.—Send for my CATALOGUE OF FLOWERS, VEGETABLES, and SEED POTATOS. Fully Illustrated (gratis). GEORGE F. LETTAS, Seedsmen, West Haddon, Rugby.

POT VINES.—I have about 150 Black Ham-burghs and 90 Muscats, Extra strong Planting Canes, to dispose of, and should be glad to quote price for same. SAMUEL JENKS, Bramley Nursery, East Grinstead.

CHRYSANTHEMUMS.—Good strong outtings of Snowflake, L. Canning, Lady Lawrence, and W. H. Lincoln, 4s. per 100; cash with order. FOREMAN, Parlycross Gardens, Teignmouth, S. Devon.

Important to Mushroom Growers. CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 6s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Trade Price Current, 1896. PETER LAWSON AND SON, Limited, Edinburgh, has posted their ANNUAL CATALOGUE OF KITCHEN GARDEN and FLOWER SEEDS to their Customers; but should any not have been delivered, a duplicate copy will be sent upon application.

SMALL SHRUBS, CONFERÆ, &c.—Abies Douglasii, 1-yr., 3s. per 100; P. nobilis, 1-yr., 3s.; Cup. macrocarpa, 8 to 9 in., 6s. per 100; C. erecta viridis, 4 to 6 in., 3s. per 100; C. albumia, 6 to 7 in., 6s. per 100; Honey-suckle, 9 to 12 in., 6s. per 100; Irish Ivy, 12 to 16 in., 6s. per 100; Pinus Cembra, 6 to 8 in., 6s. per 100; Retinospora plumosa, 4 to 6 in., 30s. per 1000; R. squarrosa, 4 to 6 in., 40s.; Thuja Lobbii, 15 in., 30s. per 1000; Yucca gloriosa, 10 to 12 in., 20s. per 100; Y. filamentosa, 10 to 12 in., 20s. per 100; Prunus Pissardi, 2 to 3 ft., 6s. per doz.; Acer n. variegata, 6s. per doz.—G. MITCHELL, Nurseryman, Stranraer.

To the Orchid Trade. J. A. McDOWELL & Co., City of Mexico, beg to call attention of the Horticultural Trade to their LIST of MEXICAN ORCHIDS; the prices annexed include freight to London to Messrs. WATSON & SCULL, 90, Lower Thames Street, London, E.C., to whom orders and remittances may be sent, and duplicate orders to J. A. McDOWELL & Co., Mexico City. A Price List of Bulbs, Cactus, and other Plants will be sent to those who apply. Orders for Orchids should be placed now, as it is the best time for shipping and collecting.

Table listing various orchid species and their prices per dozen. Includes Brassavola glauca, Cattleya citrina, Chysis species, Epidendrum falcatum, Lælia atunabalis, Lælia maculatum, Lælia nobilem, and Oncidium tigrinum.

EXHIBITIONS.

CRYSTAL PALACE.—SPRING EXHIBITION OF PLANTS AND FLOWERS. SATURDAY, March 14. Entries close March 7.

PRELIMINARY ANNOUNCEMENT.

A GRAND HORTICULTURAL SHOW AND FETE WILL BE HELD AT CHESTER, in AUGUST NEXT. £400 IN PRIZES WILL BE AWARDED FOR THE HORTICULTURAL DEPARTMENT.

Schedules may be obtained from the Secretary, Mr. E. ANDREWS, Crypt Chambers, Eastgate Row, Chester.

SAMUEL PICKSTONE RETURNS his most grateful THANKS to the subscribers of the G. R. B. Institution who have so kindly assisted him with their Votes and Interest.

I, GEORGE FLETCHER, RETURN SINCE CERIE THANKS to all who assisted me with their Votes at the late Election of Pensioners on the Gardeners' Royal Benevolent Institution.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

GARDEN SEED LIST (Free).—Illustrated, Descriptive, Cultural, Reliable Quality, Pure and Economical. TOMATO, Collins's Challenger. Four First-class Certificates awarded.

FOREST TREES, &c.—Ash, 4 to 5 ft., 30s. per 1000; Elm, 2 to 3 ft., 20s. per 1000; Beech, 4 to 5 ft., 35s. per 1000; Thorns, 4 to 4 1/2 ft., 30s. per 1000; Scotch Fir, 2 yrs., 2 yrs. transp., 14s.; do., 1 yr. to 2 yrs. transp., 8 to 9 in., 3s. per 1000; Hazels, 2 ft. 16s.; Blackthorn, 2 to 2 1/2 ft., 24s. per 1000; Myrobalan Plum, 12 to 18 in., 12s. per 1000; Oak, 1 1/2 ft., 16s.; Ash, 1 1/2 ft., 12s. per 1000; Privet, Oval, 1 1/2 ft., 20s. per 1000; Ahees Douglasii, 2 to 3 feet, 25s. per 100; Picea Nordmanniana, 1 to 1 1/2 ft., 25s. per 100; P. nobilis, 1 to 1 1/2 ft., 25s. per 100; Cnp. erecta viridis, 2 ft., 25s. per 100.

FERNS and DECORATIVE PLANTS!—(TRADE).—Ferns, in 2 1/2-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 4 1/2 inch best selling sorts, 8s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 4 1/2 inch, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevillea, Solanums, in 4 1/2 inch, 9s. doz.; Marguerites, Solanums, Erica gracilis, in bloom, in 4 1/2 inch, 9s. doz.; Ficus, Palms, Dracaenas, Crotons, Bouvardias, Erica hemalis, and Cyclamen, in bloom, 12s. doz. Lists free. Packed free. Oash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

HOME-GROWN VEGETABLE & AGRICULTURAL SEEDS. H. AND F. SHARPE beg to announce that their SPECIAL PRICED LIST OF CHOICE VEGETABLE SEEDS has been posted to their Customers, and they will be pleased to forward a further copy to those who have not received it, if an application is made. Quotations for their fine selected Stocks of TURNIP, MANGEL WURZEL, and other AGRICULTURAL SEEDS may also be had on application.

GRAPE VINES AND TEA ROSES. JOHN COWAN AND CO. have a large and fine stock of GRAPE VINES suitable for fruiting in Pots and planting Vineries. They have also a large and fine Stock of TEA and other ROSES in POTS. Descriptive and Priced Lists post free on application to the Company.—THE VINEYARD AND NURSERIES, GARSTON, NEAR LIVERPOOL.

CHRYSANTHEMUMS. THE MOST COMPLETE COLLECTION OF JAPANESE VARIETIES IN EUROPE. THE MOST RELIABLE CATALOGUE published, post-free. No one can go astray in trying the varieties specially recommended.

W. J. GODFREY, EXMOUTH, DEVON. HENDER'S PRIZE (THE BEST PETUNIAS GROWN). Rose, Hender strain, Double-fringed, Pink, new, splendid, 2s. 6d. per packet; Double Fringed, in variety, grand, 1s. 6d. and 3s. per packet; Large Single, mottled and striped, 1s. and 2s. per packet. AMARANTHUS, "Hender's Hybrids," 1s. 6d. per pkt. BEGONIA, Yole's Prize Single, 1s. and 2s. 6d. p. pkt. HENDER AND SONS, Nurserymen, Plymouth.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

SEED POTATOS.—For Sale, Myatt's Prolific (True). 80s. per ton. G. F. YOUNG, Swineshead Abbey, Near Bostock.

SEAKALE.—Extra strong, for Forcing; also smaller size for Planting. Samples and prices on application. H. B. MAY, Dyson's Lene Nurseries, Upper Edmonton.

THE RAJAH EARLY POTATO.—Ten days earlier than Sharpe's Victor. Very prolific. Price, 3s. per stone. Trade price on application. J. E. DIXON, Seed Merchant, Gainsborough.

TOMATO PLANTS, Chemin Rouge.—Strong Plants, showing flower bracts, in 6 1/2 inch pots, 100. WM. WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Msida Vale, London, W.

PALMS, CORYPHAS and LATANIAS from Stores, 10s. per 100. Cash or exchange for Carnations, Pelargonium Cuttings, or Bedding Geraniums. F. ROSS & CO., Merstham, Surrey.

EUONYMUS, good, 2 to 3 feet, 25s. per 100. GERANIUMS, Raspaal, West Brighton, Silver-leaf, mixed Ivies, and others, autumn-struck, in 2 1/2 inch pots, 10s. per 100; packed.—FAY, Florist, Southsea.

PALM SEEDS (New Importation).—Kentia Belmoreana, Corypha australis, Phoenix roedleriana, and Scaforthia elegans, 100 in four varieties, as sample, 3s.; 400 in four varieties, 11s. Carriage paid. Prices per 1000 on application. Liliun auratum, finest bulbs ever offered at the price, 4s. per dozen; 35s. per 100.—MORLE & CO, Importers, The Conservatories, Finchley Road, N.W.

THORN QUICK.—Extra transplanted, and very strong, 5-yr., 25s. per 1000; 6-yr., 30s. Extra, extra strong gapping Quick, 40s. per 1000; 4-yr. old, very good, 16s. per 1000.—Apply to ISAAC MATTHEWS and SON, The Nurseries, Milton, Stoke-on-Trent, S.O.

CHRYSANTHEMUM CUTTINGS.—Madame Desgranges, 2s.; Mrs. Hawkins, best early bright yellow; W. H. Lincoln, Virisad Morel, &c., 4s.; Lady Fitzwigram, Theresa Rey, 6s. per 100. Cash with order. MEW, Florist, Earlswood, Surrey.

Orchids.—Orchide. 750 ORCHIDS, in splendid condition, to be Sold, at Harnham Cliff, Salisbury, in consequence of the Owaer going abroad. May be seen in their respective houses on application to the GARDENER.

SUCCESSFUL GARDENING.—If you wish success in keeping a Garden, or as a Competitor, procure a copy of Dobbie's Catalogue and Competitor's Guide, 180 pages, Illustrated. Full Cultural Directions for Flowers and Vegetables. The Book free by Parcel Post for 6d.

DOBBIE AND CO., Seed Growers to the Queen, Rothesay.

CYCLAMEN—CYCLAMEN.—FIRST PRIZE, Royal Aquarium, 1895. SEEDLINGS, sample dozen, 3s.; 2 dozen, 6s., now ready, by post on receipt of cash. PLANTS in 4 1/2 inch, in Bud and Flower, now ready, from 18s.; SEED, 2s. 6d. and 5s. per packet. Special prices to the Trade. The ST. GEORGE'S NURSERY CO., F.R.H.S., Cyclamen Specialists, Haswell, Middlesex.

WM. WOOD AND SON beg to offer the following fine specimens of—CEDRUS ATLANTICA, 8 to 10 feet, 7s. 6d. to 10s. 6d. each. PICEA PINSAPO, 6 to 7 feet, 7s. 6d. to 10s. 6d. each.

Also fine transplanted bushy MAHONIA AQUIFOLIUM, 1 1/2 to 2 feet, at 20s. per 100. Address, Woodlands Nursery, Maresfield, Uckfield, Sussex.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 49 in. at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Oash with order. J. J. CLARK, Goldstone, Brighton.

OWEN'S ROYAL CHRYSANTHEMUMS.—The best, cheapest, and most complete collection in the Kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First-class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp. R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

BOX'S BEAUTIFUL BEGONIAS.—Quality and Quantity. Seed of Singles, 1s., 2s. 6d., and 5s.; of Doubles, 1s. 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers to colour for Bedding, from 20s. per 100. Choice Hybrids for pots, 7s. 6d. to 42s. per doz. Illustrated Price List and Pamphlet Gratis.—JOHN R. BOX, Begonia Grower, Croydon.

RHODODENDRONS. Well furnished and well budded, with from seven to twenty buds, consisting entirely of the reliable hardy kinds; the MAJORITY BEING ON THEIR OWN ROOTS, they are without doubt the best Rhododendrons in commerce.

HARDY AZALEAS. All the most beautiful varieties, varying in height from 1 1/2 to 3 feet; the plants are covered with buds.

ANTHONY WATERER, KNAP HILL NURSERY, WOKING, SURREY.

FRUIT TREES for IMMEDIATE BEARING!

APPLES.—Espalier or Dwarf-trained. Extra transplanted, with 4 to 6 tiers of branches, well set for fruit, good sorts, 3s. 6d. to 5s. each.

APPLES.—Pyramids, 3 to 5 years pruned, well set, 2s. 6d. to 3s. each.

APPLES.—Early-bearing and profitable early season sorts, as Keswick, Lord Grosvenor, Potts' Seedling, Ecklioville, Wright's Seedling, Worcester Pearmain, Frogmore Prolific, Ringer, Grenadier, Lord Suffield, &c. Standards (4 to 5 feet stems), extra fine, 18s. per dozen. Special prices for large quantities.

APRICOTS.—Dwarf-trained, 2 years, fine, 5s. each, 50s. per dozen.

PLUMS.—Victoria, 2 and 3 years dwarf-trained, extra fine, 3s. and 3s. 6d. each, 30s. to 36s. per dozen. Descriptive and Illustrated FRUIT TREE CATALOGUE free on application. Also of VEGETABLE and FLOWER SEEDS, including sorts for the Rock Garden, Gladioli, Begonias, &c.

N.B.—Prices to the Trade on application.

J. BACKHOUSE & SON, YORK.

ESTABLISHED 22 YEARS. BIDDLES & CO., THE PENNY PACKET SEED COMPANY, LOUGHBOROUGH, LEICESTERSHIRE. THE BEST SEEDS IN PACKETS OF ANY SIZE, FROM ONE PENNY UPWARDS. List of 3000 varieties, Gratis and Post-free.

SEEDS Select VEGETABLE, Choice FLOWER, The best qualities at Moderate Prices. Delivered Free by Rail or Parcel Post. The Best SEED POTATOS, Garden Tools, Sundries, &c., &c. Illustrated Descriptive Catalogue, No. 459 POST FREE ON APPLICATION. DICKSONS, CHESTER.

INDIAN ORCHIDS, BULBS, SEEDS, &c.

COSSIPORE PRACTICAL INSTITUTION of HORTICULTURE, FLORICULTURE, and AGRICULTURE, Cossipore, P.O., Calcutta, is the largest and most reliable house where all sorts of INDIAN SEEDS, including those of Timber Trees, Fruits, Shrubs, Vegetables, and Flowering Plants; INDIAN ORCHIDS, viz., Dendrobium, Vandas, Cypripediums, Bletia, Saccolabium, Aërides, Cymbidium, and INDIAN BULBS, &c., can be had in large quantities. PRICE LIST post-free on application to the Superintendent.

SPECIAL CULTURE OF FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits and Roses, post-free, 3d. Winners of the Royal Horticultural Society's Gold Medal, 1893, '94, and '95; also at Manchester and Liverpool.

THOMAS RIVERS & SON, THE NURSERIES, SAWBRIDGEWORTH, HERTS. STATION, HARLOW, G.E.R.

BEGONIAS—A SPECIALTY.

Awarded Nine Gold Medals and Gold Cups. Seed saved from prize plants. Choicest mixed, single or double varieties, 1s., 2s. 6d., and 5s. per packet; Collections (seed), single, 12 named varieties, separate, 5s. 6d.; 8 ditto, 3s. Tubers, named singles, from 18s. to 60s. per doz.; choicest seedlings, 3s. to 30s. per doz.; bedding, choicest, 4s. to 9s. per doz.; choicest named doubles, from 18s. per doz.; choicest seedlings, 8s. to 30s. per doz.; choicest mixed, for bedding, 9s. to 18s. per doz. CATALOGUE gratis.

JOHN LAING & SONS, Begonia Growers, &c. FOREST HILL, LONDON, S.E.

**ANTHONY WATERER**

Invites an inspection from intending Planters to the following well-grown TREES, having stout, clean stems, with handsomely-furnished, well-balanced heads, and from frequently transplanting are splendidly rooted:—

- ACER DASYCARPUM, 14 to 20 feet.
- .. WIERII LACINIATUM, 10 to 14 feet.
- .. NEGUNDO VARIEGATA, Standards, 8 to 10 feet.
- .. RETTENBACHII, 12 to 14 feet.
- .. SCHWEDLERII, 12 to 18 feet.
- .. WGRLEYII, 12 to 14 feet.
- .. LEOPOLDII, 12 feet.
- BEECH, Purple, Pyramide, and Standards, 10 to 20 feet.
- BIRCH, Silver, 12 to 14 feet.
- CERASUS SEROTINA (American Bird Cherry), 12 to 18 feet.
- .. Double White, 14 to 16 feet.
- .. Scarlet, 12 to 18 feet.
- .. Briotti, 10 to 16 feet.
- ELMS, English, 10 to 12 feet.
- LIMES, 12, 18 to 20 feet.
- .. All our Limes are the best red-twigged variety.
- .. HUCHLOBA or DASYSTILA, 12 to 14 feet.
- .. Silver-leaved (Tilia argentea), 12 to 14 feet.
- LIQUIDAMBAR, 8 to 10 feet.
- OAK, English, 12 to 14 feet.
- .. Scarlet American, 12 to 14 feet.
- POPULAR CANADENSIS NOVA (the true variety), 12 to 16 ft.
- SYCAMORE, Common, 12 to 17 feet.
- .. Purple, 14 to 18 feet.
- THORNS, Double Pink, 8 to 10 feet.
- .. Paul's Double Scarlet, 8 to 10 feet.
- .. Double White, 8 to 10 feet.

**WEeping TREES.**

- BEECH, Weeping, Pyramids, and Standards, 8 to 12 feet.
- .. Weeping, Purple, Pyramids, and Standards, 7 to 12 feet.
- BIRCH, Young's Weeping, Pyramids, and Standards, 8 to 14 feet.
- .. Cut-leaf Weeping, Pyramids, and Standards, 10 to 12 ft.
- ELMS, Weeping, Pyramids, and Standards, 7 to 14 feet.
- LARCH, Weeping, Pyramids, 8 to 10 feet.

**KNAP HILL NURSERY, WOKING, SURREY.**

*Wells' Book, tells every thing about the culture of Chrysanthemums, for every purpose. Post free 1/3 from Wells' Earlwood Nurseries, Redhill. Wells' special list of many gives all the best new sorts, now ready. Post free from W. Wells, Earlwood, Surrey.*

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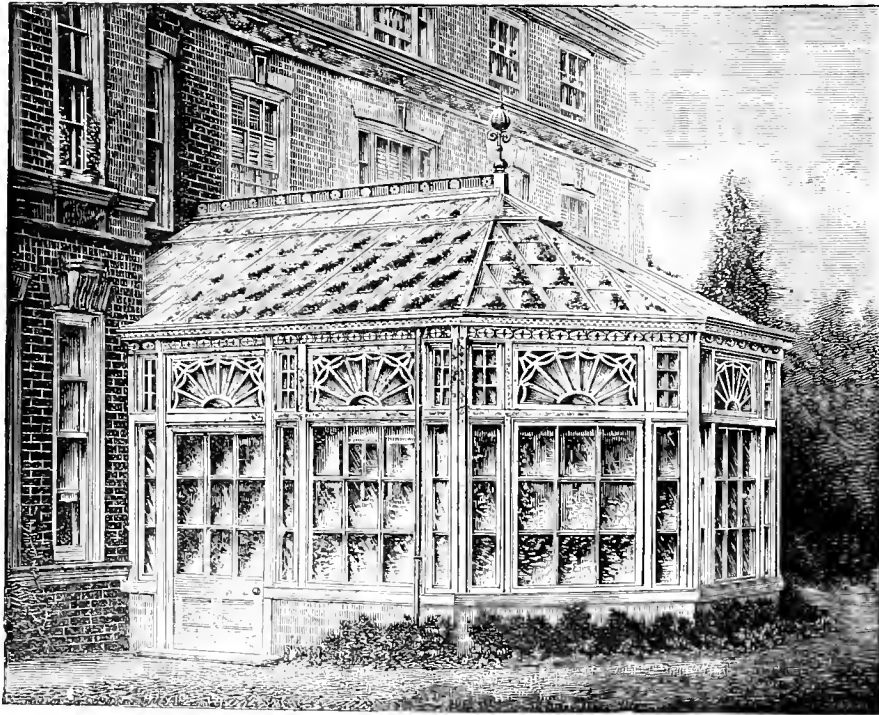
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THE  
**Gardeners' Chronicle.**

SATURDAY, JANUARY 25, 1896.

THE JARDIN D'ACCLIMATATION.

THIS is situated in the Bois de Boulogne, Paris, and is reached from the Porte Maillot, close to the Arc de Triomphe, by means of convenient, Liliputian tram-cars, which wind in and out among the leafy glades in a delightful manner. At first one wonders at the prevalence of so much copse wood, till memory recalls that sundry German soldiers were here encamped only a quarter of a century ago, and that these invaders were not likely to have been very sentimental about trees. The Jardin is a sort of compound of the Royal Botanic and the Zoological Gardens, with a dash of South Kensington, a strong reminiscence of the Fisheries Exhibition, and of the former conservatory of the Royal Horticultural Society. In any case, it is one of the most charming and most interesting places in the vicinity of Paris, and one which contains so much of interest for gardeners of all degrees, that no excuse is needed for drawing the attention of our readers to it.

The winter garden, in particular, should be carefully studied by those who may be called on to construct or maintain a similar establishment. It consists of an elliptic nave of iron and glass, with a curved roof, and surrounded by an aisle-like gallery, from which branch off on the one side a series of show-houses—side-chapels we were about to call them, whilst on the other side is a long building used as a cool conservatory for Camellias and New Holland plants. From the central nave access is also obtained to a fine concert hall and to a "Palmarium." The floor of the nave is depressed in the centre, the soil being thrown up into gentle undulations. These are covered with a dense carpet of Selaginella and Tradescantia, so that the soil is not visible.

A small lake with meandering streamlets crossed by rustic bridges, adds to the effectiveness of the scene, and contrasts well with the bold masses of rockwork in the vicinity. The planting of the banks, rocks, grottos, and mounds, has been excellently done. Here groups of Palms or bold Araliads, there of Tree Ferns; in one place a thicket of noble foliaged Aroids or feathery masses of trailing Asparagus, in another the graceful shaft of a Palm standing isolated on the turf, and bearing a spreading crown of foliage, and a wealth of tresses of flower. Noble Musas give dignity of form, whilst Dracaenas, Crotons, and foliage Begonias add colour. It must be added that the young foliage of some of the Palms—for instance of Kentiopsis macrocarpa—is as charmingly coloured as are the lower-growing plants just named. The water and surrounding banks are tenanted with appro-

private vegetation, such as *Monstera*, *Papyrus*, *Pontederia*, aquatic Ferns, and *Nymphæas*.

Ranging round the nave at several feet above the ground in the aisle-like corridor before-mentioned, bordered on each side by clumps of Bamboos (*Bambusa aureo-striata* was the name given). These alternate with fine plants of *Strelitzia Augusta* or *Regina*. From this gallery the visitor overlooks the nave below, and obtains a delightful view of the varied vegetation beneath, and from it opens out a series of minor houses devoted to various plants. Thus, at the time of our visit, at the end of October, one house was ablaze with *Chrysanthemums*, the flowers not so large as with us, and, it may be, not so "finished," but withal showing more taste in grouping and in blending of colours than we are accustomed to at home. In this house also were some Orchids. *Cypripediums* filled a second compartment. In the adjoining section was a group of *Anthuriums*, with noble leaves and brilliantly-coloured spathes. This was followed by a house filled with *Nepenthes*, *Vandas*, and various Orchids. Its neighbour gave shelter to a bright group of *Caladiums*, *Crotons*, and other showy foliage plants. The next house was devoted to a remarkable collection of *Bromeliads*, so strangely neglected here. These are show-houses which the public is allowed to gaze at, but not to enter. Doubtless, application at headquarters would enable the student to examine the plants at closer quarters. In any case, the effect was charming, and the grouping instructive. Indeed, though the amenities are here most prominent, an educational purpose evidently runs through the whole establishment, and the delighted onlooker soon finds himself asking questions and framing theories, showing that the intellect as well as the senses have been stirred by this charming winter-garden. A full list of the Palms, with their heights and other particulars, might be useful to the gardener. We had no time to compile such a list, but we may mention a few of the more striking Palms just as they were entered in our note-book, and which will at least convey to the gardener some idea of the furnishing of this beautiful house. The reader who does not care for a mere list of names is respectfully counselled to skip this paragraph:—

*Areca sapida* and *Baueri*, *Arenga saccharifera*, *Washingtonia filifera*, *Hydriastele Wendlandiana*, *Kentia Fosteriana*, *Belmontiana*, and *Canterburyana*, *Kentiopsis macrocarpa*, *Livistona Hoogendorpii*, *Livistona chinensis*, *Raphis Sirotkik*, *Cocos Romanzovii*, with very elegant narrow pinnæ; *Scaevola elegans*, in flower. No doubt there were many more, but those named were among the most conspicuous.

Leaving this winter-garden with reluctance, running back again and again to look at it from a fresh point of view, we at last tear ourselves away and enter the Palmarium. We have not so much difficulty in conveying to the reader what this is like, as Messrs. Jönvet & Co. have allowed us to purchase from their *Magazin Pittoresque* an illustration (fig. 17, p. 111) which conveys a very good idea of the building. Those who remember the conservatory at South Kensington, will recognise the resemblance between the two structures. It measures, we were told, 50 mètres by 21 mètres in breadth, and 14 mètres in height (164 × 68 × 45 feet).

The central avenue is flanked on either side by elegant Palms, *Cocos flexuosa*, which already reach nearly to the top of the building. They were reared, we believe, at Nice, and transferred to their present quarters in 1882. An inner row of fan-Palms (*Chamerops*) forms a fine contrast to the elegant *Cocos*; whilst in the gallery above, are some fine specimens of *Phoenix in tuba*. As will be seen, the Managers of the *Société d'Acclimatation* manage to combine means of practical utility and scientific study with amusement and recreation. This combination was tried with disastrous results at South Kensington, but the circumstances were so different that it would be useless to institute comparisons.

Familiar with the plants placed at the disposal of the fellows of the Royal Horticultural Society at Chiswick every year, we were not a little struck on entering one of the houses of this establishment, to see so fine a stock of Palms, *Cycads*, *Dracæas*, *Aran-*

*arias*, and other plants suitable for the decoration of apartments. These, it appears are not distributed to the subscribers, but are sold to the public at what seemed to be reasonable prices. Whether such a sale of plants at Chiswick would or would not be thought to be an unwarrantable interference with the privileges of the trade, we cannot say. In any case, the Paris public can get for its money far better and more interesting plants than those which are grown for gratuitous distribution among the Fellows of the Royal Horticultural Society.

The Garden-Director is M. Patry, who may well be congratulated on the beauty of the arrangement and the thriving condition of the plants entrusted to his care. We have confined ourselves of necessity to the vegetable kingdom, but as a zoological garden the *Jardin d'Acclimatation* is also remarkable; and museums, lecture-rooms, concert-halls, and the inevitable "Café," constitute an establishment which no visitor to Paris should omit to see.

## ORCHID NOTES AND GLEANINGS.

### CYPRIPEDIUM VILLOSUM TRUFFAUTI.

(*Hort. Truffaut.*)

This is a beautiful variety of the well-known *C. villosum*, and probably a natural hybrid between *C. villosum* and *C. villosum* var. *Boxalliatratum*, which gained a Certificate of Merit at the last meeting of the Orchid Committee of the National Horticultural Society of France. The leaves are much broader and longer than in the type, and much resemble those of *C. Sanderianum*, with very few brown dots at the base. Scape erect, hairy, bract longer than the ovary. Flower larger than in the type, with a glossy varnished surface. Upper sepal broadly open, margins revolute towards the base, irregularly covered with many confluent mahogany-brown spots, and of a purplish colour, near the margins pure white. Lower sepal large, dull yellow-green. Petals ciliate, spatulate, much broader than those of *C. villosum*, spotted at the base with a few dots, clear purplish brown, and regularly coloured in the middle. Lip of a quite different shape, much in the way of that of *C. Sanderianum*, lemon-yellow at the base, shaded with purplish-brown at the front. Staminode with a small glandular boss in the middle. The unique plant was found amongst a lot of imported *C. v. Boxalli*, and flowered in M. A. Truffaut's nursery, Versailles, January 18 1896.

## FORESTRY.

### THE ONE-LEAVED SCOTCH PINE (*Pinus sylvestris monophylla*).

UNTIL recently, I had no idea that the above was a distinct and well-marked variety. When seen from a distance, it bears some resemblance to *P. halepensis*, but closer examination reveals the fact that it is at once the most distinct and remarkable of the numerous forms of our native Pine. Unlike not a few varieties of *Pinus*, the distinguishing characteristics of *P. sylvestris monophylla* are present in every branch of the specimen I examined. As might be expected, the whole appearance of the tree is scant, and far less ornamental than that of the parent, this being readily accounted for by each pair of leaves being joined together for almost their entire length, and also from the foliage being tufted towards the tips of the branches, thus leaving the shoots bare of leaves for often a couple of inches in length. The leaves are shorter than those of the species, hardly exceeding 2 inches in length, slightly twisted, and glaucous-green in colour; while the sheath is jet-black, and a quarter of an inch long. Like the variety *P. s. horizontalis*, syn. *montana*, the buds of *P. s. monophylla* are more elongated and of a deeper red than those of the species. Very distinct are the sparsely-produced cones, these being globose, 1½ inch long, by nearly the same in greatest diameter, and composed of thick, light-

brown scales, with a small recurved nubo to each. They are sessile, and produced invariably singly. The general habit of the tree is much like the species, and the colour of the bark exactly similar. Judging from the exposed position in which the tree (from which these notes were taken) is growing, also the well-furnished stem, it would seem to be as hardy as the parent.

As an ornamental tree this variety of the Scotch Pine is not to be recommended, but its very constant and distinctive characters justly entitle it to the varietal name which has been bestowed upon it. *A. D. Webster.*

### THE SCOTS PINE.

We occasionally hear complaints of the inferior quality of the timber of this tree, of its being white and soft throughout, without any core of hard resinous wood. This is the common wild variety, *Pinus sylvestris vulgaris*, the *P. s. genevensis* of the French, and of little value as a timber-tree. It is very prolific of seed, and therefore much favoured by those who collect seeds, and are paid for quantity instead of quality. Undoubtedly the best variety is *P. s. horizontalis*, the *Sjeyde* Pine. Don, of Forfar, says, that "it differs from *P. s. vulgaris* by the disposition of its branches, which are remarkable for their horizontal direction, and for a tendency to bend downwards close by the trunk. The leaves are broader than those of *P. s. vulgaris*, and serrulated, and not margined; they are distinguishable at a distance by their much lighter and beautiful glaucous colour. The bark of the trunk is not so rugged, its cones are thicker, not so much jointed, and smoother. The tree seems to be a more hardy plant. It grows very freely, and quickly arrives at a considerable size." The wood of *P. s. horizontalis* is red throughout, and abounds in resin; so that planters should not be in doubt as to the variety to plant. The white-wooded variety is also a mean-looking tree compared with the former, and purchasers should always insist on being supplied with the superior variety. The varieties of the Scots Pine are, as most foresters know, somewhat numerous, and not all of them produce good timber. The hooked-coned varieties—*P. s. uncinata*, *P. s. hagenensis*, and *P. s. rigensis*—are to be recommended for their fine timber. *P. s. hagenensis*, introduced from the forests of Hagenau and Rastadt, grows to a height of 70 to 80 feet, with a straight, smooth bole, and reddish bark. *P. s. rigensis* is a common forest tree in Lithuania and Livonia. It does not differ in any particular from the best strain of Scots Pine found in Scotland.

### THE YELLOW NECTARINES.

OF late years there have been considerable additions to the existing yellow-fleshed Nectarines, and for these valuable additions we are mostly indebted to the skill of Messrs. Rivers, The Nurseries, Sawbridgeworth, Herts. These varieties are noted for fine flavour, indeed, many persons prefer a yellow-fleshed Nectarine to a white one; and most of the varieties are of large size, and the trees free growers. One of the first yellow-fleshed Nectarines was Pitmaston Orange, a variety raised at Pitmaston House, Worcester. Having been in early life a resident in that locality, I have always had a fancy for this variety. The good qualities of Pitmaston Orange are so well known that nothing need be said in its praise; still, it will be admitted that in cold heavy soils it is not the best Nectarine to plant, but given a south or west wall, and a warm soil, it is a delicious fruit, and the tree a free bearer. The tree not being a robust grower, makes a good forcing variety, and it is certainly one of the best for growing in a wall-case or house to supply fruit in July and August. An equally good yellow variety is Pine-apple, later than Pitmaston, a large handsome fruit, of nearly oval shape, the colour deep orange and crimson; very rich in flavour, and in season early in September. A seedling from Pitmaston Orange, it is harder than that variety, and excellent for a wall, if its needs be well attended to, and the roots kept near the surface; it does equally well as a forcer, and attains to a good size.

Another yellow-fleshed variety is Humboldt—in fact, one of the very best, equalling the last-named in flavour. It is a seedling from Pine-apple, and is in season at about the same time or a trifle later. Last year I gathered fruits of it in the last week in August; but the trees were much exposed, and the season, as we know, was exceptional. This is a fine forcing variety, and good on open walls when the wood is well matured, and not crowded in any way. In the season of 1894, Humboldt, though later than usual, was excellent, in spite of the weather being unfavourable, thus showing its adaptability as a wall

vating in pots or in the orchard-house. I prefer Pine-apple and Humboldt for the open-air, for the reason that the fruits are large; but Goldoni is free in growth, and very prolific.

Darwin is another yellow-fleshed variety, noted for richness of flavour, a seedling from Rivers' Orange crossed with the Stanwick, a noted kind for flavour. It is usually in season early in the month of September, but in 1895 it was earlier. I have no trees in the open, but in a late house the fruit is excellent. Byron, another yellow-fleshed Nectarine, has fruits above middle size, late, large, and good. I have no tree

England when it is comparatively plentiful in this market, and if a trade in Asparagus could be established, it would be of considerable advantage to the vegetable growers of the colony. The experience gained in the trials made at the refrigerating works shows that Asparagus will keep well in the cool chamber for six or seven weeks, and some bunches stored for that time proved, when cooked, to be succulent, tender, and of equal flavour with Asparagus freshly pulled. It is probable that a trial shipment will be shortly sent to England, and should the Asparagus prove acceptable to English consumers, it may find a regular place during the season among the articles exported.

AMERICAN GRAPE-VINES IN THE ROYAL HORTICULTURAL GARDENS.

The Gardens, Richmond Park, continue in a highly creditable condition, notwithstanding the fearful drought that has so long prevailed. With very few exceptions the trees and Grape-vines are in excellent condition, nearly all making splendid growth. Though some of the trees are showing plenty of fruit of good quality, the crop will not average heavily this year. The Grape-vines, however, constitute the most interesting sight. Those in the collection have already made shoots of 6 feet and upwards in length, and most of them are in fruit. The young seedlings of the Phylloxera-resisting American Vines, which, it may safely be said are in millions, are a notable feature. The seeds were sown in August, and the young plants are coming forward fairly well, even though somewhat overcrowded. Mr. Neilson, having had doubts regarding the quality of the seed, sowed it more thickly than proved to be necessary.

SOUVENIR DE LA MALMAISON, AND OTHER CARNATIONS.

The desire to excel in the production of immense blooms of the first-named fine variety of Carnation has reached Australia, and very beautiful blooms of this and some other varieties were to be observed in a florist's shop in Melbourne at the beginning of December.

AN EXTRAORDINARY CARROT.

I FORWARD to you a Carrot of the most curious growth that I have ever seen. The main root being surrounded by no fewer than nine other roots, the consequence being a monstrous root, or more properly, a conglomeration of roots or Carrots of peculiar and varied sizes (fig. 15). I have seen double and treble-rooted Carrots, but never anything at all resembling the one I now send. It was grown here at Sevennaks, by Mr. Holmes, of St. John's, who kindly presented it to me, as something worthy of more than ordinary notice. *Harrison Weir.*

[We suppose that the original crown was injured by the thrust of a digging-fork, which resulted in the formation of new branches. ED.]

NATURAL HYBRID ORCHIDS.

WHEN, in October, 1856, Mr. James Veitch, of the Royal Exotic Nursery, Chelsea, brought to Dr. Lindley a flower of *Calanthe* x *Dominii*—the first artificial hybrid which flowered—that acute botanist is reported to have exclaimed, "Why, you will drive the botanists' mad!" a remark indicative of the spirit in which hybrids generally then, and even afterward, were regarded by systematic botanists. Lindley belonged to a broader-minded school. "Although mule Orchids have never before been obtained artificially," he remarked, "are we quite sure that they have not been produced spontaneously? This is a grave botanical question which science cannot elude. It must be looked in the face; and if it should appear that species have been unduly multiplied in ignorance of so important a fact, why, in that case, botanists must retrace their steps as best they may. It is greatly to be feared that they will be compelled to do so. . . . In the genus *Orchis* are most suspicious forms placed

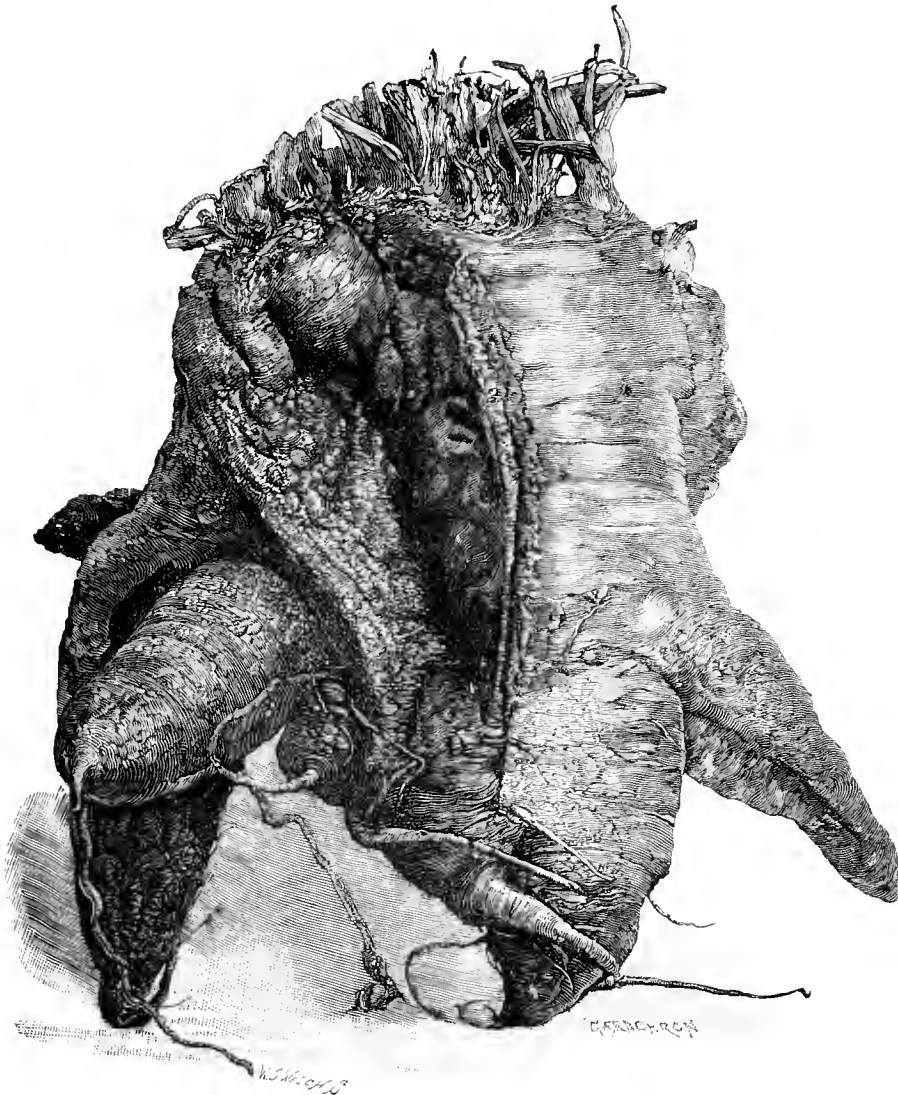


FIG. 15.—AN EXTRAORDINARY CARROT.

tree. Young trees cropped freely, and the fruits were of a good size. There are other good properties possessed by the yellow-fleshed varieties: the fruits hang a long time after ripening, and do not shrivel quickly, as do the white-fleshed Nectarines, and colouring up grandly, they are useful late in the season.

Rivers' Orange, an early variety, and a seedling from Pitmaston Orange, is a delicious fruit, sweet, with all of the good qualities of the seed-parent, and ripening a week earlier than it. The fruit is of fair size, and the tree an excellent bearer in any form, and forced or not; it is one of Mr. Rivers' best seedlings. One of the earliest of the section is Goldoni, a medium-sized fruit of a bright orange colour, of very rich flavour, and juicy; in season in the middle of August, and a grand fruit for culti-

ating in the open. It promises well, but is late, and late Nectarines in certain seasons do not ripen satisfactorily, and it is not advisable to have many trees. Where but few can be grown, my preference would be for Pitmaston Orange, Humboldt, and Pine-apple. *G. Wythes.*

COLONIAL NOTES.

ASPARAGUS FROM MELBOURNE.

WE read in the *Melbourne Leader* of December 7, 1895, that experiments have recently been carried out by the officers of the Agricultural Department in the cool chambers in Flinders Street with regard to the preservation of Asparagus for export. A vegetable dainty of this sort would fetch a high price in



round *O. militaris*, which demand careful study; there, also, we have *Morio-papilionacea* and *purpureo-militaris* of Tumbal, *Simio-militaris* of Grenier and Godroo, *Simio-purpurea* of Weddell, and some others, all probably natural mules. The genus *Ochrysis* will doubtless be found in the same state, and if so, what may not be feared for tropical genera such as *Ocoidium*, *Olontoglossum*, *Epidendrum*, *Dendrobium*, and *Cattleya*? Whatever else these facts and speculations may produce among them, this, at least, is certain, that in future too much care cannot be taken to avoid founding species upon marks of doubtful value, especially in dealing with garden plants. What with heteranthism, dimorphism, pelorism, and hybridism, our favourite *Ochids* may be found to assume as many disguises as an actor" (*Gardeners' Chronicle*, 1858, p. 4).

These remarks were prophetic, as the events of subsequent years have proved. The number of natural hybrids whose origin is no longer doubtful is very considerable, and is likely to be augmented in the future.

The genus *Odontoglossum* furnishes numerous examples; *Cattleya* and *Lælia*, with the combinations between them, follow closely; then come *Ocoidium*, *Miltonia*, *Cypripedium*, *Phalaenopsis*, and *Dendrobium*; while even *Masdevallia*, *Angraecum*, *Saccolabium*, *Vanda*, and *Cataeatum*, each afford a single instance of the occurrence of hybrids in a wild state, to say nothing of the numerous cases known among European Orchids. Some were originally described as species, and it is highly probable that other supposed species may yet have to be added to the list of natural hybrids. The two groups are essentially distinct in their origin, although there are no infallible marks by which they can be separated, and it may therefore be interesting to summarise what is known on this difficult but undoubtedly important subject.

Among tropical Orchids, *Phalaenopsis* × *intermedia* was probably the first recognised natural hybrid. It appeared in 1853 as a solitary plant in an importation of *P. Aphrodite*—long known under the erroneous name of *P. amabilis*—received by Messrs. James Veitch & Sons (then of Exeter), from Thomas Lobb in 1852. It flowered in the following year, when it was described by Dr. Lindley (*Pact. Fl. Gard.*, iii., p. 163, fig. 310), who remarked:—"It is not improbable that this beautiful plant is a natural mule between *P. amabilis* and *P. rosea*. It agrees with the former in foliage, and in the tendrils of the lip; with the latter in colour, in the acuteness of its petals, and the peculiar form of the middle lobe of the lip. . . . Flowers half-way in size, between *P. amabilis* and *P. rosea*." The name, of course, was given in allusion to this intermediate character. It is not a little remarkable that these remarks appeared in the very year that Mr. Dominy commenced his experiments in hybridising *Ochids* at Exeter, and five years before those relating to *Calanthe* × *Domini*, above cited. This single plant of *Phalaenopsis* × *intermedia* is said to have remained the only one known until 1861, when two more were brought home by a French trader named M. Porte, since which date it has appeared sparingly among importations received by different horticultural firms.

Some years later Messrs. Veitch, having already attained great success in hybridising Orchids, conceived the idea of testing Lindley's theory of the hybrid origin of *P. × intermedia*, and accordingly Mr. Seden made the experiment of crossing *P. Aphrodite* with the pollen of *P. rosea*. A capsule being obtained, the seed was sown in 1880, and in due time a single seedling appeared, which flowered in April, 1886, and vindicated the soundness of Lindley's judgment, for the artificially-raised seedling proved absolutely identical with the wild original. The practical importance of this experiment will be obvious to everyone. It proved by actual demonstration what before had only been a matter of conjecture—at all events, in the opinion of the sceptics. How nearly this interesting experiment escaped a disastrous end is now matter of history, and the story is so interesting in this con-

nection that it may be repeated in Mr. Veitch's own words:—"Among our earliest *Phalaenopsis* crosses we succeeded in raising a single seedling from a capsule of *P. amabilis* crossed with *P. rosea*, which we were particularly anxious to save, as it would have solved the question of the parentage of *P. × intermedia* or *Portii*, which is a supposed natural hybrid between the same two species. The plant had made three healthy leaves; it was well established in a small pot, which, to be more secure from danger, was placed upon an inverted pot of water. One morning it was discovered that a slug had eaten off two of the best leaves, and would, if not trapped, certainly devour the remainder. Anxious to save the treasure, the plant was watched incessantly for hours in the expectation that, sooner or later, the marauder would make his appearance; to induce him to do so, the moss was constantly plunged into water; the repeated duckings had the desired effect, the culprit issued from his lurking-place, and the plant was saved." (*Veitch, Journ. Roy. Hort. Soc.*, n. s., vii., p. 27.) A year after these words were written, the plant rewarded its deliverer by producing a raceme of flowers, with the result above-mentioned.

As long previously as 1787, Visiani had recorded the occurrence of a probable natural hybrid between *Gymnadenia odoratissima* and *Nigritella angustifolia* (then called *Ochis odoratissima* and *Satyrion nigrum*, respectively), which he described and figured under the name of *Ochis suaveolens* (*Hist. de Pl. de Dauph.* ii., p. 38, t. 1). The plant he had found in the Alps, near Grenoble, and remarked of it somewhat as follows:—"If it were possible to think of a hybrid, especially in a genus which is multiplied very rarely by seed, it would appear that its parents might be *Ochis odoratissima* and *Satyrion nigrum*," and he then went on to point out how it differed from the two species in question. It is now well-known under the name of *Nigritella × suaveolens*, and except that *Gymnadenia conopsea* has been substituted for *G. odoratissima* as one of the parents, Villar's opinion is universally accepted, though for a long time no one appeared to think it worthy of attention, and even Lindley in the year 1835 omitted all allusion to it (*Gen. and Sp. Orch.*, p. 281).

In 1830 a second natural hybrid was recorded under the name of *Ochis* hybrids, Bonningh. (*Rchb. Fl. Germ. Excurs.*, p. 125). It was said to be intermediate between *O. fœca* and *O. militaris*, with which it was found growing, and to be in all probability a natural hybrid between them. Lindley referred this to the latter as a variety (*Gen. and Sp. Orch.*, p. 271), but it is certainly a natural hybrid with the parentage indicated.

In 1852, Weddell figured and described a remarkable natural hybrid between *Ochis militaris* (then called *O. galeata*) and *Aceras anthropophora* (*Ann. Sc. Nat.*, ser. 3, xviii., pp. 1 to 6, t. 1). This he had found in the forest of Fontainebleau for the first time in 1841, but it was not described until met with again by M. de Jussieu eleven years later, in the same forest. He gave an excellent figure, with analytical details, both of the hybrid and of its two parents, which leaves no doubt whatever of the accuracy of his conclusions, as is further borne out by an examination of dried specimens.

Attention was thus being called to the subject, and three years later M. Timbal-Lagrave published his "*Mémoire sur de Nouveaux Hybrides d'Ochis et de Serapias*" (*Mém. Acad. Toulouse*, v., pp. 299, 300), in which additional evidence on the subject was brought forward. This I have not been able to consult in the original.

In 1855-6 the Orchids of Grenier and Godroo's *Flore de France* appeared, and here we find ten distinct hybrids described, besides one supposed reverse cross (to which no importance need be attached), and *Nigritella × suaveolens*—the original one of Villar—which, curiously enough, is treated as a species. In a note, however, the author's remark that Villar was probably correct in regarding the plant as a natural hybrid, except that *Gymnadenia conopsea*, and not *G. odoratissima*, was one of the parents. This view is now universally accepted.

These are the facts alluded to by Lindley when describing *Calanthe* × *Domini*; but it is interesting to note that his remarks about *Phalaenopsis* × *intermedia* were made even before the appearance of Timbal-Lagrave's memoir, and consequently at a time when very little was known on the subject. R. A. Rolfe.

(To be continued.)

## BROCCOLI.

THE severe weather experienced in the first two months of 1895, when the thermometer fell to zero, or below it, on several occasions in some parts of the country, played sad havoc among culinary vegetables, and particularly among Broccoli growing on heavy or damp soils, and where no means were taken to protect it. In many places where it succumbed when left to itself and totally unprotected, a fair proportion of the crop might have been saved had the simple method been followed of laying the plants over on their sides with their heads to the north, and covering their stems with earth laid well up to the base of the leaves. This should be done early in November, when the growth of the season is about complete, and before hard frost sets in. The yellow or decaying leaves should be stripped from the plants, and cleared out of the way. A couple of spits of soil should be then dug from the north side, and the plant pressed over until its head lies flat on the ground towards the north, when the soil is heaped over the recumbent stem, covering it with at least 3 inches of earth, and beating it firm and smooth with the back of the spade. The earth should be pressed well up over the base of the leaves, to protect the most vital part of the plant from being injured by severe frost. In open and well-drained garden soils nothing more is required; but in damp localities, subject to hoar-frost, a slight covering of Wheat-straw or Fern helps to protect the Broccoli from the evil effects of repeated freezing and thawing, which are often more detrimental to vegetables than a steady, lengthened spell of keen frost.

By the simple method above described of laying over the Broccoli plants with their heads to the north, and covering their stems with earth about the middle of November, we have lost not more than a small percentage of the best varieties in the severest winters of the past quarter of a century. Our main supply from November, when Veitch's Autumn Giant Cauliflower is over, till June, when Walcheren Cauliflower comes in, has been from four or five varieties; namely, Snow's Winter White, Veitch's Spring White, Dilcock's Bride, Lander's G'schen, and Veitch's Model; but almost all the popular varieties in cultivation have been tried at one time or another, with the view of retaining the best for our purpose. In rich garden soil, such as we have to deal with, no manure is given to the Broccoli crop, as it grows quite strong enough without, and if manured, the flavour is apt to be rank in the spring. Sown in April, pricked out in May, and finally planted out towards the end of June, strong, stubby, well-rooted plants, set about 2½ feet apart, they grow vigorously, and occupy all the space given them by the end of October. They are then robust, sturdy stock, in the best condition for laying over on their sides to come safely through the rigours of the winter. With such treatment, and all growing under the same conditions, at an altitude of about 200 feet, and in the latitude of Edinburgh, the following percentages of the varieties of Broccoli named came safely through the winter of 1894-95, and furnished a supply of excellent heads from early spring until Walcheren Cauliflower was ready in June. The numbers grown varied from 300 to 1,200, the largest quantities being the stock varieties already mentioned. Before the storm began at the New Year, about sixty per cent. of Snow's Winter White had been used, or were fit for use, but the remainder were rendered practically useless, owing to the absence of a sufficient depth of snow to protect them from the hard frost that prevailed till the end of February, when the season for that first-rate winter variety is over.

Taking them somewhat in the order in which the varieties came into use, the following were the number of heads produced, per hundred:—

Veitch's Fine Spring White	54 per cent.
Penzance Early	5
Purple and White Sprouting	12
Dilcock's Bride	65
Veitch's Main Crop	82
Improved Wilcox	87
Dalmeny May	42
Chelsea Favourite	70
Mauler's Dwarf	63
Lander's Goschen	74
Gordon's Niddrie	65
Veitch's Model	94

These figures show the severest losses among the Broccoli crop for more than twenty years past, owing, no doubt, to the small depth of snow, which was seldom more than an inch or two deep, and melted quickly with the sun, or was blown off the plants by the wind. The consequence was the destruction of the upper leaves of most of the varieties, and a higher mortality among the earlier varieties. They are all excellent varieties when well grown, and their hardiness is increased considerably when a little timely protection is given them. A good supply of nice heads of Broccoli in the winter and spring is always appreciated, and with such sure varieties as Snow's Winter White, Fine Spring White, Main Crop, Lander's Goschen, and Model, it is not difficult to accomplish under ordinary circumstances. *North Briton, January 7.*

## FLORISTS' FLOWERS.

### CHRYSANTHEMUMS.

THE earliest batch of cuttings should now be well supplied with roots. A position close to the glass in a house whence frost is excluded is all that is necessary. Artificial heat at this stage of growth should be rigidly avoided. Abundance of fresh air in suitable weather is beneficial to Chrysanthemums at all times, and at no other stage in their existence is it more important than now. Some few varieties of the earliest-struck cuttings may not be ready to be taken from the frames or handlights for another week or so. Gradual inuring to a free exposure is a much safer plan than exposing them fully at once. I find that cuttings require an exceptionally small quantity of water this season during the rooting period, consequent upon the absence of sun or frost, and consequent fire-heat. The strongest and earliest plants which have filled their small pots with roots should be shifted into larger ones. Do not allow the plants to remain even for a short time in pots too small for their roots. Not only are the plants thereby checked in growth, but the roots do not take to the new soil so kindly after they have become so matted together. The main point to observe in Chrysanthemum culture is never to give a check to the growth of the plants from the time the cuttings are inserted until the blooms are developed.

Pots 3½ inches in diameter are large enough for the first shift from the cutting-pots. A compost consisting of two parts fibry loam to one of half-decayed leaves, with sharp silver-sand added according to the character of the loam—heavy or light—is best for the first shift. Where the loam is poor in quality a small quantity of bone-meal, dissolved bones, or Thomson's Vine-manure, may be added at the rate of 2 lb. of each of the first-named two, and one of the latter. If the soil is passed through a half-inch sieve, the work of potting will be facilitated. The rougher parts are useful for placing over the crocks. Any stagnation about the roots in so young a stage may induce a sickly colour in the leaves. If the soil is moist, as it should be when employed, and the plants are watered previously to being potted, further waterings will not be necessary for several days. Press the soil firmly about the roots, and return the plants to their former position on the shelf close to the glass. Place a small stake to any that are at all weak, to induce them to grow upright. Water at this time of the year should always be given in a

tepid condition. Keep a sharp look-out for aphides and mildew. Dustings of sulphur will destroy the germs of the latter. Brown-coloured sulphur is preferable, as that of the ordinary colour is too conspicuous to be pleasant. Black and greenfly may be easily destroyed by dusting the points of the shoots with tobacco-powder. In extreme cases, it is well to dip the points of the plants or leaves in a strong solution of tobacco-water.

Pompon, Anemone-pompon, and single-flowered varieties cannot be too highly recommended for their decorative effect, either as plants or in a cut state. There is a peculiarity of grace about these sections that render them especial favourites wherever seen in perfect condition. The present is a good time to take cuttings of any variety in the above sections. By topping the plants once or twice, and allowing them uninterrupted growth afterwards, handsome decorative plants can be obtained. *E. Molyneux.*

### A WELSH SCOLOPENDRIUM.

IN fig. 16 we have illustrated a variety of Scolopendrium vulgare, which, so far as we are informed, has been discovered in no other district than South Wales. Fronds were sent to this office in 1880, and on p. 362, in the issue for September 18 of that year, were thus described under the name of *S. vulgare Daviesii*:—"It is a finely-developed form of the



FIG. 16.—SCOLOPENDRIUM VULGARE VAR. DAVIESII.

crispum type, with a sagittate base, and toothed margins—that is, the margins are extended into distinct, pointed, tooth-like, coarse serratures; in some of the fronds the apex is multiply lobed." The variety was discovered by Mr. D. M. Davies, in the neighbourhood of Brynmawr, in South Wales, who has now obliged us with a sketch of the plant.

### WILD GARDENS AND PLEASURE-GROUNDS.

(Continued from p. 75.)

PLEASURE-GROUNDS.—An important point in the formation of pleasure-grounds is to make them effective and interesting as near to the house as possible. A landscape-gardener should have an artist's eye, and be able to perceive the future effect of his work, as well as that of the present. One has often seen great mistakes made by ladies and gentlemen in planting trees and shrubs quite out of character with the surroundings, which, although effective for the time being, soon grow too large for the position in which they are placed. It is difficult in after years to rectify such mistakes without considerable labour and expense. Other cases occur where in a small space in which only one, or at most two, trees should have been planted, you find several, and in a few years they crowd each other, while the best tree or trees are in the wrong position. They are too large to remove, and the consequence is the whole thing is a failure.

It would be well if every gardener could afford to have a course of lessons on landscape-gardening, under a thoroughly good teacher.

I do not think it advisable to plant large or tall-growing trees too near a mansion, especially some of the Elms which are very dangerous when old, being liable to fall during storms [or in calms. En.]. Large masses are, in my opinion, preferable to the dotted system, and with Rhododendrons, Azaleas, and others, one can make the most beautiful and desirable effects. The *Andromeda formosa* is a lovely flowering shrub in early summer, when it is covered with bunches of Lily of the Valley-like blooms. I have seen it 12 to 18 feet high, and as much in diameter, covered with one mass of bloom, and it was really grand. It is also very handsome when making fresh growth, the young shoots are purple-heck in colour, and if the winter is not too early, you get a second bloom at the end of October. It is not nearly so much planted as I should like to see it. *A. japonica* is another excellent variety, whilst *A. floribunda* is presumably known to you all.

I should like to say a word on behalf of the true Indian Rhododendron and its hybrids, which prove with us hardier than hybrids of *R. Catawbiense* and others more generally planted. Last winter and spring were most disastrous to many plants, and it is with pleasure I am able to speak so highly of this class, as the frost had not the least effect upon them. *R. gloxiniflorum* (one of Mr. Veitch's introductions) was covered with bloom last Easter, and in the distance it looked like a mass of snow; *R. campylocarpum*, yellow or primrose coloured; *R. arboreum* and varieties, from white to rose and crimson; *R. barbatum*, scarlet; *R. Nuttallii*, white, and many others, with the dwarf *R. ciliatum*, had not a leaf injured; *R. formosum* (Gibson) also stood out and flowered, but was slightly injured, owing, I believe, to being planted late. I am raising seedlings from the above varieties, both true and hybrid. To convince you of the hardiness of them, I sow the seed outdoors without the least protection beyond that which their parents give them, and they are in all stages of growth, from this year's seedlings to plants 5 or 6 feet high which have bloomed. All are in the most robust health, and it is very interesting to watch them coming into bloom. The *Camellia* also is hardier than the common Laurel. I often wonder why it is not planted out more than it is.

Charming effects can be produced by planting climbing plants on trees, such as *Clematis Ampelopsis*, Vines with coloured foliage, especially *Vitis Coignetiae* (introduced from North Japan); this, I am told, is best of all for this purpose. I am planting several of them this season on trees, and I wonder the system is not more generally practised, as it prolongs the period of colour when flowers are scarce. An Ash tree with *Virginian Creeper* covering the bare stem for 20 or 30 feet, with the shoots of the trailer embracing the branches and hanging in festoons all over the tree in autumn, is perfectly lovely. *Clematises* of various shades on Apple trees, if allowed to grow and flower at will, are glorious, first the Apple bloom, and afterwards the colours of the fruits, blending with the *Clematis* flowers beautifully. In December I had Apple and Pear trees covered with *Jasminum nudiflorum* in bloom, the effect of which must be seen to be appreciated. There are many other things equally good.

In the case of large trees, and where there is a pinetum, several of the same species should be planted together, as one tree often fails to give a good exhibition of its class. Seedling Conifers vary very much in growth, especially those of the *Cupressus*. Evergreen trees where practicable, should, I think, be kept separate from deciduous ones. In large places this is not a difficult matter, but in smaller ones it may be so. Where this is the case, and only one or two of a species can be accommodated, the highest part of the grounds should be planted with the loftiest-growing trees.

Before closing, I should like to make a few remarks on the subjects that are not generally planted. The Flowering Ash (*Fraxinus Ornus*) is

not only beautiful in spring when in bloom, but also in autumn, when the foliage assumes a colour equal to many of the Maples. *Foraythia anspensaa*, trained as a standard, is quite lovely; it blooms very early, and appears to be unaffected by frost. Last spring it was in full bloom when the ground was covered with snow, and the contrast between its golden blossoms and the snow was a rare and pretty sight. Palms should not be omitted from pleasure-grounds. If possible, protect them from strong winds, or their foliage will be sadly disfigured. We have them, however, in full blast of the south-west wind from Dartmoor, and if they can withstand that they will grow anywhere. *Chamaerops Fortunei* is full of fruit, which will ripen this season at Whiteway. *Fuchsias* are not as freely planted as they might be, considering their beauty. I cannot find words to describe how lovely a mass of them is when seen in the setting sun. Cottagers appreciate them more than gardeners generally do, with the exception of a few old-fashioned men.

I think we miss a deal of beauty in our pleasure-grounds by neglecting so many of our own native trees, and I should like to recommend a book that everyone should read, *Our Woodland Trees*, by F. G. Heath. The description and hints he gives about trees are invaluable.

The different varieties of the Japanese Cypress (*Retinospora*), the Siberian Crab (*Pyrus Malus floribunda*), both in flower and fruit, are very beautiful; *Prunus Paeardi*, cut back and encouraged to make strong growth, is far handsomer than when allowed to grow naturally; *Clethra alnifolia*, *Colutea arborescens* (the Bladder-nut), and all of the *Rhus* family, are very lovely, the latter especially in autumn; *R. Cotinus* (the Wig tree), with its fluffy inflorescence, is a pretty subject on a lawn. Another very handsome plant is *Spiraea Thunbergiana*, both in spring and autumn; it is not unlike a graceful Bamboo in the distance. *Ealalia japonica*, *E. zebrina*, and others, are also worth planting as groups. For lovely colour in the landscape, *Acer saccharinum* (Sugar Maple) is very telling; in fact, all the varieties of *Acer* are good. The Japanese sorts have the advantage that they can be planted close to walks and roads, affording desirable little bits of colour. I must not omit the deciduous *Magnolias*, such as *acuminata*, *complanata*, *Lemne*, *Soulangiana*, &c., which flower so freely, even in a young state. *Lahurnum*, and the Judas Tree (*Cercis Siliquastrum*) show up better when they have a good dark background behind them. The white-flowered *Broom* also should be planted where a nice sheltered spot can be found, or its graceful branches will get very much punished with strong winds. *Desmodium penduliflorum* is a capital companion to this.

*Paulownia imperialis* makes one of the handsomest of foliage trees, if it is treated as a pollard. For grouping or fronts of beds, the *Hydrangea hortensis* and *H. paniculata grandiflora* are always welcome, especially the latter, as it produces long sprays of creamy-white flowers. *John D. Nanscawen, Whiteway Gardens, Chudleigh.*

## FRUIT REGISTER.

### THE SUDDUTH PEAR.

PROBABLY no new fruit has ever claimed a place in horticulture with as many remarkable qualities as has the Sudduth Pear, bringing a test covering more years than many of our leading varieties of fruit have been in existence.

The original tree growing near Springfield, Illinois, is seventy-six years old, and has never failed to produce a crop in forty years, bearing 80 bushels in a single season. The old tree has a bole over 10 feet in circumference, and some 55 feet in height, and it is claimed by parties familiar with the tree from forty to sixty years to be absolutely free from blight or disease.

Grafted trees of the Sudduth, their ages ranging as follows, six years, thirty years, forty-six years, fifty-two years, and fifty-eight years, carry all the

characteristics of the parent tree. The standard trees have come into bearing three years from the branch graft.

The fruit is medium size, ripening in October, and is almost coreless and seedless. It has always been almost entirely free from worms. Colour, when thoroughly ripe, a greenish-yellow; skin stronger than common. The quality is excellent for both a canning and dessert fruit, being preferred to all other varieties for preserving in the locality where it is known. *The National Nurseryman*

## THE WEEK'S WORK.

### THE KITCHEN GARDEN

By C. HERRIN, *Gardener, Droghda, Maidenhead.*

**EARLY PEAS.**—A sowing of Peas should now be made in either small pots (60's), on turves in which drills are cut out, or in shallow boxes for planting eventually on a warm border. I am aware that Peas are frequently recommended to be sown early in the present month, but having tried both early and late sowings, I recommend the last as being generally the more successful. With Peas sown early it often happens that when the plants are ready for planting-out early in the month of February, the weather is such as to prevent this operation taking place for some time, with the consequence of the Peas becoming unduly drawn, or if in pots, stunted through insufficient space for the roots. During the early months of last year, the ground being frozen, the transplanting of Peas to the open ground in February was impossible. I prefer to sow the seed either in 4½ inch pots or on turves, the latter when obtainable. These should be freshly cut, about 9 inches square and 4 inches thick, and these, if chopped again across the middle, will be large enough; i.e., 9 inches long, 4½ inches wide, and 4 inches deep. Lay the turves grass side down, and slightly scoop out a drill with a trowel; sow the Peas thickly therein, and cover and make level with fine soil. A suitable place for these turves is the floor of a Peach-house just started, or any other house with a temperature ranging from 45° to 50°. As to varieties, there are numbers of early Peas now to choose from; if dwarf-growing ones are selected then *Chelsea Gem*, *Sutton's Seedling*, and *English Wonder* are three good ones, taller growing Peas being *Ringleader* and *Veitch's Selected Early*.

**CAULIFLOWERS.**—If Cauliflower seed was not sown in the autumn for an early supply, or if any deficiency of plants exists, a few pans of 10 inches in diameter should now be sown. It is care be taken that the plants do not become drawn by crowding, and too much warmth or too little ventilation. Cauliflowers as early, if not earlier, than those from autumn sowings may be obtained in the months of May and June. Such early varieties as *Extra Early Forcing*, *Snowball*, or *First Crop* will answer admirably for this purpose. The seeds should be sown in a good holding soil, which is better if it be sifted. Place in a warm house, but remove them to cooler quarters as soon as the seed leaves appear. Later varieties, as *Early London* or *Pearl*, may be sown at the same time for a succession.

**LETTUCE.**—If not already done, a box of Early Paris Market Cabbage Lettuce or other approved early variety should be sown, and if Lettuces be in demand, a box or two sown thickly once a fortnight with any of the *Cos* varieties will prove useful for gathering for early use, taking the plants when quite young. Up to the present date there will have been little difficulty in maintaining a supply of Lettuce from the autumn sowings.

**HERBS.**—Such herbs as Tarragon, Sweet Basil, and Marjoram are often in request, and to keep up the supply, roots of the former should be lifted from the herb border and placed in heat. Seeds of the others may be sown thinly in small boxes of light soil, and as soon as the seedlings are large enough, pricked off into others, keeping them at the first in warmth of about 50°, but afterwards removing them to a cold frame.

**SPINACH.**—If Spinach be deficient in quantity, the earliest opportunity should be taken to make a sowing of the *Victoria* variety on a border facing south or west, and if sufficient space can be spared for planting out the Peas recommended to be sown on turves or in pots at a distance of 4 feet between the rows, Spinach may be sown midway between them.

## THE ORCHID HOUSES.

By W. H. WHITE, *Buford, Dorset.*

**CALANTHES.**—The *vestita* section of *Calanthe*, now gone out of flower, should enter their short period of rest, during which water must be withheld, and the plants be placed on a shelf free from drip, close to the roof, in the East India-house, or the plant-stove. Here they will obtain the fullest sunlight, and may remain till growths push out from the base of the last made pseudo-bulbs, when it will be necessary to re-pot them. The *Calanthes* of the *Ragnieri* section bloom later, and should be kept in their growing quarters and attended to in the matter of affording water.

**PHALÆNOPSIS.**—Such species as *P. Schilleriana*, *P. Aphrodite*, *P. amabilis*, and the supposed natural hybrid *P. leucorhoda*, will soon make an attractive display of bloom, and will require water to be afforded with great care, merely sprinkling the sphagnum-moss with a fine rose watering-can, so as to keep it alive, but on no account allow water to lodge in the centre of the plants, the leaves being liable to spotting if this occurs. The deciduous *P. Lowii* is now at rest, but it will not be safe to let the plant get very dry at the root; the roots will need to be sprinkled occasionally, so as to keep them in a condition of plumpness. When the plants have had their proper season of rest, that is, in the month of March, they will show that they are in keeping with the season and ready to put forth fresh leaves. When that occurs, re-surface the plants with living sphagnum-moss, and afford moisture plentifully from that time forwards throughout the summer.

**ZYGOPETALUM MACKAY** and *Z. M. var. crinita*, as they pass out of bloom, should either be re-potted or top-dressed, and a mixture of lumpy fibry loam, peat, together with plenty of broken crocks mixed with these will suit either to root in. *Zygopetalum maxillare* is a species that requires cool treatment, much warmth rendering it difficult to keep free from insects, and when once these have obtained a footing low down in the young growths they are nearly impossible to eradicate. Growth having now begun, an examination should be made every day for thrips, and if any are detected on a plant it should be forthwith placed in a house in which XL All Vaporiser will be used. The species last mentioned is found growing naturally on the stems of tree Ferns, upon pieces of which it is often imported, and any plants which may have overgrown these stems should have a fresh piece of stem, secured by wire to the old piece, to which the rhizomes will soon attach themselves. It is a species that should be afforded water liberally at all seasons.

**CATTELEYA, OR INTERMEDIATE-HOUSE.**—The plants of *C. Friesii* and its varieties, now fast pushing up their flowers, may, in order to bring their flowers to perfection, be afforded a little more water at the root, withholding it when the blooms fully expand, till the plants begin to make growth. *Catteleya chocoensis*, *C. amethystoglossa*, and *C. Walkeriana*, will now be about to flower, and require a similar kind of treatment. The last-named species produces its flower-spikes from the apex of deformed-like growths which issue from the last made bulb; and as soon as these growths are seen, the plant should be hung up to the roof in a light position in the Mexican-house. Keep all the plants which are dormant comparatively dry at the root till growth begins, remembering that only a small amount of moisture is needed to retain the pseudo-bulbs in a plump state. The distinct-looking *C. Schilleriana* having started to make growth, those plants which seem to require fresh material about the roots or more rooting-space, should receive attention. A very thin layer of coarse fibry peat is required by them to root in. Keep the plant well supplied with water whilst growing, and its foliage near to the roof on the lightest side of the East Indian-house.

## THE FLOWER GARDEN

By HEDLEY WARREN, *Gardener, Aston Clinton, Trin.*

**CENTAUREAS CANDIDISSIMA** AND **CLEMENTII.**—If seeds of these plants are sown at the present time, nice specimens, fit for planting out, may be obtained by the middle of the month of May. Sow in pans, in the gentle heat of a hot-bed preferably, and as soon as the seedlings are large enough to handle, pot them singly into thumbs, and return them to the hot-bed; or if the latter be not available, then to a house with a genial temperature, and when the plants have made sufficient growth, re-pot them into 60's, finally hardening off in a cold frame, or on a shelf in a cool greenhouse.

**PELAGONIUMS.**—Those cuttings standing in store pots may be shaken out of the soil and potted off singly, and placed in moderate heat. Marguerites wintering in cold frames may be similarly treated, afterwards removing them to a cool place, or reducing the temperature of the house in which they are kept.

**ROOTERIES.**—Sometimes a rootery is made an attractive feature of a well-kept garden, but it is also sometimes made as to be devoid of all natural grace by its monotonous construction. A rootery having been decided upon, the winter is a suitable season to collect together the materials for its construction, and the greater the variety of root-stocks, blocks, &c., that can be obtained, the better should be the results, if judgment be used in their disposal. A rootery is a place for planting almost any species of bulbous plants, Ferns, and flowering plants, consequently it may be made bright and attractive during the greater part of the year. Its position should by preference be on a natural-looking mound, bank, or the side of a dell. Let the roots be arranged rather irregularly, some being allowed to jut out prominently, so as to form bays which can be planted in a variety of ways to look attractive; but do not pile them up to any great height, there being a certain amount of instability in decaying wood—and do not make use of the roots of Coniferous trees. The following are some of the subjects that look in character with a rootery, *viz.*, Pampas Grass, Ivies, Virginian Creepers, Clematis in variety, especially Jackmanni, Periwinkles, Foxgloves, Ferns, many varieties of herbaceous plants, *Chenopoda*, Christmas Roses, the double-flowering Forsy, Saxifrage, *Cerastium tomentosum*, *Dianthus* (Pink), *Sedum* in great variety.

**MISCELLANEOUS OPERATIONS.**—Climbing plants and shrubs used as coverings to walls and trellises may now be pruned and tied in, but no hard-and-fast lines can be laid down for the doing of this, and it only need be said that regard must be had to the position and to the condition of each particular plant. In some instances it may be necessary to remove entire shoots, in others shoots may have to be pruned half back, or in other cases simply spurred in. *Ceanothus* should not be pruned severely, as most of the wood will, if well ripened, produce flowers, but it may need some thinning. The surface of flower-beds is sure to stand in need of a light pricking up, which is helpful to the plants, and it gives a tidier appearance to the beds.

**HYACINTHUS CANDICANS**, as a summer-flowering bulbous plant, has few equals for the embellishment of the shrubbery or wild garden; and a group when in flower forms a striking object, especially if associated with bronzy-leaved *Cannas*, or other plants having this sort of coloured foliage. Before the bulbs are planted, the soil should be deeply dug and manured. Place the bulbs not less than 3 inches below the surface. These soon establish themselves, and will not require any further attention for a number of years.

**FRUITS UNDER GLASS.**

*By W. POPE, Gardener, Highclere Castle, Newbury.*

**EARLY PEACH-HOUSE.**—The trees in flower should be lightly brushed over daily about noon with a camel's-hair pencil, or a rabbit's tail tied to a stick, so as to detach and distribute the pollen. Try to keep up a circulation of moderately dry and warm air, but do not exceed 50° at night until the fruit is set. Syringing should be discontinued for the period during which the bloom is perfect, and a genial air maintained by damping the paths and borders in the morning at daylight, and afternoon about 2.30 or 3 o'clock, and in accordance with the state of the air inside and outside. When the wood-buds have become fairly prominent, rub off a few of them, first taking those which come out behind and in front of the branches, side-buds being left a few days later before any of them are removed. If the border should stand in need of watering, use water which is 5° warmer than the average temperature of the house.

**THE SUCCESSION PEACH-HOUSE.**—Continue to syringe the trees in this division morning and afternoon, until such time as the blossoms begin to expand generally, and damp the paths and borders as usual, the night temperature being kept at 45° to 50° on mild nights, and 2° to 3° lower in sharp frosty weather. Admit a little air whenever possible through the day, and keep the warmth at 50° to 55° by artificial means, allowing a rise of 5° or 10° by sun-heat. It is good practice to fumigate a

Peach-house effectually once or twice before the flowers open, so that aphides may be kept in check till the flowers have set, and the trees well started into growth, when fumigation may again be done. Where certain kinds of plants such as Strawberries, and shrubs for flowering early, &c., are placed in the Peach-houses, they should be quite free from insects before being introduced. The pruning of the trees and cleaning of the late Peach-houses should now be finished. Do not crowd the bearing-wood, and be careful to prune to a wood-bud, or a triple bud which has generally a wood-bud between the flower-buds. When the trees are pruned wash them with a safe insecticide, or simply with warm soap-suds, as may seem desirable, before tying them to the trellis. The surface soil if sour or worn out, may be removed down to the uppermost roots, replacing it with adhesive loam, in a fresh state, charred earth, or garden refuse, and a good sprinkling of crushed bones. A mulch of short dung may be afforded, unless the trees are young, when no mulch should be applied till later in the year. If the borders are dryish, apply water liberally. Keep the house cool. All Peach and Nectarine trees growing in pots should be re-potted or top dressed, as may seem necessary, not interfering much with the roots in so doing. The soil for top-dressing should consist of three quarters turfy loam of good quality, one-quarter well-rotted manure, and a small quantity of old plaster or mortar broken to a fine state, or half-inch bones. This mixture will be suitable for re-potting the trees, and top-dressing and re-potting should always be done very firmly with a kind of wooden pestle of small size. The surface should be left perfectly level, and the space left for water not less than 1½ inch, and in the case of large pots 2½ inches is not too much.

**PLANTS UNDER GLASS.**

*By JNO. MCINTYRE, Gardener, Woodside, Darlington.*

**THE FERNERY.**—Few plants afford more pleasure to their possessors than fine Ferns, and if a house can be set apart for them, rockwork should be largely used in the fittings, so that many of the inmates may be planted out in borders, pockets, and other places. In this way alone can they be cultivated under glass so as to bring out their beauty. In arranging indoor ferneries, it is well to copy Nature in her arrangements so far as circumstances render desirable; and the present season is a good one to make a beginning. It is the best time to examine and put a fernery in order. Where Ferns have been planted on rockwork for some years, the plants will in many instances have become too large for their situations, hiding too much of the rockwork to make a nice effect. Such overgrown plants should be lifted, split up in several pieces, and replanted in the same as well as in other parts of the fernery. This kind of work needs to be thoroughly done once in three or four years, rather than doing a little of it every year, for the reason that one likes the fernery to look well in all parts as far as growth of the plants is concerned at one time. The soil which suits most Ferns should be of an enduring nature, and contain a good deal of fibre, or the heavy waterings which Ferns require will wash much of it away. Fibrous peats and leams in about equal ratio are best, and the sand used should be clean and coarse, and if broken sandstone and charcoal can be obtained, the mixture will be made more suitable.

**ARRANGING THE PLANTS.**—Tree Ferns look well dotted about, with dwarf species planted underneath them; and overcrowding of large growers should be avoided as much as possible. In many gardens Ferns must be grown like other plants, that is to say, in pots, and they should have the best places found for them in the different structures in which they are cultivated. Exhibition Ferns have of necessity to be grown in pots, pans, or tubs, and for large specimens I prefer the last, only they should be made of durable wood, and be furnished with convenient handles.

**POTTING.**—Much care is called for in the potting or tabbing of specimen Ferns; the drainage needs to be very carefully placed, so that no hindrance to the exit of the water can take place; for although most Ferns delight in abundance of water at the roots, none will thrive if the drainage be defective. The soil should be put in when potting in small quantities, and the lumpy portions, which should be fairly abundant, should be intimately mixed with that which is finer, and all should be made fairly firm, but no rammer should be used, except at the

finish. Leave ample space for water, and do not cover the ball with more than from ½ to 1 inch of new soil. If the *Adiantums* are largely grown for cutting and other purposes, they should be cultivated in batches, potting and starting them into growth at intervals of six or eight weeks, and in this way *Adiantum* fronds may be had in good condition all the year. For all useful purposes, 3-inch pots are the most serviceable for these species, and the soil best suited to them is two parts good fibrous loam, one part fibrous peat, one part leaf-mould and sandstone broken up to the size of Hazel-nuts. The first batch may be potted at this date, and placed in heat of about 60° to 65° by night, and 70° by day, affording water sparingly for some time after potting, or until the roots have taken to the soil.

**THE HARDY FRUIT GARDEN.**

*By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.*

**FRUIT BUDS AND THE BIRDS.**—Those small birds the bullfinch, tom tit, and sparrow never fail to pay visits to our fruit gardens during the early months of the year, and especially when the buds are about to burst open. If the gardener is not very watchful, these visits may not become apparent till a great deal of damage has been done. It is, therefore, much better practice to prevent their depredations altogether. What I do, and which I find efficacious, is to have the pruning of the Gooseberries, Currants, Plums, and Cherries completed as early as possible. Obtain some fresh-slaked lime (two parts) and soot (one part); intimately mix it together, and pass it through a ½-inch sieve—a barrel with one end taken out is a capital thing to sift it into, the sieve being placed over the top, which should be about the size of the sieve. The whole of the mixture can be expeditiously rubbed through the sieve without distressing the workman. A sufficient quantity of this mixture is put into a bucket with enough soap-suds to make it of the consistency of paint, and the trees and bushes are well syringed with it, the garden engine being used to distribute it over the larger trees. To prevent the nozzles being blocked, the mixture ought to be strained through a piece of coarse canvas. Lime and soot may also be used as powder; but to thus use it, a still day is necessary, the branches being wet with rain, or moistened by the engine, but it is more liable to be washed off by rain than when applied as a liquid.

**PEACHES AND NECTARINES.**—Trees which have been removed from the walls should have their branches secured in small bundles, and be fastened to the wall, or to stakes driven into the border. Here they may remain for a week or two longer, so as to retard the opening of the flower-buds; but if owing to mild weather the buds should become very prominent, the trees must be loosened from the stakes, &c., and secured in their proper position without delay.

**APPLES, PEARS, PLUMS, ETC.**—The pruning of all Apple, Pear, Plum, and Cherry trees, with the exception of any which were newly planted or transplanted, which may be left till growth begins, as well as the nailing and tying-in of wall trees, espaliers, cordons, &c., should be brought to a close. As soon as this is accomplished, afford the trees a dressing of soap-suds and petroleum, as advised on p. 15, applying it with the engine.

**CHERRIES, PLUMS, AND CURRANTS.**—These, if growing against walls, should have fish-netting suspended in front of them, to prevent the buds being taken by birds. If the walls have glass copings, the nets may be fastened to these, and made secure at the bottom with pegs, or be fastened to upright boards. If no coping exists, light poles reaching to the top of the wall, with the lower ends standing out 3 feet from the bottom of the wall, may be used instead, taking care that a sufficient number be used to prevent the nets touching the trees.

**FRUIT-ROOM.**—The fruit should be examined at short intervals of time, removing any that show signs of decay. As space increases, thin out the remaining fruit which, for lack of space, was stored too thickly at gathering time. Keep the room cool, dry, and darkened, and the temperature at about 40°.

**THE FIRST SNOWDROP.**—In an suburban garden, the first Snowdrop flower was observed on the 16th inst. The corresponding dates for the last few years were—for 1890, January 9; 1891, February 6; 1892, January 22; 1893, January 30; 1894, January 21; 1895, January 17; and 1896, January 16.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

## APPOINTMENTS FOR THE ENSUING WEEK.

## SALES.

MONDAY,	JAN. 27	{ Continental Plants, Roses, Lilies, &c., at Protheroe & Morris' Rooms.
TUESDAY,	JAN. 28	{ High-class Perennials, Iria, Carnations, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 29	{ Imported Japanese Lilies, Tuberoses, Begonias, at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 30	{ Continental Plants, Gladioli, Hardy Border Bulbs, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 31	{ Special Sale of Hardy Border Plants and Bulbs, at Protheroe & Morris' Rooms. { Imported Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°8.

Mr. J. C. ARTHUR has published an interesting paper on "Deviation in Development due to the Use of Unripe Seeds," in the September and October numbers of the *American Naturalist*, 1895. That unripe seeds could germinate was known to THEOPHRASTUS, 300 B.C., and has been the subject of investigation by many observers since. The author gives a very complete list of references to experimenters, alluding, among later ones, to DUHAMEL in 1760 (with Ash and Walnut), to SENEDIER in 1800 (Peas), and to SEYFFER in 1822. This last observer took unripe green fruit of *Sophora japonica*, dried it, and obtained 500 young plants, though, as a rule, the plant does not ripen its seed in Germany. He also refers to the exhaustive treatise of F. COHN in 1847, entitled *Symbola ad Seminis Physiologiam*, in which that author reviews the previous history, and records results of his own experiments with more than twenty widely-different species, raised from seeds in various stages of immaturity.

After discussing the disputed question as to what constitutes actual maturity, he quotes NOBBE'S statement as representing the present usage:—"The continued life of the embryo is not dependent upon the completion of the storing of reserve material in the seed; the power of germination appears much earlier, even in a stage of development of the seed undoubtedly to be designated as 'unripe.'"

The author then proceeds to give statistics from several experiments. Thus, "GOFF, in 1884, planted Tomato seed in March in boxes in the greenhouse, saved the previous season from fruit still thoroughly green, and obtained only 2 per cent. of vegetation. But of seed from fruit of full size, which had begun to lose its green colour, although not showing any tinge of redness, as many as 84 per cent. vegetated; while from fruit with a faint reddish tinge, the percentage of vegetation reached 100." "NONNE found that seed of Spruce Fir (*Picea vulgaris*), gathered on the 1st and 15th of each month, from the middle of July to November 1,

and tested in the laboratory in the following January, gave increased percentages of germination according to degrees of maturity. The percentages rose from 0, when the seed was gathered on July 15, to 40.8, on August 1; to 75.3, on September 1; and to 88.2 on November 1.

After recalling the fact that fruit may ripen after the bough which bears it has been removed from the tree, he adds that COHN first observed that green seeds entirely removed from the fruit and laid in moist earth or sand, passed through the various changes of colour of normal ripening. He experimented with seeds of Apple, Pear, Beans, Lupins, &c. LUCANUS corroborated this fact with Rye, showing that the weights of grain continued to increase, as the latter was left in the ear alone without the stalk; in the ear still upon the cut stalk; and lastly, with the roots in water. The general result is, that there is an optimum period for germination, as over-ripening is as harmful as under-ripening; since all grains after a longer and shorter time lose their power of germination.

Passing on to the effects, the first and most obvious in the germination of unripe seeds is the weakness of the plants and their under-sized condition. Many perish by failing to rise to the surface of the earth. The rate of germination is also slower than the normal. Thus with Wheat, of fifty grains, twelve still with milk germinated on the eleventh day; of grains turned yellow, nineteen had appeared in the same time: while of fully-ripe grains, twenty-five had appeared. "Owing to their weakened condition, the plants from immature seed are less able to withstand unfavourable conditions than those from ripe seed, the difference being more marked the younger the seeds. In my own attempts to grow very green Tomato seeds in the greenhouse, fully 85 per cent. of the plants that had unfolded the cotyledons, perished before reaching the third leaf." Similarly for winter Rye, WOLNY raised 41 per cent. from very green grain, 91 per cent. from grain in the milk, and 100 per cent. from pale yellow and from fully-ripe seed.

The author conducted experiments with Tomatos, and although the appearance of fully-grown plants did not always show their deficiencies, their weights revealed the fact that they had never recovered the ill-effects of the unripeness of the seeds when first they germinated. Thus, plants raised from the seed gathered from green fruit, gave the average weight of a single fruit in grms., 17.5; from half-ripe fruit, 17.9; and from fully ripe fruit, 19.4. These were calculated from 1044, 439, and 1889 ripe fruits respectively. From comparative results of growth, "without going into further details, the general principle may be stated, that plants from green seed will, as a rule, attain a smaller development in both vegetative and reproductive parts than those from ripe seed." But "the use of immature seed increases the reproductive parts at the expense of the vegetative, and thus it comes about, that there is more fruit formed in proportion to the amount of foliage than normally."

As the result of the cumulative effects of repetition through several generations, "it was found that a Tomato plant, selected as representative of the series grown from unripe seed, bore 3½ lbs. of fruit to 1 lb. of the leaves, stems, and roots taken together; while a plant of the same variety, grown each year under the same conditions, but always from ripe seed, gave only 1½ lb. of fruit for each lb. of the plant. . . . With this increased fruitfulness is also associated an increase in the number of fruits, although they are individually smaller, as also are the seeds."

Another feature of importance is the tendency to an increased earliness in ripening the fruit on plants raised from immature seeds. "In the cumulative trials with Tomatos by GOFF, just referred to, the strain from green seed ripened from ten days to four weeks earlier in different years than the corresponding series from ripe seed." The author supplies a table showing (in GOFF'S experiments of fifty seeds taken from each of the following stages of immaturity), the number per cent. which vegetated, and the number of days before the first ten fruits were ripe, as follows: From very green fruit, 2 per cent., 137 days; from pale green, 84 per cent., 157 days; from fruit tinged red, 100 per cent., 151 days; from light-red fruit, 96 per cent., 147 days; from deeper red, 88 per cent., 147 days; from fully-ripe fruit, 96 per cent., in 152 days. "This is not surprising in view of the fact that it is the weaker plants from which the greater earliness in fruiting is expected. . . . It was noted by GOODALE in 1885, and since by GOFF, that some early market varieties of vegetables indicated that they may have been originated from the use of green seed."

The author then summarises the results under the following heads:—(1.) There is a loss of vigour, shown in the smaller percentage of germinations, the weakness of the seedlings, and the greater number of plants which die before maturity; (2.) The full vigour of the plants is never recovered, although they may, and usually do, produce an abundant harvest, and one acceptable to the cultivator, in case of economic plants; (3.) The reproductive parts of the plants are increased in proportion to the vegetative parts, resulting in a greater number of fruits and seeds (although individually smaller), and more rapid ripening of them, than in similar plants from mature seed." The general interpretation he expresses in the following italicised sentence:—"The deviation in development, which comes from the use of unripe seed, does not differ in kind from that resulting from any other method of weakening the organism. It is only a special instance of the effect of checking the uniform normal growth of the individual." It has been long known that analogous results accrue from using very old seeds, as in the case of the Melon. Thus, M. F. CAZZUOLA found that Melons raised from fresh seed bore a larger proportion of male flowers than female; while older seed bore more female flowers. M. TRIEWALD grew twenty-one out of twenty-four Melon seeds which were forty-one years old. The branches were very slender, yet they produced both early and plenty of good Melons.

"The retardation of the germination due to age is well shown by the tests of Tomato seeds made by LOVETT, in which seeds from 2 to 6 years old showed the first germination in 10 days; 7 years, in 11 days; 8 and 9 years, in 12 days; 10 and 11 years, in 14 days; and 13 years, in 18 days. It will be observed that the effect of over-maturity is the same as results from immaturity. . . . It is evident, therefore, that ageing as well as immaturity of seed leads to weakness of the seedlings and a general lowered vitality."

Practical results may be deduced, which may be left to the experimenter to carry out, with such garden plants as are cultivated for their fruits. Like experiments should be made to test the effect of immaturity of the seeds upon plants, e.g., annuals, cultivated solely for their flowers; but for plants of which the roots, stems, and foliage are desired, it would seem that fully ripe seeds should always be chosen. For fruits, at least, it is quite evident that the cultivator may look for larger and earlier crops, though of diminished size, when immature seeds are used.

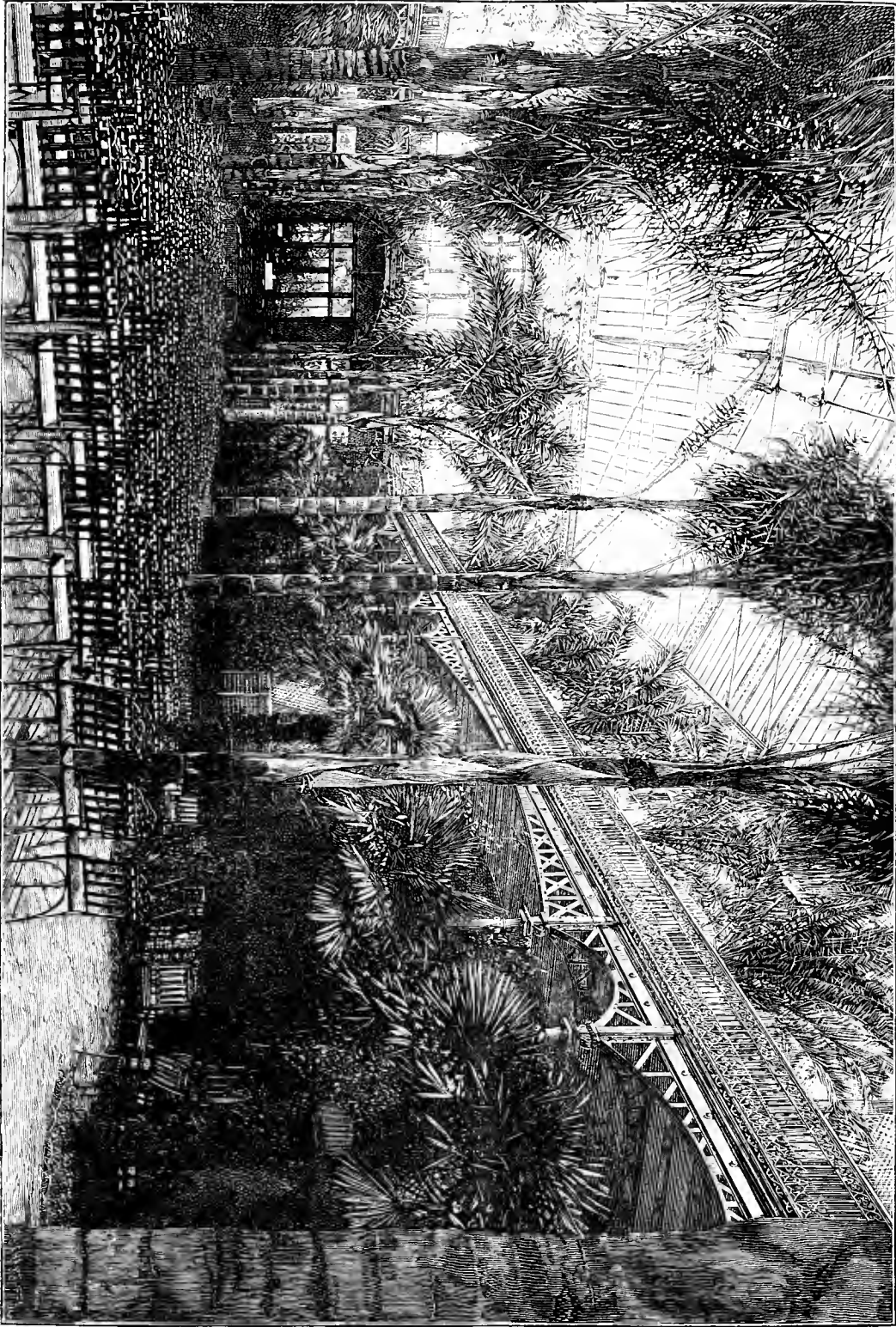


FIG. 17.—PALM-HOUSE IN THE JARDIN D'ACCLIMATATION, PARIS. (SEE P. 103.)

**A FRENCH NATIONAL ROSE SOCIETY** has, says the *Revue Horticole*, been established at Lyons. The society proposes to form a judicial committee to (1) examine, judge, and class the varieties of Rose; (2) to hold exhibitions and congresses in various French towns; (3) to publish information relating to Roses; (4) to furnish discriminating notes on novelties for the benefit of amateurs; and (5) to determine the nomenclature and synonymy of Roses. The Secretary is M. VIVIAND-MOREL, 66, Cours Lafayette à Villeurbanne-les, Lyon. The subscription is five francs a year.

**THE NATIONAL HORTICULTURAL SOCIETY OF FRANCE.**—We learn from the *Revue Horticole* that it is proposed to form a Rose committee in connection with this Society.

**THE SCOTTISH HORTICULTURAL ASSOCIATION, EDINBURGH.**—The annual general meeting of the association was held on Tuesday, 14th inst., at 5, St. Andrew Square. Mr. R. W. E. MURRAY, president, in the chair. The secretary (Mr. Robert Laird) submitted the nineteenth annual report to a full attendance of members, and stated that it was a matter of congratulation that the interest of members in the association was well maintained, the membership roll numbering about 500. The treasurer (Mr. Alex. Mackenzie) also submitted his report, showing that the association was financially in a thoroughly sound condition. In connection with the association a series of technical lectures was delivered, and thirty-two young gardeners had qualified for the final examinations in the different subjects. He had hoped by this time that they would have had a sum of £1,000 for the purpose of founding a horticultural institute in Edinburgh, in which they would have libraries and rooms for reference, where the members could consult books on horticulture at any time. Their progress towards this object was very slow, but he hoped that by strict attention to outlay and a larger liberality on the part of the members, they would eventually secure this very much desired want. The Duke of Buccleuch was re-elected honorary president, as was also Mr. R. W. E. Murray as president; Mr. Robert Laird, secretary; and Mr. Alex. Mackenzie, Treasurer. The following gentlemen were added to the council, viz, Messrs. D. P. Laird, Jas. Grieve, Wm. McKinnon, John Methven, Geo. Wood, Chas. Comfort, and George Broadfoot.

**HORTICULTURAL CLUB.**—The usual monthly dinner and conversation of the club took place on Tuesday evening last, at their rooms, Hotel Windsor. The chair was occupied by Mr. HARRY J. VERTCH, and there was a good attendance of members. A very interesting paper was read by Mr. H. SELFE LEONARD, on "The Arrangement and Planting of Rock Gardens." The paper gave rise to a profitable discussion, in which most of the points touched upon by the writer were considered. We believe that the paper will appear in a more permanent form in a short time. A cordial vote of thanks was accorded to the author.

**KEW SYSTEM OF GREENHOUSE CONSTRUCTION.**—The following paragraphs are taken from the *Kew Bulletin* for November, 1895: "The periodical reconstruction of the houses in which plants are grown under glass is a serious drawback to this method of cultivation. It is, however, practically impossible to avoid it as long as wood is employed, as that material sooner or later inevitably decays under the humid conditions to which it is necessarily exposed. To obviate this difficulty, iron has for some years been freely used in the construction of greenhouses at Kew. Ordinary iron is used for the rafters. The sashes, which can be easily replaced at any time if they become decayed, rest conveniently on the arms of the inverted L. This method of construction has proved perfectly successful, and the conservatory No. IV, as well as the temperate Fern-house No. III., are good examples of the method. The merits of this system have not escaped the attention of the horticulturists of other

countries. The Royal Board of Works and Buildings, Munich, and the Board of Commissioners of the Zoological Gardens, Rotterdam, have severally applied for detailed working drawings of the mode of construction employed in the Kew houses. And these have been furnished accordingly by the First Commissioner of Her Majesty's Works and Public Buildings."

**THE SALE OF WEED-KILLERS AND OTHER POISONS.**—Action has been taken against a large number of unregistered persons unlawfully selling poisons, keeping open shop for their sale, and using the title of chemist and druggist. In the majority of instances, the penalty incurred has been paid upon application in accordance with the provisions of the Statute. In the cases tried at Oldham, Carnarvon, Newcastle, Greenwich, Stonehouse, London, Edinburgh, Greenock, Ayr, Glasgow, Paisley, Salford, Bootle, Dandee, Forfar, Nottingham, and Dumbarton, decisions were given in favour of the Society, and penalties were inflicted on the offenders. Several prosecutions were instituted for the sale of arsenical preparations employed for killing weeds, ants, &c. In one of them, the defendants appeared, from the statement of their counsel, not to have been previously aware that the article sold came within the Statute, and to have given up its sale on ascertaining that it did. They were, however, fined in the full penalty, the Lord Mayor remarking that the respectable position of the company made the offence more serious. A seedsman at Helenburgh was fined for selling a similar preparation; and in another prosecution of a firm of seedsmen in Glasgow, under the 17th section of the Act, an objection was raised that the Procurator Fiscal was the only person competent to take action under that section. An assistant of the firm, who sold a similar arsenical preparation, was, however, convicted of an offence under the 15th section, but the Sheriff, in giving judgment, expressed himself as having no sympathy with the prosecution of employes. The mode of procedure peculiar to Scotland would appear, therefore, to offer some considerable obstacle to the administration of the Statute. *Pharmaceutical Journal*.

—On Dec. 30, Mr. T. Buss, County Coroner, held an inquiry at the Bicycle Hotel, Sevenoaks, Kent, into the circumstances attending the death of Ebenezer Upton, aged 44, which occurred on the previous Saturday, from the effects of drinking weed-killer containing arsenic. The jury returned a verdict of "Suicide during temporary insanity," and added a rider to the effect that the jurors "thought there should be some restrictions as to the sale and exposure of so deadly a poison. This was not the first case of the kind which had occurred in the neighbourhood, one on the Montreal Estate being the result of an accident. The label on the three-gallon jar of weed-killer found in the potting-shed was printed very indistinctly in small letters, and they thought the vessel should be kept under closer observation." *Pharmaceutical Journal*.

**RIVIERA NOTES.**—The best proof of the mildness of the season this year is the list of about 370 species in blossom on New Year's Day in the Marchese HANBURY's garden, as compared with 294 last January (see p. 42). Frost, in fact, has not yet made its appearance, and there is every prospect of an open winter that will permit the export of vast quantities of cut flowers to cities in less-favoured regions. The growing of Roses and Carnations is becoming an immense and important industry in sheltered spots along the Riviera; thus far demand has fairly kept pace with supply, but as Olive trees are felled by thousands, and the terraces turned into Rose gardens, prudent people begin to entertain grave doubts whether markets can be found for such vast quantities of flowers. The Olive crop is better than for years past, but storms have injured the fruit to some extent. Lemon trees suffered excessively from frost in January and February last, but have largely recovered. There are many complaints made of the miserable price that the fruit now fetches, Sicily securing most of the export trade.

**SPECIAL PRIZES AT THE NATIONAL ROSE SOCIETY'S SHOWS.**—Messrs. ALEX. DICKSON & SONS, of the Royal Nurseries, Newtownards, co. Down, desire us to inform our readers that a leading English amateur has undertaken to give a handsome Silver Cup and three money prizes to the amateur and professional divisions of the National Rose Society's competitions to be held at the Crystal Palace, Sydenham, in 1896 and 1897, for six and twelve distinct Roses, single blooms, raised or sent out by their firm. We may remind would-be competitors that, among fine varieties raised at Newtownards, are such fine Roses as Helen Keller (H.P.); Mavourneen (H.P.); Marjorie (H.T.), a beautiful variety of great merit; Mrs. W. J. Grant (H.T.), syn. Belle Siebrecht; Kathleen (H.T.), a perfectly formed flower of medium size; Sheila (H.T.), a very pretty garden variety; Marchioness of Downshire (H.P.); Mrs. R. G. Sharman Crawford (H.P.); Marchioness of Londonderry (H.P.); Margaret Dickson (H.P.); Marchioness of Dufferin (H.P.), and several others of much merit shown during recent years at the National Rose Society's exhibitions in London and elsewhere.

**LEEDS PROFESSIONAL GARDENERS' FRIENDLY BENEFIT SOCIETY.**—The committee and members of this useful society held a meeting on the 17th inst., at the "Green Dragon" Hotel, Guildford Street, Leeds, when the twenty-ninth annual report was read, and a detailed statement of accounts given, showing the exact position of the society in accordance with the provisions contained in the Registration of Friendly Societies Act.

The society's income for the past year has been ...	£ s. d.
144 4 6	
The expenditure has been for the same period ...	92 18 7½
Which leaves a saving for the year of ...	51 5 10½
This amount added to the savings twenty-eight previous years of ...	1106 3 10½
Makes the total amount placed to the society's credit of ...	1157 9 9
Representing the value of each financial member of ...	8 15 4½
And a net gain to each member for the year of ...	0 1 2½

The total number of honorary members is 19, and the total number of financial members is 132. There have been during the year 6 members initiated, which makes a total of 133. The committee congratulate the members on the favourable position of the society and its stability, and hope they will recommend it to all young men in their employ, who are eligible to join. The contributions are only 13s. per year. Thanks to the honorary members for the liberal support given, the committee is enabled to hand over from the management to the sick and funeral fund, the sum of £7 19s. 10½d. The secretary of the society is Mr. WILLIAM SONLEY, 8, Woodhouse Cliff, Leeds.

**THE WHITE CANNA.**—Hybridising Cannas with *Hedychium coronarium* was attempted, says Dr. FRANCISCH, in the *Florists' Exchange*, in 1893 by FRED. H. HOWARD of Los Angeles, but without success, owing, I believe, to the difference existing in the shape of the pollen grains of *Canna* and *Hedychium*. There was some hope of succeeding with *Myrosma cannaefolium*, which was described as having more structural affinities with the genus *Canna*; but after having patiently grown this plant for two years, when it bloomed at last it has turned to be just *Hedychium coronarium*, as it has happened with Mr. GERARD and others. To bloom well, *Hedychium coronarium* must be treated like an aquatic, indeed, and preferably in stiff soil. The finest plants I ever saw in bloom were just along a ditch taking the overflow of Mr. ED. STOUTEVANT'S aquatic pond at Los Angeles. In connection with this, I cannot see why plants could not be honestly called by their proper names. The appellation of white *Canna* given to *Hedychium*, of blue *Spiraea* to *Caryopteris*, of *Vanilla* to *Liatris*, are misleading and deceptive, and as such to be avoided.

**"AGENDA HORTICOLE."**—Under this title M. HENRY, the Curator of the Jardin des Plantes, has published a very useful little year-book, containing a variety of miscellaneous information. As showing

the difference between the education supplied in France and in this country, we call attention to the pages devoted to the national schools of horticulture and agriculture. Happily the discrepancy is not so great as it was; but we are still a long way behind. Appended to the volume is a blank diary for the year, so that the book is one of great utility to French gardeners, and will be serviceable also to many British ones. It is published at the office of the *Jardin*, 167, Boulevard Saint Germain, Paris.

**A TRADE GARDENER'S REQUIREMENTS.**—We have received the following letter, which was sent to one of our correspondents, who had applied for a situation as nursery manager or foreman. Names and addresses we omit for obvious reasons.

"London, E.C., January 18, 1895.

"Re Advertisement 'B,' *Gardeners' Chronicle*.

"Sir,—In reply to your letter dated December 20, 1895, will you kindly answer the following questions:—Have you ever produced stuff for the London markets—Covent Garden, &c.? Do you properly understand the succession of growing, so as not to have any blank weeks? At present there are twenty-one greenhouses, some out of repair. Can you glaze, paint, carpenter, see that boilers are in order, and put them in order if required? Can you *well* grow flowers, Roses, bulbs, Chrysanthemums, Ferns, Tomatos, Cucumbers for early and late forcing for market? Do you understand well the keeping-up of fires in the winter? There is a cottage in the nursery to live in. What is wanted is a thoroughly practical man who could build a greenhouse, put in boilers, pipes, lay the bricks, carpenter, glaze and paint, and, in addition, grow the stuff well for market. There is plenty of work to be done requiring strength, energy, and health. Can you grow Mushrooms for profit? Everything depends on making money. Salary and commission, and lodgings free. What wages and commission would you want? Commission would advance according to success. I presume you can keep ordinary accounts. Do you understand horses, stable work, &c. Do you know the London market regulations? Please write by return,

(Signed) \_\_\_\_\_"

**"THE CHRYSANTHEMUM ALBUM"**—In happy contrast to most of the catalogues we receive is *The Chrysanthemum Album*, issued by that enterprising cultivator and raiser, Mr. H. J. JONES, Ryecroft Nursery, Lewisham. Catalogues have many times given rise to justifiable complaints that the plates contained therein have given exaggerated ideas of the subjects they have portrayed; and it is, therefore, satisfactory to find that the camera is becoming more and more used for such purposes. In Mr. JONES'S *Album* there are included thirty-five excellent photographs of Chrysanthemum novelties, twenty-three of which have been raised at the Ryecroft Nursery, eleven by British amateurs, and one, viz., Hairy Wonder (which at this time, perhaps, can hardly be regarded as a novelty), raised in America. With one or two exceptions, however, the varieties are seedlings of 1894, and are now offered for the first time. The *Album* is dedicated to Sir EDWIN SAUNDERS, F.R.G.S., F.G.S., President of the National Chrysanthemum Society, of whom an excellent photograph is given in the frontispiece. There is also a photograph of the group of Chrysanthemum plants shown by Mr. JONES at the Aquarium show of 1895. The work is upon capital paper, with stiff paper covers.

**NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The monthly meeting of this Society was held on Tuesday, the 14th inst., at 25, Westgate Road, and Mr. BULLOCK presided over an excellent attendance of members, Mr. MURRAY, Orchid grower to N. C. COOKSON, Esq., Oakwood, read an able paper on the Calathea, illustrating his remarks by cut specimens of many of the well-known hybrids raised at Oakwood. At the close of the paper many questions were asked relating to their cultivation, all of which were satisfactorily answered by Mr. MURRAY, to whom a vote of thanks was heartily accorded.

**SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting was held at the Parish Room, Shirley, Southampton, on the 20th inst., Mr. W. DAVENPORT presiding over a first-class attendance of the members and their friends, Mr. R. E. O'CALLAGHAN, Vegetarian Union, London, gave a lecture entitled "Fruit as Food," profusely

illustrated with lime-light pictures, and of a most instructive character. Though not insisting on his audience adopting an entire diet of fruit, the lecturer urged the value of making fresh fruits in their seasons a portion of each meal, instead of restricting their use to dessert, when, he contended, they would be likely to do harm, as sufficient food of another nature had already been partaken of. He strongly advocated that more fruit should be grown in the country instead of importing so much, and thought some means should be taken to teach cottagers and small holders the methods adopted in France and Germany of drying certain fruits, Plums especially, which would save much waste, and in times of plenty, when prices ruled too low to allow a margin of profit on the sale in a fresh state, they might by this means get far more for their crops. A hearty vote of thanks was accorded the lecturer at the close. There was a good exhibition of Apples by the members, and the six dishes shown by Mr. J. MILES, gardener to Mr. W. PERKINS, Portwood Park, were grand specimens of size and colour, and received a Certificate. Some very fine Primulas (CANNELL'S White Perfection) were shown by Mr. KEATES, gardener to Mr. W. G. BUSHELL, and were very highly commended.

**LEE, BLACKHEATH, AND LEWISHAM HORTICULTURAL SOCIETY.**—From the report of this influential society, made at a meeting held on Monday, 13th inst., we learn that the summer exhibition was of a representative character, and the number of entries showed a tendency towards an increase, and to return to the larger number common some eight years ago. The cottagers' competitions were keen, and the vegetables exhibited excellent as regarded quality. There was a falling off amounting to a sum of £50 in the gate-money taken on the second day of the show, owing to a heavy rain occurring, which has led to the reserve-fund being entirely absorbed. The society will be entitled in the future the "Lee, Blackheath, Lewisham, and West Kent Horticultural," it being supposed that a greater amount of patronage would thus be secured. The winter session of lectures continues in popularity, and much information of a practical nature is imparted by their means. The dates fixed for the exhibition in the current year are July 8 and 9.

**ANTARCTIC EXPLORATION.**—It is satisfactory to find that there is a good chance of a scientific expedition being despatched to these regions, concerning which but little has come to light since the voyage of Sir JAMES ROSS. Some of our readers may remember that Sir JOSEPH, then Dr. HOOKER, formed part of this expedition. The results of that voyage, to confine ourselves solely to our own department, were very remarkable, and we can but hope this new venture will be equally profitable to science. Mr. T. GILBERT BOWICK, Royal London Yacht Club, 2, Saville Row, is the Secretary.

**MR. H. BRISCOE-IRONSIDE'S SEEDLING CHRYSANTHEMUMS.**—We are informed that Mr. H. BRISCOE IRONSIDE is returning to Italy, and that the whole of his stock of seedlings of Chrysanthemums on trial, numbering more than 100 varieties, has passed into the hands of Messrs. J. R. PEARSON & SONS, Chilwell, Notts. Mr. IRONSIDE intends to continue the work in Italy for the future.

**APRICOTS FROM THE CAPE.**—The steamship *Norman*, of the Union line, has arrived from the Cape, with the first consignment of fruit for the season; this was 1281 boxes of Apricots—all, we are informed, in very good condition, and which realised 5s. per box of fifty-four fruits. The next steamer is timed to arrive on the 1st proximo.

**NEW PUBLICATIONS.**—*The Orchid Hybridist's Handbook*, by A. E. HOPKINSON, illustrated. (Liverpool: BLAKE & MACKENZIE.) We shall have occasion to advert to this on a future occasion. — *Plant-Breeding*. Professor L. H. BAILEY has published in book form his five lectures upon the amelioration of domestic plants. The subjects dealt with are variation, as dependent on

or connected with sex; varying food supply, variation in climate, change of seed, struggle for life, &c. Similarly, bud-variation, the division of labour, and cross-fertilisation, are treated on. The book, therefore, is one specially interesting to the gardener, on which account we shall, later on, allude to it at greater length. It is published by Messrs. MACMILLAN.

## NOTICES OF BOOKS.

**WILD FLOWERS OF THE NORTH-EASTERN STATES.** By Ellen Miller and Margaret Christine Whiting. (New York and London: G. P. Putnam's Sons.)

This is a series of outline sketches of some 300 common North-Eastern American plants. The sketches are freely and accurately executed, but the almost entire absence of detail renders them of little value. The object of the artists, we are told, was to make the acquaintance of flowers "more easy to non-scientific folk than the much-condensed manuals of our flora are able to do." If the authors wished to interest their non-scientific friends they would have done well to have devoted more attention than they have done to the manners and customs and mode of life of the plants they have depicted. As it is, they give us descriptions which, while not rivalling in accuracy the descriptions of the text-book, are naturally diffuse and verbose, and no more entertaining to read than the more formal "characters" of the professed botanist.

**LA CULTURE DU POIRIER.** Par O. Opoix (*The Cultivation of the Pear*). (Paris: Octave Doin, 8, Place de l'Odéon.) Small 8vo, pp. 277.

M. Opoix has a well-deserved reputation as the head gardener of the Luxembourg in Paris, and his lectures and demonstrations are attentively followed. The present little volume contains a summary of the lectures given on the cultivation of the Pear, and is illustrated by more than 100 clearly-drawn sketches, illustrative of the conformation of the Pear tree, and of the manipulations to which it is subjected by the clever gardener. The subject is treated by M. Opoix under ten headings—1, the botanical history of the Pear; 2, the soils most suitable for its culture; 3, manures and planting; 4, the different organs of the extension shoots and their management; 5, the mode of training; 6, espaliers, orchard, and avenue trees; 7, grafting; 8, the diseases of the Pear; 9, the gathering and preservation of the crop; and 10, the best varieties. We find no mention of root-pruning. The numerous woodcuts so well tell their tale, that those not familiar with the French language can still profit by this practical little treatise.

**LES BROMÉLIACÉES, ETC.** Par L. Duval. (Paris: Octave Doin, 8, Place de l'Odéon.) [Bromeliaceae.]

For some reason or caprice, Bromeliads are not popular in this country. There is a fine collection of them at Kew; but we rarely see them in our hot-houses, and still more rarely in our drawing-rooms. On the other side of the Channel the case is different. You can scarcely go to a flower-stall in the marketplace without encountering some member of this interesting and beautiful family. Their cultivation, with few exceptions, presents no special difficulties; diseases are rare, insects easily kept under, so that few plants give more ample reward for the pains bestowed on them. M. Duval, in the little treatise before us, deals with the subject in a manner which clearly shows his great competence. His book is no mere paste-and-scissors compilation made to order, but is the production of one who knows not only what to say, but how to say it. For the general cultivation of these plants M. Duval recommends houses such as would be suitable for the cultivation of Orchids. M. Duval passes in review the several genera of most horticultural interest, and gives hints as to any special details of cultivation that may be requisite. This portion of the volume is enriched by numerous woodcuts, which are of real value, and not inserted for



ornamental purposes only. The species of Nidularium are those which are best suited for drawing-room culture, as being very resistant against unpropitious conditions. If insects are troublesome, the plant may be immersed in tobacco-water for one or two days in succession, and then be washed with pure water. A list of hybrid Bromeliaceæ terminates a little treatise which may be strongly recommended to amateurs as the production of a highly intelligent practitioner.

#### RUSTIC ADORNMENTS FOR HOMES OF TASTE.

By Shirley Hibberd. A New and Revised Edition. (London: W. H. & L. Collingridge, 148, 149, Aldersgate Street, E.C.)

This volume is divided into sections devoted to the following subjects: Floral Ornaments, the Fern-case, the Amateur Propagator, the Balcony and Window Garden, Conservatory, Greenhouse, Fern-house, Flower Garden, Marine and Fresh-water Aquaria, Fernery, Rockery, Ornamental Water, Summer-house, and Garden Accessories. It will thus be seen that, in peering these pages, the late Mr. Shirley Hibberd dealt with out-door as well as in-door decorations, and treated his subject at some length. This new edition of his book is prettily got-up, abundantly illustrated, and only so far altered as to bring the subject-matter up to date. Those who already know the work will welcome the present issue of it, which to them needs no commendation; while new readers in search of information on the topics herein discussed will do well to procure it, being sure that it will answer their requirements.

#### INTRODUCTION TO THE STUDY OF FUNGI: their Organography, Classification, and Distribution, for the use of Collectors, by M. C. Cooke, LL.D., &c. (Adam and Charles Black.)

A good comprehensive account of the general morphology and physiology of fungi, for the use of beginners and students, has become a necessity. Experts alone can be expected to keep abreast of the abundant literature pertaining to the subject, and they alone can form an adequate idea of the significance of the new discoveries which are constantly being made. The ordinary student of natural history requires a general statement of the leading features of the group, and specially such a presentation of the subject as will enable him to link on the prominent points of morphological structure to the corresponding points in other groups. The protean character of fungi, their varied phases of growth and development, invest them with extreme interest in the eyes of biologists. Dr. Cooke devotes nine of his chapters to a clearly-written account of the external characters of fungi and their several parts, and then proceeds to their classification. Upon this point Dr. Cooke mentions the principal attempts that have been made to group the fungi in a natural manner, and finally gives us the classification proposed by Brefeld.

The work is conveniently illustrated with woodcuts, but the mode of acknowledging the source whence the illustrations have been derived is peculiar and misleading. Any one reading the legend, "Bacterium termo, Chatto & Windus," might imagine that those gentlemen were the originators of the name, instead of being merely the lenders of the cut. Similarly, the initials, S. P. C. K., attached to some of the cuts, might, by analogy with H. B. & K., or R. & P., and other well-known composite initials, induce some to think that a quartette of botanists had co-operated in the nomenclature of a particular species. It is quite impossible to frame any but an arbitrary or conjectural census of fungi, but as attempts are made from time to time, some information as to the progress of our knowledge may be gained from statistics, in themselves of little value. Dr. Cooke's final conclusion is that, including the yeast fungi, the bacteria and the slime fungi, the total number of described species up to 1892 was 40,000. The next chapter, however, which shows how little we yet know of the

fungus vegetation of vast tracts in both hemispheres, also shows how little reliance can at present be placed on statistical estimates. A glossary and an index are useful features, but the index especially needs expansion and reconstruction—who would think of looking for what he wanted under such headings as "Old Definitions," "Growth of Bacteria," "Hypertrophied Basidia," "Imperfect Capsular Fungi," &c. It is true the transposition of the words would enable the student to find what he wants, but he does not expect to have the transposition to do for himself. The book offers many points for the critical botanist to exercise his skill upon, as Dr. Cooke is not always in accord with advanced views; but we cannot enter into these controverted points in this place, but conclude by thanking the author for the very comprehensive and serviceable treatise that has put before us. It cannot fail to be very useful as a starting point, and the bibliographies appended to

tomers in the same state as they are received from the manufacturers. They do not dispense poisons as druggists do, hence they do not require the same training. And if they can manage to get the Pharmacy Act amended, they will be quite pleased to keep a book for registering sales of weed-killers and insecticides, with the name and address of purchasers. I have never heard of any accident or injury to life resulting from these preparations being sold by seedmen, and as most nursery and seedmen require to use them themselves, they are the better able to advise and warn others how to take care of and use them. *Stet Veritas.*

**FARMERS AND FRUIT CULTURE.**—May I venture to express a hope that, in spite of your recent advice to farmers to adopt fruit culture, they will fail to regard that advice favourably? What do farmers know about such culture at present, and what prospects have they in their ignorance of competing with foreign experts, who have and do make



FIG. 18.—APPLE ROYAL LATE COOKING (THOMAS).

(Exhibited by Her Majesty, at the Royal Horticultural Society, January 14 1896.)

the several chapters will enable the student readily to obtain fuller information, and it may be different views, as to the nature and classification of these extraordinary plants.

#### APPLES ROYAL LATE COOKING AND LORD HINDLIP.

The two new varieties of Apples, illustrated in our present issue (figs. 18, 19), were shown at the meeting of the Royal Horticultural Society on the 14th inst.; and for a full description of them, we refer our readers to the *Gardeners' Chronicle* of the 18th inst.

#### HOME CORRESPONDENCE.

**WEED-KILLER AND INSECTICIDES**—I note your article on the vending of poisons, and consider the precautions recommended quite right and necessary. However, as weed-killer is put up in iron drums and tins, and insecticides in jars and bottles by the manufacturing chemists, the nursery and seed-trade do not break bulk, but deliver them to their cus-

tomers in the same state as they are received from the manufacturers. They do not dispense poisons as druggists do, hence they do not require the same training. And if they can manage to get the Pharmacy Act amended, they will be quite pleased to keep a book for registering sales of weed-killers and insecticides, with the name and address of purchasers. I have never heard of any accident or injury to life resulting from these preparations being sold by seedmen, and as most nursery and seedmen require to use them themselves, they are the better able to advise and warn others how to take care of and use them. *Stet Veritas.*

What could farmers give to our markets better than is now ordinarily seen in the shape of orchard standard trees, fruit of very moderate quality, ill assorted, and as indifferently packed? It does not at all follow that because a man may have the use of broad acres, and can afford to purchase and plant trees, that he becomes at once a capable fruit grower. If only so much of knowledge and of capacity were needed, we might have been all this time holding our own against the world. Even the old-time and practised market gardener is yet a long way off from realising one's ideal of a modern fruit grower. Some men who have planted within the past twenty years have better realised the needs of the time, and have planted dwarf bush and pyramid trees, and cultivated them well, growing only the most desirable varieties, and handling and packing the fruits with all possible care and integrity. These men can hold their own—but relatively how few they are. We have but to look at the thousands of acres of old standard trees, largely of indifferent varieties, growing within twenty miles of London, to see what poor conceptions exist as to fruit culture; indeed, it is not culture at all. Better far that most of these old and fast-exhausting trees were cut down and burnt, the ground being cropped with

vegetables, and for every one cut down a dozen of dwarfs of the finest varieties for market sale planted on fresh soil that has been specially prepared for them. The farmer may be encouraged to plant fruit trees on soil that is best suited for them, but most certainly if he plants, it will be where the ground has been inefficiently prepared. It seems to be impossible to make the ordinary farmer realise the immense importance in fruit culture of having the soil first deeply worked. That, indeed, is the very foundation of success. What can be hoped for or looked for when trees are planted on ground not worked more than from 10 inches to 12 inches? It is absurd in such case to look for success. Many of the ordinary class of market-growers, even though specifically market gardeners, are very little in advance of the farmer in relation to appreciation of trenching ground for anything, much less for trees; but this trenching, or its absence, constitutes the very foundation of success or failure. Then comes the selection of trees and varieties. If wisdom governs the planting, not more of Apples than some half-dozen

Currants, &c., under standard trees, where these are growing; still, the best results on bushes are obtained where each kind is grown alone and in the open. Mr. Mouro, in a recent remarkable paper read before the Horticultural Club on Fruit, asked, what would our home growers think of wrapping their fruit in tissue paper, as the foreigner does Oranges, sold here at 2s. per bushel? Is the British farmer likely to do that to his Apples and Pears? Not very probable, especially now he grows so much of mere rubbish. But it will have to be done presently, and our home growers will find that it will pay well to utilise the deft fingers of girls to wrap their best fruit in soft paper ere sending to market. Pity it is that Mr. Mouro's paper should not be read and studied all over the kingdom, and especially where fruit, such as it is, is now grown. What an immense deal has to be done ere we, as a nation, can rise to the height of the occasion. A. D.

THE ROYAL HORTICULTURAL SOCIETY.—Somewhere about 2700 Fellows of the Royal Horticultural

much valuable work, on legitimate lines, from a horticultural point of view, is being steadily carried out; and under the new superintendent with, as is stated in the report, "a perfectly free hand at Chiswick;" and, let us add, no "special committee" to sit in secret upon him! we may anticipate something fresh, if not sensational, in the next annual report of the Council. Along with the "Arrangements for 1896," which seem to be all "cut and dry," we have sent to us several documents, all of which, doubtless, are necessary for the well-being and the management of the society; but one of them, headed "Balloting List for Council," is a bit of a puzzle! Three names are printed upon it as those of the "members vacating;" and beneath these the names of three other "Fellows" are given, as being recommended by other members of the Council (a list of whom is affixed to each of the six names) "to fill the above-mentioned vacancies." Very good! and "mindful" of these members of the Council; but what is the use of sending this balloting-list to 2700, more or fewer, Fellows of the Society unless they are distinctly informed how they are to proceed in filling up the form in the manner they wish, and what the effect of duly filling or marking it would be? A column is headed "Voters' Marks;" and a note on the other side of the form lucidly informs us—"Every Fellow desirous of voting must make a cross (X) in the space adjoining the name of the Fellow he wishes to vacate office, and also against those he wishes to fill the vacancies." We are also duly referred, in a single line, to Bye-laws 65 and 84, to the operation of which we must imagine the retirements from the Council are due; but no quotation or a single word of explanation is given. Surely the Council of the Society does not expect every Fellow to carry in his pocket a copy of the Laws and Bye-laws of the Society? Neither is any information as to whom, where, and when this balloting-list is to be sent—supposing we do fill it up to our own mind! True enough, the date of the election is at the top of the form, and "please turn over" at the bottom on both sides; but these items of information, however necessary, are totally inadequate. Evidently there is a screw loose somewhere, if the Council really expects the Fellows to clearly understand the nature of their duties, in properly filling up, and returning in due time, this vague balloting-list. Would the Council also favour us, by giving some more definite information about the candidates for office whom they have nominated? than the bald "name and surname," inserted in this balloting-list. The three retiring Members of the Council are well-known names among horticulturalists, the first, as a generous patron of horticulture; the second, as a gardener, than whom none stands higher in the esteem of his fellows at the present day; and the third, as the head of a widely-known horticultural firm; and we may say each a representative of their class, and whose qualifications none will care to dispute. How stands it with their proposed successors, whose names are not found in any horticultural directory? With a tolerably wide knowledge of horticulturalists and of the Fellows of the Society, I fail to call to mind the services rendered to practical horticulture that specially qualifies either of those, no doubt, estimable gentlemen for the office into which the Council wishes to instal him, and expects to receive the approval of the Fellows for doing so! The first-named is a clergyman in a rural district of Hampshire, and also a member of the Scientific Committee; the second bears a name well-known in commercial business; and the third is an eminent scientist, and also a member of the Scientific Committee. Outside the realm of horticulture, we are not concerned, but it is really too much to ask the Fellows of the Royal Horticultural Society to place their confidence in so many unknown councillors at one time. What has become of all the leading men in the horticultural world in and around London, or within a radius of fifty miles? Have they just cause for holding back from accepting office? seeing that the Council, if it has ever asked them, cannot get a single one to accept a nomination for office. Is this the result of the great changes for the better which we have been led to expect? The timely warning you gave on p. 80 of last week's *Gardeners' Chronicle* is certainly needed in the present emergency, and should rouse up the Fellows of the society to a sense of their duty, and a firm determination to carry out that duty. The time is short between now and the 11th of February, but if the horticultural Fellows will only enter into the matter



FIG. 19.—APPLE LOAB (WINDLIP) (WATKINS).

(Shown by Mr. Watkins, Pomona Farm, Hereford, at the Royal Horticultural Society, on January 14, 1896.)

sorts will be planted, or at least not more of kitchen varieties. Of these from 500 to 1000 trees each variety should be put out, and at first comparatively close together. If in three or four years growth be strong, as probably it will, rather than the bare pruning, let all the trees be lifted and replanted at once, much more thinly, say at from 9 to 10 feet apart at least, the surplus going to plant other fresh ground. That thinning and replanting will be of inestimable service to the trees, as all gardeners know, will perhaps save the need of root-pruning for all time, will cause them to become more fruitful, and aided by frequent mulchings of manure and some artificial manures, their power to produce splendid crops may be prolonged some fifteen or sixteen years. Such a plantation as this would give the finest fruit from the best varieties Great Britain can produce. But the fruit grower on modern lines, and none other now are desirable, should plant more or less every year. There should be no cessation in planting; and when the trees become aged or show evidences of wearing out, there should be no hesitation in destroying. I would not favour mixed planting, such as standard trees with dwarfs, or Pears, Plums, bush fruits, &c., intermixed. Let each major fruit have its own area, and if wanted, plant bush fruits, Gooseberries,

tural Society, resident in the United Kingdom, have received within the past week copies of the "Report of the Council for the year 1895-6" and the "Arrangements for the year 1896." The Report is decidedly interesting, as much as for what it omits concerning the Chiswick imbroglio as for what it reports, in a somewhat gingerly fashion, upon that important topic, to all concerned in the welfare of the Society and the healthy progress of horticulture. In the meantime, the elicitation of "the truth, the whole truth, and nothing but the truth," about the dismissal, or, as the Report says, "retirement" of the Garden Superintendent in his prime, may be left to Mr. Smees and the hosts of other fair-minded Fellows of the Society, who, if they are allowed the opportunity, will undoubtedly support him in demanding a full explanation of the whole proceedings in this notorious case. Mr. Smees stated his plea in a perfectly straightforward manner in your columns of September 21 last, and no public opportunity has yet been given him to elicit the truth. It behoves all the Fellows who can attend the annual general meeting on February 11 to be present, and to watch the case closely, so that fair play may be given, and the full truth of the matter brought clearly out. The other "important work" of the society, as reported, is a fair average record, and shows that

with the spirit and enthusiasm its great importance deserves, they can elect as councillors the best men who are eligible and available. Far better to face the difficulty at once than to hang back and lose confidence in the Society, or become careleas as to its future usefulness and continued prosperity. *A Horticultural Fellow of the Royal Horticultural Society, January 20, 1896.*

**FRUIT SUPPLY OF COVENT GARDEN.**—In reply to "R. M., Newbury," in your issue of the 18th inst., I would refer him to my paper on "Grading and Packing Fruit for Market," given at the Crystal Palace show, September, 1894, and fully reported in your following issue; and to further illustrate my theory that Apples, at any rate, should be marketed in non-chargeable boxes, I give the following figures showing expenses each way; and when I state that fruit carefully packed and packed in this way will make from 10 to 25 per cent. more than in bushel-baskets, with the result that every fruit reaches the consumer's table in perfect condition, instead of there being a considerable proportion too much damaged to ever reach the consumer at all, I think there is little more to be said:—

**EXPENSES ON APPLES PER BUSHEL.**

Boxes not charged.		Bushels Bought by Salesmen.	
s.	d.	s.	d.
Cost of box	0 4	Carriage of empty, to grower	0 1
Carriage, 25 per cent.	0 6	Carriage, full	0 8
Less than bushels, say 0	6	Toll	0 0½
Toll	0 0½	Commission	0 0 3
Commission	0 0 3	Loan of basket	0 0 3
Paper	0 0 2	Sticks, &c.	0 0 1
		Return of empty, to sale-man, from customer	0 0 1
	1 3½	If sold to go on rail, extra carriage	0 2
Less value of box to retailer (at least)	0 1		
	1 2½		1 7½

Showing a clear saving of 5d. per bushel, besides running no risks of loss of crop while waiting for baskets, and enabling the grower to be independent of any particular market or salesman, to send his goods wherever he chooses, and earn a reputation by branding his name upon all cases—a thing impossible while sent in the same kind of packages as employed by hundreds of other growers, many of whom pack unfairly, and thus damage the sale of the whole. *Geo. Monro.*

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—I became a member of this Institution in the year 1868, and have continued my membership till the present time, and the records will prove that I have not been an idle one. The few remarks I have to make are in no carping spirit. I hate carpers, those self-important people one meets with every day, who will almost tell you that had they lived "in the beginning," when the heavens and earth were created, they would have made a better job of it. My only motive is for the benefit of this excellent Institution, which has done such good work in the past, which let us hope will do even more good in the future. Before this can be done, I feel sure that an important change will have to be made in one particular, and member or members, however influential, prevented from combining together to inflict a gross injustice upon subscribing members. On many occasions when I have asked gardeners to become subscribers, the reply has been, "What is the use? If I should ever require the help of the Institution, and am unable to secure a lot of influential support, I should have no chance whatever." I am bound to admit that this is too true, and therefore one feels hampered in one's efforts. Let the following rule be adopted, "That none but subscribers, or those who have been subscribers in the past, be allowed to be nominated as pensioners." Unless this, or some similar plan is adopted, I, for one, cannot ask anyone to support the Institution; the present system which permits any member to nominate a candidate who has never subscribed a shilling, over the heads of those who may have practiced self-denial for years to pay their subscriptions, is unsound in principle, hostile to the purposes for which the Association was formed, and totally opposed to its prosperity. *Bruce Findlay, Manchester, Jan. 20.*

**ISLES OF SCILLY FLOWER HARVEST.**—The flower season of the Isles of Scilly has commenced in good earnest, not only from the forcing-houses, but from outdoors. One grower alone sent off on the 21st, 4000 bunches of Soleil d'Or, or 48,000 spikes; the flowers are very fine, some of the spikes containing from eight to ten tips. The quantity as

well as the quality of Narcissus this year are excellent; last year Soleil d'Or was a failure, large patches never showed a bloom, but this season they are making up for it. Many other varieties are being sent to market, such as Obvallarie, Telamoonius plenus, Irish King, Henry Irving, Scilly White, Gloriosa, and fulgens. All other varieties are in a very forward state. The weather is more like that of spring than winter, even Roses out-of-doors have their buds almost fit for cutting. *J. C. Tonkin, St. Marys.*

**GARDENERS AND STEAM-ENGINES.**—I suppose that it is the lot of all men to experience at times keen disappointment. Whether or not such disappointment leaves us better or worse depends upon that which we wanted to get or to retain being good or bad. However this may be, most of us love a garden as the place where "peace and beauty reigned," and as one of the out-of-doors places where we can forget about commercial enterprises and the snorting steam monsters and other blinding oglinesses which we are told our age of keen competition makes necessary. We are not all versed in political economy, or the laws of necessity and the way of supplying them, but we never thought these inventors and manufacturers anxious to be rich would find it necessary to invade our gardens. Yet such would appear to be the case, of which I have just had unmistakable proof. Only last week, I was told with a solemnity which implied unquestionable truth, that a certain Town Council by whom I have been engaged for several years in laying-out at immense cost to the rate-payers, a quiet retreat in the form of a public park, had actually inspected and approved of a steam lawn-mower and roller which, if really brought into operation, will unquestionably destroy that very repose it has been my chief endeavour to create. I was, however, in hopes that this was a solitary instance of that contrariness which does at times, seize upon and affect the conduct of ordinarily perfectly sane persons. Not so, however, for on returning home on Friday last, I obtained a copy of the *Gardeners' Chronicle*, when to my surprise I saw a note from a gardener who with a conviction that would do justice to a better cause, urged the adoption of some form of motor, i.e., steam or other power, to drive lawn-mowers and garden-rollers; and to finish the day, amongst my letters I found one from a firm who are asking gardeners to acquiesce in their own destruction, soliciting my influence to obtain orders for them—for which service, of course, they would pay me handsomely. Now gardeners, allow me to ask you a pertinent question. Are you wishful to retain your standing as garden craftsmen, or are you going to reduce yourselves to the position of tenders of steam-engines? Remember, that in matters purely commercial every approved appliance may be necessary if competitors are to be successfully combated; but in a garden no such excuse can hold good, and if you allow these things to invade the peaceful domain of which you are the guardians, you will have done an irreparable injury to one of the purest enjoyments of this country which it ought to be your duty to defend, viz., the enjoyment which comes from a quiet English garden. *Thomas H. Mauson, Garden Architect, Wenderholme, Windermere, Jan. 17.*

**FICKLENESS OF PEARS.**—Seeing Mr. Coomber's note in the *Gardeners' Chronicle* (p. 56) on the fickleness of Pears, and the effect the hot weather of last summer had upon the flavour of some late varieties, and also the marked difference in the same varieties on walls of different aspects, I am induced to give my experience of some varieties, beginning with Bauré Rance, which, although fit for dessert in ordinary seasons, was much better flavoured this season, and the fruits are excellent at the present time. I find those grown on a west wall are the best. Winter Nelie and Ne Plus Meuris from a south wall were also good, but they ripened much earlier, and were fit for consumption in the month of November. Glout Moisean and Bauré Diel were better flavoured than usual. Easter Bauré grown on trees on a south wall did not ripen satisfactorily, but became mealy—yet it is a Pear which ordinarily does well with us. The best fruits of Marie Louise, as regards size and flavour, came from a tree growing against a north wall, being much finer than those from south or west. Some varieties of Pears on walls facing south or south-west were not so good, owing probably to the soil getting dry, as I noticed in the early part of the summer some were at a standstill, and did not appear to swell away as they should. *F. Q. C., Devon.*

**EARLY FLOWERING OF A RHODODENDRON.**—In calling on the 18th inst. at Merton Lodge, Chiswick, the residence of Mrs. Lloyd, I was very agreeably surprised to see in the shrubbery a young Rhododendron-bush in full bloom, carrying good trusses of red flowers. [Probably, *R. Nobilissimum* × *En*.] It bloomed in the usual way last spring or early summer, being one of others purchased at Lee's Ealing Nursery, in the previous autumn. I suppose the recent mild weather is the cause of this precocity. D. served interest attaches to the old garden, which is well managed by the gardener, Mr. John Addison, in that some of the fruit trees there in which he takes great pride and interest, were purchased from the neighbouring Royal Horticultural Society's gardens, on the reduction of the grounds in 1870. Many a good old-fashioned hardy herbaceous plant from the same source gives the borders here beauty and interest in its season, thus associating the Society's old historic garden with present day matters. *J. B.*

**DENDROBIUM WARDIANUM.**—I am aware of the difficulty experienced in many places of keeping *Dendrobium Wardianum* from deteriorating, even by gardeners experienced in the cultivation of Orchids. The excellent contributor to your columns of the note on this species in last week's issue will be pleased to know that I have at present more than one hundred plants of *D. Wardianum*, which were imported fifteen years ago, which are doing well, making good pseudo-bulbs 3 feet long, and when in flower they make a display not readily forgotten. *James Hebdon, Welham Hall, Bedford.*

**THE CERTIFICATES GIVEN BY THE NATIONAL DAHLIA SOCIETY.**—A critic like Mr. John Pope, who complains "that many First-class and other Certificates were awarded to worthless objects at the National Dahlia show held at the Crystal Palace last year," should, in justice to those who made the awards, be a little more explicit. While Mr. John Pope has a perfect right to express his individual opinion, I hesitate to accept his *ipse dixit* in preference to the opinion of the jury of experts who made the awards of the few Certificates granted on that occasion. A competent jury, representing all classes of Dahlia cultivators and exhibitors, generally eight or nine in number, takes cognizance of the new varieties, and awards Certificates of Merit to such as it deems worthy. I have made a careful reference to my notes of new Cactus varieties at the last Crystal Palace Dahlia Show, and unless I am greatly mistaken, only one Certificate of Merit was awarded to a Cactus variety, namely, Messrs. J. Cheal & Sons' Mrs. Wilson Noble, a very bright salmon-red, of the true Cactus type, which was shown in fine condition. I had two or three opportunities of seeing this variety growing last summer, and I have no hesitation in stating that that in point of habit—in the very essential feature of throwing its flowers well above the foliage, and in its freedom of bloom—it shows a decided advance on any other. A like award was made to a "decorative" variety, Willis Batchelor, bright pale scarlet, with white flame and tip to the petals, distinct in character, and decidedly promising. Mr. Pope states that "many First-class and other Certificates were awarded to worthless objects." Will he be good enough to name them? The very varieties he names with so much approval were all certificated by the National Dahlia Society in the past. *R. Dean.*

## THE POLYANTHUS.

The laced section has been so unsatisfactory during the last few years that the Auricula and Primula Society decided to omit it from their schedule for the ensuing year. Nevertheless, they are excellently cultivated in northern gardens, and these fine old favourites are not yet surpassed in their peculiar beauty. Some twenty years ago the Rev. F. D. Horner, at Kirkby Malzeard, had a splendid collection, which he kept in robust health. On my mentioning to Mr. Horner my difficulty in keeping the leaves of my plants free from red-spider, he, to my surprise, made answer that this insect gave him no trouble; in fact, plants that came to him with red-spider on the leaves speedily recovered when planted out in his garden; the pest could not live in the cool moist Yorkshire uplands, where the climate is just suited to the Polyanthus. Pity it is

that some florist in those districts does not take up the culture of this fine plant, and produce seedlings from the old varieties like George IV., Lancer, Cheshire Favourite, Exile, &c.

The fancy Polyanthuses have not yet been placed amongst the florists' flowers, but for this no adequate reason can be given, as the colours are now very beautiful, and the form of the flowers makes them admirable, fulfilling every property of a florist's bloom; indeed, many of them are superior in form to the best of the laced varieties, even the beautifully-formed George IV. They do best in the open garden, and if intended to be shown in flower-pots or boxes, they may be taken up from the open ground when in full flower; the plants do not suffer in the least. *J. Douglas.*

## SOCIETIES.

### BIRKENHEAD AND DISTRICT GARDENERS' IMPROVEMENT ASSOCIATION.

JANUARY 8.—The gardeners of Birkenhead and surrounding districts held their third annual *soiree* in the Music Hall, presided over by Mr. J. Gamlin, T.C., who was supported by Mr. J. Smith, of Palm Grove Nursery. Over 100 gardeners, with their wives and daughters, were present.

Too over, the Secretary of the Gardeners' Mutual Improvement Association (Mr. T. D. Smith) gave an interesting *re sume* of the work done during the past year in connection with gardening matters in the district. During the eleven months of its existence over 120 gardeners had been enrolled as members; a permanent meeting-room had been secured in the Y.M.C.A., where fortnightly meetings had been held for the discussion of matters horticultural, both practical and scientific; a comfortably furnished reading room had been provided at 13, Belmont, Oxton Road, and which was opened every evening free to all members, who had the use of all the leading publications on gardening matters, as well as of the Liverpool and Birkenhead papers. On Tuesday evenings a Botany Class was held; and the latest addition was an annual *soiree* for the benefit of members of the association only. The question now occupying the attention of the committee was that of a good library of the best standard works on matters horticultural, and when this object had been obtained, the Birkenhead association would be on an equal footing with any such association in Great Britain, and one that any gardener might be proud to be a member of. The association had up to the present been most successful in every way, and been fortunate enough to secure good financial assistance from the leading employers of gardeners in and around Birkenhead. The Secretary announced the receipt of several donations, amounting to £3 17s. 6d. The chairman next addressed those present, and congratulated the members on the success which had attended their efforts.

### DEVON AND EXETER GARDENERS' ASSOCIATION.

JANUARY 15.—The opening meeting of the spring session was held on the above date, when the Hon. Secretary (Mr. Hope) read a paper contributed by Mr. Alfred Gutram, of Messrs. Sutton & Sons, on "The Progress of Horticulture in the United States." As the paper was read in 1894 before the members of another society, the details have already been noticed in the gardening press. A good and useful discussion followed.

It was pointed out as affecting competition between fruit-growers on this side, and those on the other side of the Atlantic, that, while a barrel of Applescost 2s. 3d. for carriage between Exeter and Covent Garden, the charge from New York and Liverpool to Covent Garden was 1s. 6d. And while good orchard land in England had to be rented on lease at a cost of £3 to £4 per acre, the same quality of land could be bought outright for the same amount in many of the States. It was pointed out, too, that the United States Government had established experimental stations in many parts of the country where scientific trials were carried out which were of great value to horticulture and agriculture, and in this way helped these industries. Regarding introductions from America, Mr. Hope drew attention to the assertion made some time ago that Potatoes introduced from America to England retained their purity of stock and special features of excellence, showing it the first season of their being planted; while Potatoes of British origin, such as Champions, Regents, Magnum Bonums, and others, took two or three years to get acclimatised in the States and show their true character. Why is this? It was stated in the discussion that while horticulture in America had forged ahead, the pioneers and chief men in the craft there were Britishers. It was also a matter for congratulation in this country that the horticultural and floral necessities one reads of as being popular in America are practically unknown in this country. A hearty vote of thanks was passed to Mr. GUTRAM for his paper, and to Mr. POWELL, of Powderham Gardens, for presiding.

### EALING GARDENERS' ASSOCIATION.

At a recent meeting of this flourishing body of gardeners and amateurs, numbering between eighty and ninety members, Mr. John Barry, Chiswick, gave an interesting paper, entitled "Leaves Gathered Here and There."

The Great International Horticultural Exhibition of 1886 (amongst many other gardening topics) was referred to at some length, the decadence in specimen-plant culture since that famous horticultural gathering, being called attention to, and allusion directed to some of the specimen growers of that period, as Baines, Cole, Rhodes, Frazer, and many others. Local significance attached to the very successful part taken therein by the famous old local firm of Messrs. CHARLES LEE & SON.

Regarding local horticultural matters, the historical Chiswick Gardens of the Royal Horticultural Society were alluded to, suggestions being thrown out (with the laudable view of further developing and popularising the gardens for the benefit of the craft) that the Council should, in the future, afford facilities to young gardeners and others (to whom for many reasons it would be difficult to undergo a regular training course there) for witnessing, at stated times, the various cultural operations, such as the pruning of the society's fine typical collection of fruit trees, the influence of stock on scion, as to which most interesting experiments have been carried out at Chiswick. An insight, too, as to the various and valuable trials of new flowers, vegetables, &c., could not fail to furnish lessons of practical utility. Popular but not too lengthy lectures at Chiswick by competent men on the occasion of such visits by gardeners, &c., to practically illustrate matters would, it was thought, be of much benefit.

The subject of "Horticulture in the Hospital" was dealt with, this title being suggested by the good work carried on for the last four or five years by the Forest Gate Chrysanthemum Society, in allotting yearly a good sum to the West Ham Hospital as the proceeds of the Society's exhibitions. As being analogous to these praiseworthy efforts by the gardeners and amateurs of West Ham, attention was directed to the matter of concerts, &c., in aid of the Gardeners' Orphan Fund, and in which the Ealing gardeners rendered very substantial and much appreciated assistance in the past. As it claims upon the Fund grow yearly, without a corresponding increase of subscriptions to meet such urgent claims, the members present were urgently asked to take up again the matter of concerts.

In Chiswick (the headquarters of the Fund), the concert, which had been annually a great financial success, had been abandoned. Chiswick gardeners, &c., were, however, urged not to slacken in such truly good efforts.

A very good discussion ensued upon the various points of interest raised in the paper, at the conclusion of which a vote of thanks was unanimously accorded to Mr. Barry.

### HORTICULTURE AT CORNELL.

IN response to a request from the editor of *Science*, a brief outline of the purposes and methods of the work in horticulture at Cornell University is here given. This is the more willingly given because no full statement has been made of the capabilities which the subject of plant cultivation offers as a means of education. Horticulture is ordinarily taught in a technical or professional way, as a direct training for the intending farmer or gardener; but the purpose at Cornell has been much different, and it may be said broader than this. The subject seems to be capable of adding much to the value of a course of liberal academic training. In the older fields of education, such an outline as is here proposed might seem to be presumptuous, but in view of the novelty of the present subject, and the awakening interest in it, the sketch may perhaps be pardoned.

#### MATERIAL EQUIPMENT.

Before proceeding to the more important aspects of the subject, the reader may desire to know something of the facilities for the teaching of horticulture at Cornell. The material equipment is not large. It is exceeded in several other institutions in the country. If landscape gardening be added to the subject, it must be said that the equipment and facilities in this theme are practically nothing. The horticultural department comprises two diverse yet cognate lines of effort, the teaching and the research. The latter is commonly known, now that the experiment station idea is widespread, as experiment work. The same lands and glass-houses serve the two purposes. About ten acres of hilly and uneven land, upon which a miscellaneous but not large collection of fruits is growing, are allotted to the department. Something over an acre of this area is set aside for flower-growing. The glass-houses comprise eight structures, all connected, with an aggregate glass area of less than 9,000 square feet. These are plain, cheap structures, of which the total original cost, including heaters, was about 4,000 dollars. They are of the forcing-house type, and are adapted to the growing of the ordinary com-

mercial crops, such as winter Melons, Cucumbers, Tomatoes, Lettuce, Beans, Carnations, Chrysanthemums, and the like. There are no museum collections, except a very valuable and rapidly-growing herbarium of cultivated plants, in which there are now about 9,000 specimens. The small equipment is admirably supplemented in some directions by the orchards and gardens of the State, for it is the purpose to rely much upon the actual condition of horticulture in the Commonwealth as a basis of experiment and research. There are many experiments of importance which are now going forward on the farms of New York State; and whenever the investigation is of such a character that it can be conducted satisfactorily off the University premises, it is in some respects better for the allocation, because it spreads the work before a larger constituency, and ensures an accurate measure of its practical worth. But for teaching purposes these remarks will not apply.

#### THE MOTIVE OF INSTRUCTION.

The teaching of horticulture is of very recent origin. There are only two or three professorships of horticulture, uncombined with related subjects, in the whole country. The teaching of both agriculture and horticulture is commonly conceived of as a training for actual participation in these occupations. Most of the agricultural colleges are essentially training schools, at least so far as these subjects are concerned, and it is incontrovertible that they have exercised a powerful influence for the betterment of rural life. The Cornell teaching aims not so much to make farmers as to educate farmers' sons and daughters. In other words, its fundamental idea is to give those students who anticipate a rural life, such a breadth of training as will put them into touch and sympathy with the traditions of education, with all the larger movements of the day, and which shall enable them at the same time to understand the fundamental reasons of their own occupations. There is less attempt to apply the teaching upon the University farm than to instill a desire to master the underlying principles of agriculture. There is, therefore, no compulsory labour system any more than there is in the teaching of engineering or archaeology. The student can ill afford the time while at college to perform mere manual labour. He must give all his strength to the acquirement of knowledge, and even then he finds four years all too short in which to grasp the essential principles of the complicated rural pursuits. Teaching is done by class exercises and by laboratory work, as it is in all other scientific and technical subjects at the present day. If the student hears a lecture upon the philosophy of the rotation of crops, he also goes for a walk with the professor over the fields of the University-farm and of adjoining lands, and there observes the good and bad points of farm management. Or, if he hears a lecture upon winter Tomatoes, he also goes with the instructor, or alone, from day to day, and studies the Tomatoes as they grow under glass. The sum of education as it applies to rural affairs is comprised in the two words, judgment and management; and the student needs to have his mind opened by thinking upon economic, language, history, and general science quite as much as upon some of the particular subjects with which he is to deal in a more intimate way. The student should be a citizen before he is a farmer.

If the student once masters principles, he is able of his own resources to apply them. Yet many mature students come to us—some of them graduates—who have been taught the applications, the methods of doing farm work, but who are greatly ignorant of the fundamental principles upon which these applications rest. From all these remarks, it is apparent that much of the teaching does not lead directly, of itself, to better farm practice, but it aims to educate the student. Its effect upon the student is certainly salutary. As soon as he comes to learn that agricultural practice rests upon certain great laws, the operation and control of which are largely in his own hands, he becomes enthusiastic, and develops a deep and abiding love for rural life. This result is not obtained by the mere training-school. *Science.*

### TRADE NOTICE.

THE business of Mr. W. J. Watson, nurseryman and seedsmen, of Newcastle-on-Tyne, who died on the 7th inst., will in future be carried on under the same management, and with the same title, in the interests of the deceased's wife and family.



Obituary.

MR. JAMES COLE.—We regret to have to announce the death of Mr. James Cole, third son of the late Mr. Wm. Cole, of Joy Lane Nurseries, Withington, near Manchester. The deceased commenced his career as propagator under his father, at Withington, in 1854, where he remained until 1872. He then left England for America, where he acted as manager to Such, South Ambay, New Jersey, for many years. On his return to this country, he entered the service of Messrs. Ireland & Thompson, Edinburgh, as manager of the Craighleigh Nurseries. Leaving this post, he took up a similar one with the successors of the late John Standish, of Acot, where he remained about four years. From this place he proceeded to London, and joined the firm of John Laing & Son, where he remained until March, 1895. Failing health caused him to give up work, and on January 14, 1896, news was received of his death at the age of fifty-four years. He was interred at Wilmslow churchyard, Cheshire, last Monday.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, and BRIGHT SUN. Rows list districts 0 through 13 with corresponding weather data.

The districts indicated by number in the first column are the following— 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W. 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending January 18, is furnished from the Meteorological Office:—

"The weather was unsettled, with rain at times, during the earlier half of the period, but subsequently became fair over the greater part of the Kingdom. In the extreme west and north, however, the conditions continued unsettled throughout the week.

"The temperature was just equal to the mean in 'Scotland, N.,' but exceeded it considerably in all other districts, the excess ranging from 3° in 'Scotland, E.,' to 5° in 'Ireland,' and to 6° in the 'Midland Counties.' The highest of the maxima were recorded on the 17th, when they varied from 55° in the 'Midland Counties' and 'Ireland, S.,' to 51° in 'Scotland, N.' The lowest of the minima were registered during the early or middle part of the period, and ranged from

20° in 'Scotland, N. and E.,' to 32° in 'England, S.W.,' and 33° in 'Ireland, S.,' and to 38° in the 'Channel Islands.' "The rainfall greatly exceeded the mean in 'Scotland, N.,' and to a slight extent in 'Scotland, E.,' 'England, N.W.,' and 'Ireland, N.,' while in 'England, N.E.,' the fall just equalled the normal. In all other districts there was a deficit. "The bright sunshine was more prevalent generally than it has been of late, but was still less than the normal except in 'England, N.E.,' and 'N.W.' The percentage of the possible duration ranged from 23 in 'England, N.E.,' 21 in the 'Channel Islands,' and 18 in 'England, N.E.,' to 10 in 'England, S.,' and 'Ireland, S.,' and to 6 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, JANUARY 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general average for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various plants in pots such as Adiantum, Aspidistra, Azalea, Chrysanthemums, Cyclamen, Dracaena, Erica, Evergreen Shrubs, Ferns, etc.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers such as Arums, Azaleas, Bouvardias, Carnations, Chrysanthemums, Eucharis, Gardenias, Hyacinths, Lilacs, Lilies, etc.

ORCHID-BLOOM IN VARIETY.

Table listing prices for orchid blooms in variety such as Apples, Apricots, Beans, Cauliflowers, Mushrooms, Cucumbers, Onions, etc.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for various vegetables such as Beans, Cauliflowers, Mushrooms, Cucumbers, Onions, etc.

POTATOS.

Trade remains very dull, and prices rule low. NEW POTATOS. Canary Island supply gradually increases in quantity. Myatt's from 3d. to 5d. per lb.; Magnums, 2d. to 3d. do.; Malta Kidney (few only), 12s. to 16s. per cwt. J. B. Thomas.

SEEDS.

LONDON, Jan. 22. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Foad, Borough, London, S.E., report to-day's market thinly attended, with but little

business doing. There is an abundant supply of Clover and Grass seeds at moderate rates. Values all round show this week no important alteration. For bird seeds, the sale is slow on former terms. The new Wisconsin Green Peas just arrived in London; being good boilers, handsome in appearance, and low in price, attract increasing attention. There is no change in either Mustard or Rape seed. Tares, both spring and winter, meet an improved inquiry. In linseed the tendency is upwards. Haricot Beans keep firm.

FRUITS AND VEGETABLES.

BOROUGH, Jan. 21.—Quotations:—Savoys, 3s. 6d. to 5s. per tally; Sprouts, 1s. to 1s. 6d. per sieve; Carrots, 2s. to 2s. 6d.; Turnips, 1s. 6d. to 2s. per dozen bundles; Onions, 2s. 9d. to 3s. 6d. per bag; Horseradish, 10d. to 1s. per bundle; Apples, 4s. to 6s. per bushel.

SPITALFIELDS, Jan. 21.—Quotations:—Savoys, 2s. to 3s. per tally; Bunch Greens, 1s. 6d. to 2s. per dozen; Sprouts, 1s. to 1s. 3d. per half sieve; do., 2s. 3d. per bushel; Lettuce, 1s. per dozen; Turnips, 1s. 6d. to 1s. 9d. per dozen bunches; Carrots, 1s. 9d. to 2s. per dozen; Rhubarb, 1s. to 1s. 3d. per dozen bundles; Celery, 10s. to 15s. per dozen bundles; Turnips, 2s. to 3s. per ton; Carrots, 22s. 6d. to 27s. 6d. do.; Parsnips, 35s. to 40s. do.; Lettuce, 20s. to 25s. do.; Apples, dessert, 4s. to 5s. per bushel; cooking, 3s. to 3s. 6d. do.

STRAFORD, Jan. 21.—Trade has been rather slow. There has been a large supply of vegetables, such as Greens, &c.; consequently, slow sale. Potatoes of good quality meet with a fair demand. Quotations:—Collards, 1s. 8d. to 2s. per tally; Savoys, 2s. to 3s. do.; Greens, 1s. to 1s. 6d. per bag; do., 1s. to 1s. 3d. per dozen bunches; Cauliflowers, 1s. 6d. to 2s. per dozen; do., 5s. to 7s. per tally; Carrots (household), 2s. to 30s. per ton; do., cattle feeding, 18s. to 24s. do.; Parsnips, 6d. to 12d. per score; Mangels, 12s. to 16s. per ton; Swedes, 13s. to 17s. do.; Onions, English, 90s. to 100s. do.; do., Dutch, 3s. to 3s. 6d. per bag do.; Bordeaux port, 5s. to 6s. per case; Apples, English cookers, 2s. 6d. to 4s. per bushel; do., American dessert, 2s. 6d. to 3s. 6d. per barrel; do., Nova Scotia, 12s. to 14s. do.; Scotch Kale, 6d. to 9d. per sieve; Beetroot, 6d. to 8d. per dozen; Horseradish, 1s. 1d. to 1s. 3d. per bundle; Parsley, 1 1/2d. to 2d. per bunch; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; Rhubarb, forced, 1s. to 1s. 6d. per dozen bundles; 8d. to 1s. per roll; White Turnips, 1s. 6d. to 2s. per bag.

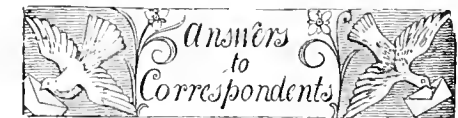
FARRINGTON, Jan. 23.—Quotations:—Savoys, 4s. per tally; bunch Greens, 1s. 6d. per doz.; Sprouts, 1s. 3d. per half-bushel; French Beans, 6d. per lb.; Sea Kale, 1s. per punnet; Orly Kale, 1s. per bushel; Lettuce, 1s. 6d. per dozen; Turnips, 2s. per dozen bunches; Carrots, 3s. do.; Horseradish, 1s. 2d. per handle; Parsnips, 1s. per score; Parsley, 2s. per dozen bunches; Rhubarb, 1s. 3d. per dozen; Onions, 3s. 9d. per bag; Endive, 2s. per dozen; Lettuce, 1s. 6d. do.; Grapes, English, 1s. 6d. per pound; Apples, Wellingtons, 7s. per bushel; Blenheim, 5s. do.; Baldwins, 18s. per barrel; Greenings, 15s. do.; Newtown Pippins, 18s. do.

STOKE NEWINGTON, STAMFORD HILL, AND CLAPTON CHRYSANTHEMUM SOCIETY.—We are informed that the Secretary and Treasurer of this Society, Messrs. L. H. and S. CALVERT, have placed their resignation in the hands of the President of the Society.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

ORANGE GROVES AT SALCOMBE.—I am told that on the Devon or Cornwall coast there is an Orange grove, at a place called Salcombe, the fruit of which comes to perfection every year (?), the plants mentioned remaining in the open air the year round. Can any reader give information? J. B.



AGENT OF PAPER: R. S. T. South African Planter's Gazette. We are unable to discover this paper in "Sells" list. The Planter's Gazette and Export Journal is published by Keppel Jones, 32, Fenchurch Street, E.C.

BARKING VINES: A. D. B. Not desirable, unless the Vine are infested with insects, such as mealy-bug, red-spider, and thrips, and then merely the rough bark should be rubbed off.

BOOKS: W. W. S. The Amateur Orchid Cultivator's Guide Book, by H. A. Burberry, Highbury, Birminghamp.—H. D. You should obtain the paper On Prises, read before the Royal Horticultural Society on May 14, 1889. It is published as a pamphlet, and will be supplied on application to

the secretary of the Society, 117, Victoria Street, Westminster, London, S.W.—A. D. B. *The Tomato; its Culture and Uses*, by W. Iggulden, published at office of *Journal of Horticulture*, 171, Fleet Street.

CLIMBERS TO COVER AN OLD TREE: B. C. M. Clematises, such as *vitalba*, *flammula*, *montana*, *Jackmanni*, and many others. Other climbing plants to select from are *Virginian Creeper*, *Regner's Ivy*, *Menispermum canadense*, *Jasminum nudicaule*, *Honeysuckles* in variety, &c.

CELOYGYNE: A. B. *Celogyne cristata*, when well grown sometimes produces more than one spike to a pseudo-bulb.

FUNGUS: W. J. P. has sent us specimens of an Agaric which comes up on his Mushroom-beds as soon as they are fit for spawning, and wishes to know what is their name and influence. When they reached us there was nothing to be found but several naked stems, and a dark brown slimy fluid, which latter represented the dissolved "caps." In this condition the name is not to be guessed. Although so deliquescent, they are not a *Coprinus*, for the spores are elliptical, dark brown, not black, and about 12 by 7  $\mu$ . The strong odour resembled that of some *Hebelomas*, but the colour of the spores more like *Hypoholoma*. Each specimen wrapped separately in thin paper, and sent direct, might perhaps reach us sufficiently perfect for identification. M. C. C.

GARDEN STAFF: J. W. G. Without having seen the garden and house, and formed an idea of the sort of gardening pursued, we can merely roughly estimate the number of men at four, with one or two boys for the performance of light jobs. Gathering, packing, and taking produce to market, will entail much labour, that at first sight is unproductive.

GOOSEBERRY-WOOD DECAYED: W. G. The decay may be due to the lower part of the stem being attacked by a fungus, *Polyporus ribis*, or simply to old age. It would be advisable to dig below the roots in order to discover if any *Polyporus ribis* exists there.

INSECT ON ORCHIDS: C. P. The creatures found among the Orchids belong to the family of "spring-tails" (*Collembola*); they feed principally on decaying vegetable matter, and are not likely to cause damage. R. McL.

MICROSCOPES: J. P. We feel some difficulty in advising you, as we do not in the least know your capabilities or your requirements. You can get a sufficiently good student's microscope for £5 or £6, to which you can add if necessary, but you require training before you can use it to any advantage. You could get the training at a science school, if there is one near you.

NAMES OF FRUITS: J. Oliverson. 11, Lewis's Incomparable; 12, Golden Noble.—*Ficus*. 1, Cellini; 2, Emperor Alexander.—*Constant Reader*. 1, Blenheim Orange; 2, Cellini (?); 3, Tower of Glamis; 4, Fearn's Pippin; 6, Bedfordshire Foundling; Hollyberry not known by that name.—W. & J. B. 1, King of the Pippins; 3, Blenheim Orange; 4, Minshall Crab; 6, Dutch Codlin.

NAMES OF PLANTS: W. J. & Sons. The Daffodil sent is a form of *Narcissus telemonius plenus*. The trumpet-form often occurs, but never becomes fixed. Yours will probably be cut up another season like the rest of the flowers.—W. J. P. 1, *Schaueria calycotricha* (*Justicia flavicoma*, *J. calycotricha*, &c.); 2, Mistle-leaved Orange (*Citrus myrtifolia*).—S. P. D. 1, *Adiantum cuneatum mundulum*; 2, *Pteris longifolia*; 3, *Selaginella denticulata*; 4, *S. Mertensii*; 5, *Nephrolepis exaltata*; 6, *Davallia orata*.—G. N. *Calanthe veitchii* Turneri.—F. H. *Magnolia fuscata*—E. F. *Craesula cultrata*, *Bot. Mag.* t. 1940.—N. E. *Tusilago fragrans*.—Card. *Epidendrum polybulbo*.—W. H. S. 1, *Chimonanthus fragrans*; 2, *Oplismenus Burmanni variegatus*, commonly called in garden *Panicum variegatum*; 3, *Billbergia mutans*; 4, *Ardisia crenulata*.

ODONTOGLOSSUM CRISPUM: W. W. S. Do not be discouraged, Orchid culture presents no particular difficulties. The flower shoot was eaten at the base, probably by a predatory slug, and for these creatures you must be ever on the watch. It is a good plan to keep baits about the stages and on the pots for them: these may consist of hollowed halves of raw Potator, Carrots, &c., and examine these by candle-light as well as during the day.

POPLARS: *Robinia*. 1, 2. Poplars are very subject to die back, sometimes as a consequence of frost. The cracks caused by the frost allow of the access and germination of fungus-spores. A special fungus disease in Poplars has lately caused much destruction in Germany. 3, Sycamores; please send a bit of the var. 4, Yes; more bruising is caused by the *scabreur* than by the knife. Another time, please send your business letters to the publisher, and your questions to the editor.

ROMAN HYACINTHS: A. S. The bulbs seem to be healthy, but on cutting them open it is evident the flower-buds have never been formed, owing probably to climatal reasons. The bulbs will probably flower next year.

ROOTS OF PEACH: M. Mc. The root, that of the usual stock on which the Peach is worked, namely, some kind of wilding Plum, does not seem to be diseased, but rather to show a tendency to produce "suckers" from adventitious buds, which was plainly visible by the numerous swellings. This is universal in Plums, and a quite natural method of reproduction.

SEEDS FROM INDIA: W. W. *Sorghum vulgare*, Millet, a widely-distributed agricultural cereal, called variously *Dhurra*, *Darra*, *Dari*, &c.

VINE BORDER: S. May. The border is deep enough. The number of Vines in each house might be increased by two. The drainage is all right. The hot-water piping is sufficient, except perhaps for early forcing. You would do well to mix a large proportion of rather fibry loam and road-grit with the other ingredient, and less manure; in fact, it would be better to apply manure only as top-dressings and mulches. By all means keep "the boughs" out of the border, or you may have some injurious species of fungus spread through the soil; and if you can procure some thick sods, use these instead to keep the soil from getting into the drainage. Depend on liquid-manure and mulches, wherewith to feed the Vines. The border need not be made up all at once, but piecemeal, as the roots need space. The selection of varieties is a good one. Shake out the Vine-roots when planting them when at rest almost entirely, a nucleus may remain at the centre of the mass, and lay them out in straight radial directions, and at a variety of depths, those nearest the surface not being less than 4 inches deep. So as to encourage quick and good growth at the outset, some light, rich, slightly-sandy compost may be used about them, and for some distance beyond them, but no rank manure should touch the roots, and a slight mulch would do no harm if the soil of the border is light and porous, otherwise the more sunheat gets into the soil the better in this country. The slight shade afforded by a thin row of Sweet Peas, *Convolvulus*, or the like, does good in preventing a too rapid evaporation of moisture. Growing Vines may be planted in May. These should be grown on trays or box-lids, or any such-like contrivance, which measures about 2 feet square, the Vine-roots being covered with a mound of loamy soil. The plants should be got into growth, whether as cut-backs or canes left at half their length in the middle of the month of March, and grown on without undue coddling in a heated pit, without bottom-heat; affording water and manure-water also when the roots appear on the surface, syringing them twice daily, and otherwise treating them like Vines in pots. In May they may be pushed off the board into shallow holes made in the right positions in the border.

WEEVIL GRUBS IN STRAWBERRY POTS: X. Y. Z. A correspondent tells us that the simple immersion of the pot of soil in water for a few hours will bring the grubs to the surface. In certain stages of pot Strawberry growth, this course might be advisable, at others it would be likely to do much harm. It should not be adopted before the bloom is set, and a good head of leaves formed.

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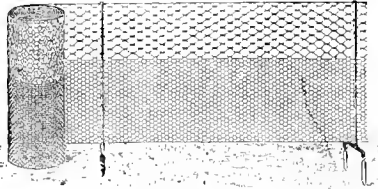
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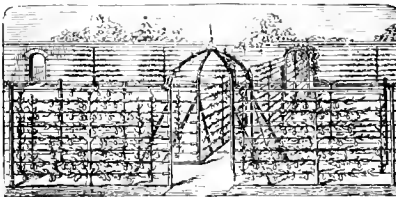
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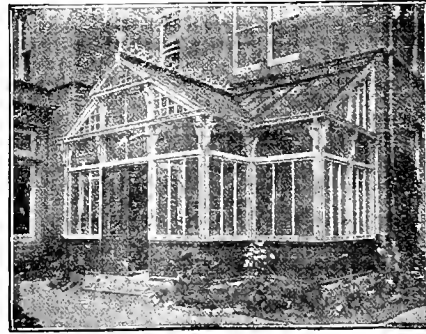
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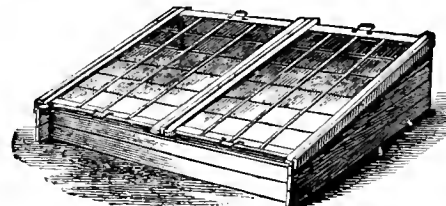
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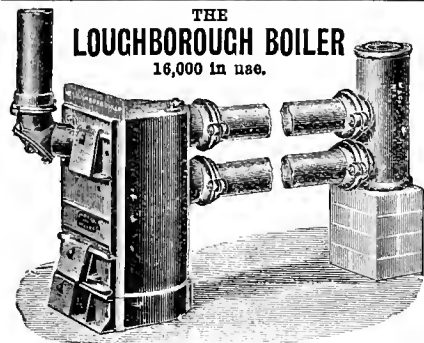
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Green, N.

# The GARDENERS' CHRONICLE

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## CONTENTS.

Apple, bush of Nonsuch	137	Judging, &c., rules for...	140
Apple, Dutch Mignonne	146	Juniperus rigida...	138
Aquilegia Skinneri	144	Lilies, Japanese, as articles of food and commerce	135
Belgium—Editorship of <i>Lindnia</i> and <i>Illustration Horticole</i>	142	Mechanical motors	144
Beuvelont Institution, Gardeners' Royal	141, 143	Morris, Dr., in America	141
Books—Notes for Judging, &c.	140	Orchid notes and gleanings	132
Caladiums, the culture of	137	Oriental Lilies	145
Carnation and its culture, the	135	Picea Morinda at Shelsley Walsh	132
Collecting tour in Jamaica, a	134	Rhododendron argenteum	144
Dendrobium Wardianum	145	Rhododendron × Numa...	133
Eucharis grandiflora at The Garroons, Hereford	145	Royal Horticultural Society, the	144
Farmers and fruit culture Florists' flowers	136	Scientific Committee of the Royal Horticultural Society	146
Forestry—Distribution of roots...	145	Seeds, growing unripe	145
Game covert, undergrowth in	115	Swinton Park	131
Gardeners' requirements	114	Vegetables, new and old favourites	136
Heythrop Park, notes from	112	Week's work, the	139
Flora note—Account for Daffodil bulbs	146	Flower garden, the	139
		Fruits under glass	139
		Hardy fruit garden, the	138
		Kitchen garden, the	139
		Orchid houses, the	138
		Plants under glass	138
		White-thorn, early budding of a	145

## ILLUSTRATIONS.

Apple-tree, Non-such, at Orwell Park, Ipswich	137
Rhododendron × Numa and its progenitors	133
Swinton Park, views in the grounds at (Supplement)	131
Watsonia O'Brieni in the gardens of H. M. Ardenne, Esq., Cape Town	143

## NOTICE TO ADVERTISERS.

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ESTABLISHED ORCHIDS, comprising Cattleya Trisanae, in sheath or flower; C. Mossiae, in sheath; Lælia purpurata, Dendrobium in variety, and fifty plants of Odontoglossum crispum, of the finest broad-petalled type, all unflowered, and fifty plants of Odontoglossum Pescatorei.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 6, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

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## SPECIAL SALE.

Pyramid Dwarf trained, and Standard Fruit Trees from a well-known grower, including many of the best kinds to name. BLACK and RED CURRANTS.

A Grand Collection of Border Plants, comprising a splendid variety of CARNATIONS, IRIS, HOLLYHOCKS, PYRETHRUMS, &c., a collection of STOVE and GREENHOUSE PLANTS, cool ORCHIDS, FERNS, and other PLANTS, rare Home grown LILiums, BEGONIAS, CANNAS, GLOXINIAs, AZALEAs, &c.

Lilium auratum and L. Krætzleri, from Japan. DAFFODILS, and NARCISSUS, 6000 Pearl and South African TUBEROSES, SPIRÆA JAPONICA, and others, Single and Double PEONIES, a fine lot of GLADIOLI, ANEMONES, DUTCH BULBS, &c.

Choice named Standard, Half-Standard, Dwarf, and CLIMBING ROSES, from a leading Nurseryman, including many of the best.

Ornamental Shrubs, Flowering Trees, and a Large Collection of HARDY BULBS and ROOTS.

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Monday Next, February 3.

150 AZALEA MOLLIS, 150 A. INDICA, 42 RHODODENDRONS, 48 CAMELLIAS and PEONIES, from the Continent; Choice GLADIOLI, 100 Lots of surplus BULBS, from a London Seedsman; Double Herbaceous PEONIES, CARNATIONS, DAHLIAS, English-grown LILIES, PHLOXES, SEAKALE, PYRETHRUMS, HOLLYHOCKS, IRIS, and ANEMONES; 300 Double and Single BEGONIAS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 3, at 12 o'clock.

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Tuesday Next, February 4.

IMPORTANT SALE of CARNATIONS (the newest and best varieties); new VIOLETS, VIOLAs, hardy CYPRIPEDIUM, IRIS, CALOCORCHI, BEGONIAS, TYGRIDIAS, HOLLYHOCKS, LILiums, in great variety; and a great assortment of rare HARDY PLANTS, HERBACEOUS PLANTS, 300 DWARF ROSES, &c.

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Wednesday Next, February 5.

A consignment received direct, comprising 4500 Bulbs of

LILium COLCHICUM,

including 750 extra large bulbs.

MESSRS. PROTHEROE AND MORRIS will include the above in their LILY SALE, on WEDNESDAY NEXT, February 5, at 12 o'clock.

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Wednesday Next—February 5.

GREAT IMPORTATION OF

## 582 CASES OF JAPANESE LILIES,

Comprising—

33,582	LILium AURATUM.
350	" " RUBRO-VITTATUM
540	" " MACRANTHUM.
1,000	" " ELEGANS
1,020	" " CORDIFOLIUM
200	" " KRAMERI
2,240	" " SPECIOSUM RUBRUM (New Variety)
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1,990	" " MELPOMENE.
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AMERICAN PEARL TUBEROSES; 2,000 choice Exhibition BEGONIAS, from an extra fine English strain of high repute; Hardy CYPRIPEDIUM, GLADIOIUS BRENCHELEYENSIS, SPIRÆA JAPONICA and ASTILROIDES, LILY OF THE VALLEY, BERLIN CROWNS and CLUMPS, 500 LILium SZOVIITZIANUM, and 200,000 SEEDS OF CORYPHEA AUSTRALIS.

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On view morning of Sale, and Catalogues had.

Wednesday, February 5.

## HEMEROCALLIS AURANTIACA MAJOR,

A Magnificent New Species,

ONE OF THE FINEST INTRODUCTIONS OF RECENT YEARS.

Large Importation of 900 Clumps, just received from Japan. By order of Messrs. Bunting & Sons, the entire shipment being offered.

The Plant is described and figured in the *Gardeners' Chronicle*, July 20, 1895, where, on p. 82 Professor BAKER states that it is the finest HEMEROCALLIS he has seen. It has also been figured in the *Gardeners' Magazine* and *Journal of Horticulture* for August 17 and August 16, 1895, respectively, and is most highly spoken of in every report. It received F.C. Certificate, Royal Hort. Soc., July 9, 1895, and also the Manchester Royal Botanical Society, July 24, 1895.

A Coloured Plate will be on view at the time of Sale.

Messrs. Bunting & Son were the first to introduce this valuable plant, receiving a few from Japan two years since, and the figure in the *Gardeners' Chronicle* was taken from a plant bloomed at their nurseries.

It is quite hardy and very vigorous, foliage deep green, flower spikes strong, bearing as many as twelve flowers in succession, 7 to 10 inches across, of a rich orange-yellow, quite distinct. The flowering period lasts from July to the end of August. It is in every way a most valuable acquisition.

N.B.—The Auctioneers beg to announce that they have seen some of the roots, they are very large and remarkably fresh, showing three or four crowns each, having also numerous tubers resembling strong Dahlia Roots after two years' growth.

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On view morning of Sale, and Catalogues had.

Thursday Next, February 6.

100 AZALEA INDICA and MOLLIS; 48 CAMELLIAS and PALMS from the Continent; 300 DWARF ROSES; STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 6, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, February 7.

By order of Messrs. W. L. Lewis & Co., Southgate, N. IMPORTED ORCHIDS, including Cattleya citrina magnifica (from a fresh locality), Epidendrum vitellinum majus, the gem of the genus; Lælia Pinelli, the grand new Jugapatubiana type, &c.

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Also, 24 Sophronitis grandiflora, and other Orchids, in flower.

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SPECIAL SALE of HARDY PERENNIALS, EXHIBITION HOLLYHOCKS, PANSIES, IRIS, CYPRIPEDIUM SPECIATUM, LILiums in variety, ANEMONES, TYGRIDIAS, MONTERETIAS, BEGONIAS, GLOXINIAs, DAHLIAS, CLEMATIS, TEA and other ROSES, CARNATIONS (new and old varieties), PINKS, PHLOXES, Double and Single PEONIES, AMARYLLIS, &c.

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CATTLEYA QUARICOENSIS, in perfect condition, with fresh green leaves. Only 100 plants were found, and all will be offered for Public Sale, and any will be sold privately. My collector writes:—"I found this superb Cattleya at an altitude of 2500 feet. It flowers in March; the locality where found is most difficult and dangerous, owing to the vast number of venomous snakes. The flowers are enormous in size; the first four days they are celestial blue in colour, afterwards changing to a light rose (the colour of a La France Rose), and lasting three weeks in perfection. My guide and myself had to swim the enormous river with these plants tied to large trees, there being no peons or mules to be had. My life was in great danger yesterday. I have to hide in the forests during the day, and travel at night. I also seed you a grand lot of—"

CATTLEYA LABIATA PERCIVALLIANA AUTUMNALIS, NEW, found on a mountain at an altitude of 2300 feet. It is quite distinct from the ordinary variety, and has never been introduced into Europe before. This is the scarcest of all Cattleyas in Venezuela, and most difficult to get. I had to cut my way through woods that were almost inaccessible. This variety is the richest in colour I have ever found, and cannot be too strongly recommended. Many white ones are amongst them, and some extra choice varieties, viz., formosa, splendens, Harmsos, elegans, pallida, pinuela, superba, and bigaudensis." Dried flowers of both species will be exhibited at Sale.

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HUGH LOW &amp; CO.

## 5000 DENDROBIUMS

From BURMAH, including

Wardianum, Lowii, primulinum, giganteum, and other varieties, in splendid condition.

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T. W. MUSKETT, Estate Agent, Wood Green.

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TO BE SOLD, a valuable old-established NURSERY and FLORIST BUSINESS. The Shop is situated in the best part of Lord Street. The Nurseries are a mile from town, and contain an acre and a half of land, leasehold 99 years from 1822. There is a good modern Dwelling-house attached, containing two Entertaining Rooms, and seven Bedrooms, &c. There are twelve Glasshouses, also heated Pits and Frames. The Nursery can be had with or without the Shop, and a considerable portion of money can be left on mortgage. This is a splendid opportunity, as the owner is retiring from business. For further particulars, apply—A. CAMPBELL, Nurseryman, Southport.

**Royal Gardeners' Orphan Fund.**  
**THE ANNUAL GENERAL MEETING** of the Subscribers to this Fund will be held at "Anderson's Hotel," Fleet Street, London, E.C., on **FRI DAY, February 21** next, for the purpose of receiving the Report of the Committee, and the Accounts for the past year; to appoint officers for the ensuing year, and to elect Ten Children to the benefits of the Fund. The Chair will be taken at 2 o'clock. The Poll will close at 4 o'clock, after which no Votes will be received. By Order,

A. F. BARRON, Hon. Sec., Chiswick, Jan. 18, 1896.  
 The voting papers have all been issued. Any subscriber not having received one, is requested to communicate with the Secretary.

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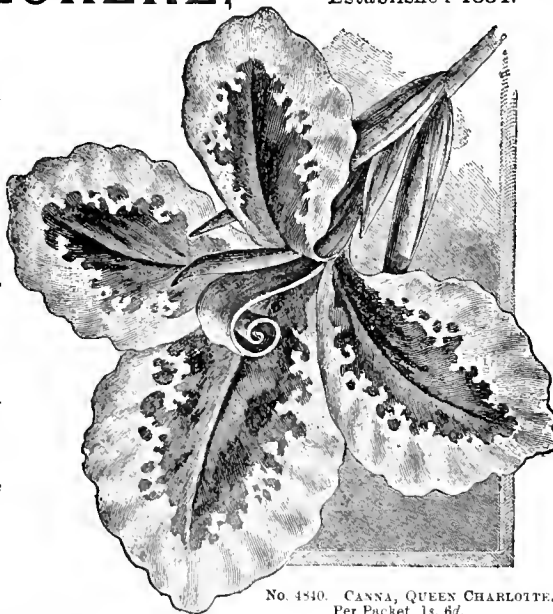
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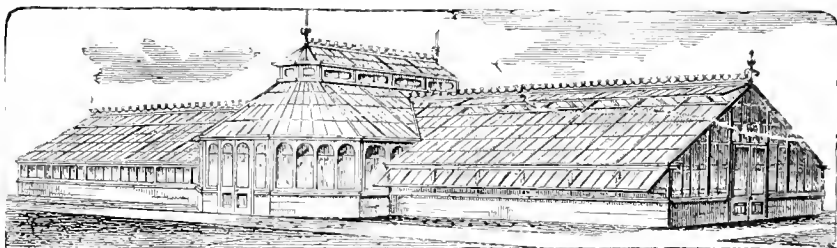
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# THE Gardeners' Chronicle.

SATURDAY, FEBRUARY 1, 1896.

## SWINTON PARK.

OF all the English counties, Yorkshire, as every one knows, stands forth as the largest and most varied; fewer people perhaps realise that it extends—not quite, as the Irishman said, "from the Atlantic on one side, to the Pacific on the other," but from the North Sea on the east side, to within ten miles of the Irish Sea on the west. The climate of this great county being variable and in parts inclined to be rigorous, many shrubs and flowers, suited to perfection in the comparatively mild climate of the south-western counties, thrive only imperfectly in most parts of Yorkshire.

Here and there, however, among the dales, these adverse circumstances are apt to be absent or materially modified, so that many plants which are liable to be severely cut by the hard winters on the cold soil of the plains, may here be induced to thrive. Very considerable difference in temperature is often observable even in short distances, as, for instance, between Harrogate and Pateley Bridge (fourteen miles), where, at the latter place, the mean temperature will probably average several degrees less. Another circumstance in favour of better success in the valleys with the more tender subjects is the fact, that snow (Nature's cloak) falls usually more heavily, and lies longer than in the open country.

Along the courses of the Wharfe and Ure especially, both arboriculture and floriculture are pursued with very considerable vigour, and many are the private estates and gardens where a large amount of success is annually attained. The noble timber found at Bolton Abbey, Fountains, &c., are becoming, year by year, increasingly world-famous; whilst several, Nidderdale or Yoredale gardens, would be more so if better known.

When Baddeley, in his recent excellent *Guide to Yorkshire*, wrote that "a *détour* from Masham to Hackfall (both on the Ure), may be made past Swinton Park, the seat of Samuel Cunliffe Lister, Esq. (now Lord Masham) who owns an appreciable portion of the "shire of the broad acres," it was but a mild hint that there we have one of the finest estates in Yorkshire, and second to few in the British Isles! The Swinton Park estate measures some 22,000 acres, and includes extensive grouse-moors, woodlands in which the timber was valued in 1883 at £80,000, rich pasture-farms, miles of trout-streams, and is one of the three large estates situated in, or contiguous to, the Ure valley under the ownership of the noble lord. The other two, viz., the Jerveaux estate of 11,000 acres, and the Middleham estate of 1000 acres, need not now be further mentioned, though each of them is remarkable in their way, and worthy of special description.

A former owner of Swinton Park, the late Mr. William Danby, though doing much, it is true,

to improve the estate by planting and otherwise, had a most unfortunate craze for building mock Druidical temples, which are distributed about the estate, and by no means improve it, nor serve as a compliment to the holy men of old!

The actual park of Swinton is enclosed by a wall, the circumference of which measures three miles, and contains a large number of fallow deer; and some excellent timber—Oak, Ash, Beech, Sycamore, &c., being beautifully associated or intermingled with the more sombre hues of evergreens. Here some of the finest Silver Firs in Yorkshire may be seen, and also of Larch, one of the latter being over 11 feet in circumference at 4 feet from the ground, and measuring 14 feet 1 inch at 1 foot from the ground.

Since Lord Masham's advent at Swinton, a great many kinds of Conifers and shrubs have been and still are being added, with much care and good judgment. Amongst others, the following may be mentioned as thriving with considerable luxuriance:—

Cupressus Nutkaensis	Abies Douglasii taxifolia
" Lawsoniana	" Hookeriana (Teuga)
" compacta	" concolor
" erecta viridis	" violacea
" Allami	" polita
" stricta	" Nordmanniana
" Backhousiana	" Parryana
" Fraseri	" magnifica
Libocedrus decurrens	Pinus austriaca
Taxodium sempervirens	" Cembra
Larix europea	" Benhamiana
Retinospora plumosa	" excoisa
Araucaria imbricata	" Jeffreyi
Cedrus atlantica	" Laricio
" Libani	" Pallasiiana
Abies Albertiana (Teuga)	" sylvestris
Mertensiana)	Taxus baccata
" Pineapo	" aurea
" pectinata	" fastigiata
" canadensis (Teuga)	Thuopsis borealis
" orientalis	" dolabrata variegata
" Douglasii	Wellingtonia gigantea

Among the main features of this beautiful park is a series of charming sheets of water, surrounded by shrubberies, and beautifully sheltered—a paradise for water-fowl, both wild and semi-domesticated. One of these lakes especially abounds in fine pike and other fish, while the casual passer-by will probably flush wild ducks from the reedy sides, not by dozens, but by the hundred. A domesticated pair of black swans (*Chenopsis atratus*) inhabit the largest of the lakes. The banks of some of these sheets of water have been most effectively treated, artistic effect and horticultural fitness having been well studied and carried out under the direct supervision of the head gardener, Mr. Metcalf. Here and there the turf has reached right to the water's edge for several yards, sometimes relieved by effective groups of Spiræe, Tritoma, &c. At other points there are dense covers of Rhododendron, Laurel, or other low-growing shrubs, which overhang the water, and spread yards away up among the trees beyond.

The overflow water from the largest lake is so arranged that it can either be utilised for propelling the turbines used in electrically-lighting the castle and outbuildings, or be let off into a deep, natural ravine, which is sheeted with Ferns and mosses, and was formerly the sole outlet, the water thereby finding its way under the Quarry Bridge and new road into the Burne. This ravine, deeply embosomed among forest trees is a feature in itself, most enviable on any estate, and is beautiful in its uncultured wildness (see Supplementary Illustrations). Around the mansion itself, on the south side, the country is open and park-like, the beautiful wooded ridge called Nutwith, shutting in the view. Quite near to the building, on the same side, is a small sheet of water, upon which are swans, Canadian geese, and various kinds of ducks; whilst on the west side, the naturally rising ground has been tastefully laid out with rockwork and flower-gardens. Above this again is an elegant conservatory, with symmetrical flower-beds in front. The former containing a large bed of Camellias and well-grown greenhouse plants, such as *Bomarea conferta*, *Cassia corymbosa*, *Clematis*, *Begonia*, *Paeidorea*, *Abutilons*, *Lapageriae*, &c. One magnificent plant of *Lapageria rosea* covers a large portion of the roof, and bears an endless profusion of blossoms.

It is to the kitchen garden and fruit-houses that special attention must be given in this article. Among vegetables and fruit more especially, may be seen what skill can effect when combined with energy and perseverance. There are ranges of excellent forcing-houses, vineries, Peach-houses, greenhouses, &c., and their contents, generally speaking, are very high-class in quality, and excellently grown. An adept at the training of fruit trees, Mr. Metcalf has likewise successfully adopted the system known to Mr. Knight at the end of last century, of making regular-trained trees out of what had become irregular ones, by inarching an irregular branch, either up or down, across the main stem, in such a position that a gap is filled, and the tree artificially made perfectly symmetrical by the new branch thus inarched to the main stem. In some instances this system is adopted several times over on the same tree, and many kinds are thus "improved" in general appearance and fertility. Peaches, Plums, Figs, Pears, Cherries, &c., have been thus treated, and it is specially worthy of note that these altered branches thus treated are often most productive of fruit. Last season, of course, the fruit crop at Swinton was very heavy in almost every kind, enormous crops, especially of Victoria Plums (wall trained) having been obtained. Goose-berry-growing on espaliers is a specialty which is carried out to perfection at Swinton Park. The fruit grown by this method carry very heavy crops of large size, which can be readily protected from the birds by nets, and the system is highly recommended by Mr. Metcalf.

Indoor Peaches, especially Sea Eagle and Princess of Wales, were heavily cropped, but are not favourites, though well done. Among the Grapes were very fine large bunches and berries; the sorts grown are Black Hamburg, Alicante, Lady Downer, Golden Queen, Mrs. Pearson, Venn's Black Muscat, Muscat of Alexandria, and Gros Colmar—the two latter are the favourites. Tomatoes figure extensively; a special seedling raised there by Mr. Metcalf is readily distinguishable from its nearest allies by a peculiar shade of red, and is of considerable merit, both in size, form, and flavour—a cross between Perfection and Dordham Favourite.

Even for comparatively common fruit trees, Mr. Metcalf is in the habit of very thoroughly preparing the ground by excavating inferior subsoil, and after placing good drainage, filling up again with a good feeding soil. In this way remarkable success is attained, and Lord Masham is certainly to be congratulated in the possession of such an estate, and a gardener of intelligence and skill. It will doubtless be remembered that in 1879, Mr. Metcalf was one of nearly 200 competitors for the post of head gardener at the Crystal Palace, London, and only lost it by a casting vote, being equal with the successful candidate, J. Backhouse.

### PICEA MORINDA.

THE Morinda is growing in my garden, about 170 feet above the sea (Ordnance Survey), on the edge of a running stream, the water of which is very limy, so much so, that it petrifies things in course of time, and a stone is formed along the course of the brook, which is a complete petrified stone, called Travertine, containing 84 per cent. pure lime. This is a most valuable stone for building, and our church, 800 years old, is built entirely of it. I have quarried and used for some years quantities of this stone for building purposes, and have lately built a lodge of it. It is a white stone, very light, and easy to cut with an axe or saw, but hardens on being exposed to the air; and I have cattle-sheds here of it built 200 years ago. The Morinda hangs over this stream, and doubtless the water gets to the roots of it. The tree is well sheltered from the north-west, west, south-west, and south, lying in a hollow, surrounded by hills, 300 to 400 feet higher; the top of it is exposed to the north-east, east, and south-east; it is not perfectly upright, but leans slightly, and several of the larger upper branches have

turned upwards again, and have formed almost a young tree on each, some 40 ft. from the ground. The main largest branch was broken off four or five years ago by the weight of snow on it; this had formed a veritable young tree. The lower branches drooped on the ground, forming a fringe round the tree. This I had removed, as it got dead-ended every few years. I am now referring to twelve or fourteen years ago; but now, at the present time, none of the branches reach within 5 or 6 feet of the ground, and the tree is certainly at a standstill, if not going back. At one time you could hardly see daylight, looking up the bole of the tree; but now it is naked and bare in many places. Very few cones grow now, and I am certain the tree is going down hill. The tree has a clear straight stem of 25 feet or more, without a knot or branch, then an immensity of branches starting in all directions from the trunk. It was planted originally too close to a Yew which is said to be 400 years old, and two have grown against each other, which has spoilt the two trees. Conifers of all sorts do well here, there are several fine specimens round the garden grounds, which my old cowman, now dead, told me he had helped his old master to plant as nearly as possible sixty-five years ago from now—chiefly common Spruce and *Abies nigra*. I have planted lately, three to four years ago, a quantity of Conifers of all sorts here, in a belt round the western side of the gardens, and they are all doing well, with the exception of *Abies orientalis*, *finlandensis*, and *polita*, which do not seem to get on like the others, but *lasiocarpa*, *grandis*, *nobilis*, *C. atlantica* and *C. Deodara* grow wonderfully well. I have some good Douglas, planted twenty years ago, also a grand *Thuja* (moved as a small shrub twenty years ago), which covers, I think, 12 feet of ground (12 feet diameter), and towers above everything else of its age. I have also planted a quantity of *Thuja* of different sorts, and they all grow remarkably well here, after once getting a start; on this strong loam they are more backward in starting, but when they catch hold of the ground they make good growth. I am thinking of planting a quantity of Douglas in the woods for timber and for game covert, but they are so very expensive to buy from the nurseries. I am going to buy seedlings of them this spring, and plant them for a couple of years or so in a nursery, and then plant out; we have to protect much here from rabbits, which spoil everything not wired in. The hard winter last year did us a great deal of damage, especially to the shrubs, and one *Deodara* (thirty years old or more) lost all its needles, and was quite bare in the spring, until the young shoots came, but this was helped partly by the smoke from the greenhouses, which blew into the tree when the wind is south. I have heard that the *Morinda* was mentioned in one of the papers many years ago, but am not certain [see *Gardeners' Chronicle*, June 8, 1872, p. 766]. I think there are some good specimens of *Morinda* at Witley Court and elsewhere, grown from seed off my tree, specimens probably thirty or forty years old. *Montague H. Taylor, Shelsley Walsh, near Worcester.*

### ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUM × CHARLES RICKMAN.

IN Capt. Schofield's collection at New-Hall-Hey, Rawtenstall, is a well-grown plant of this beautiful hybrid. This collection has been in existence to my certain knowledge for over a quarter of a century, and the owner has grown many choice Orchids during that time, his taste latterly favouring *Dendrobes* and *Cypripeds*. Among a collection of the latter, this hybrid (*barbatum* × *bellatulum*) stands clearly out as a gem, and one in which the *bellatulum* strain is very pronounced. The vigour of growth of *barbatum* is very noticeable, consequently the peduncle is twice the length of that of a typical *C. bellatulum*, while the foliage is beautifully marked and otherwise vigorous. The flowers, of which one peduncle was carrying two, was an admirable suffusion of the spotting and flushing of the pollen-parent, with the rich tawny colour of the seed-bearing parent. The dorsal sepal is roundly ovate, with

radiating rays of a deep vinous-purple colour, lightish ground, the centre rays being Indian-red; it measured 2 inches across the centre. The inferior sepal is about half the size of the dorsal, and involute. The petals in their breadth are very striking, and they are ovate, rounded at the extremity, with the pleasing spots of a vinous-red, which same tint is diffused over the pale ground colour. The breadth of these lines is  $1\frac{1}{8}$  inch. The pouch is that of *C. barbatum* in shape and colour, but of a richer finish, and the size proportioned to the other parts of the flower. The staminode is prominent, also richly coloured, resting in the base of the upper lobes of the lip. This is certainly a worthy addition to the *C. bellatulum* crosses, which

increase in size each year, and the leaves possess the deep-green tint which is the best sign of health. The temperature of the house in which the plant is growing is not allowed to fall below 50°, nor is great heat afforded at any time, not even in the summer, air being admitted freely to reduce the temperature. This white-flowered Lycaste is a favourite with every orchidist, and it has the great merit that it continues to bloom for a long period of time. *J. A.*

CATTELEYA LABIATA, WHITE VARIETY.

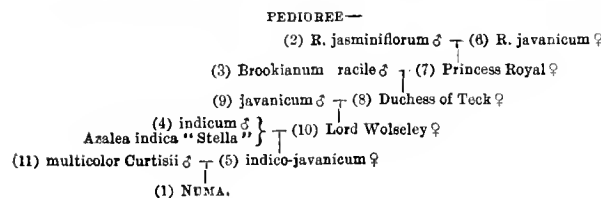
In the beginning of last month flowers of a very handsome variety of *Cattleya labiata*, with pure white sepals and petals, and having a crimson-purple tinted blotch on the lip, was sent by Joseph Broome, Esq.,

RHODODENDRON × NUMA.

The complex hybrid illustrated (fig. 20) is a remarkable acquisition, and is interesting both in its horticultural and scientific aspects. As shown by the pedigree given below, four distinct species of *Rhododendron* are concerned in the ancestry, the result of the various crossings being a distinct and beautiful plant that will prove a valuable addition to horticultural resources for the decoration of the warm conservatory and greenhouse at a season of the year when such additions are most needed. Its great merits as such are its dwarf habit, neat foliage, floriferousness, and the pleasing and bright colour of its handsome trusses of flowers. It was raised in the Chelsea



FIG. 20.—RHODODENDRON × NUMA, AND ITS PROGENITORS.



are now becoming common. It has been grown here for nearly two years, and Mr. Jones, the gardener, says that he finds the plant grown in the ordinary materials, with a few chips of limestone intermixed, is very free in growth.

LYCASTE SKINNERI ALBA.

In an intermediate-house of A. Warburton, Esq., Vine Lodge, Haslingden, is a specially-grown piece of *Lycaste Skinneri alba*, which has been flowering for some time, and will continue in bloom for months; it has flowers of fine form and purity. It is a plant that is neither over-potted nor excessively supplied with water, and its leaves and pseudo-bulbs are flawless. It is kept near the light, and the owner and his gardener are careful not to move it from a place where it has done so well. The pseudo-bulbs

of Sunny Hill, Llandudno, which is interesting for various reasons. The flower resembles those of *C. labiata* Cooksonia; but if it is like *C. l. Cooksonia* of the autumn-flowering class, it must have been in the country long before any other white forms of that favourite winter-flowering Orchid, for Mr. Broome had it some years ago when he grew his fine collection of Orchids at Wood Lawn, Didsbury, Manchester. The plant was removed to Llandudno when he went to reside there. It may be that it is a singular form of *C. labiata* Trianei, although in texture, odour, and general appearance it looks more like a white autumn-flowering *labiata*. It seems to prove that in good hands Orchids need not necessarily degenerate, for Mr. Broome has grown this from a very small plant. This year it bore three fine spikes of flowers. *J. O'B.*

establishment of Messrs. James Veitch & Sons, who received for it an Award of Merit from the Royal Horticultural Society on November 12, 1895.

Perhaps the most noteworthy fact in the origin of *Rhododendron × Numa*, is its being a connecting link between the Indian Azalea and the Javanico-jasminiflorum group of hybrids. It is now nearly 15 years since Mr. Heal, a foreman at Messrs. Veitch's Chelsea nursery, commenced a series of experiments with the object of bringing about a union between the Indian Azalea and the Javanese group of *Rhododendrons*. The success so far achieved has been but very partial; the seedlings raised from the crosses have been very few in number, and these are slow in growth, and shy in flowering. This is no more than might have been expected from attempts to cross species botanically regarded as belonging to two



very distinct sections of the genus, such as are *R. indicum* and *R. javanicum* and its nearer allies; and it is, moreover, quite in accord with the experience in hybridisation gained in Messrs. Veitch's establishment. Nevertheless, the cross has been effected, and the first result was described and figured by Rev. G. Henslow in the *Journal of the Royal Horticultural Society*, vol. xiii., p. 258. To render that acquisition more available for horticultural use, Mr. Heal fertilised a flower of the free-blooming species *R. multicolor* var. *Curtisii*, with the pollen of the indico-javanicum hybrid, which has proved a happy hit for the resulting progeny, *R. X Numa*, although of dwarf habit, grows as freely and flowers as profusely as can be desired.

In the illustration at fig. 20, the central plant, No. 1, is the new hybrid *Numa*. Its progenitors are indicated by numbers on the woodcut, with corresponding numbers on the pedigree beneath. Thus, the first cross was between 2 (*jasminiflorum*), and 9 (*javanicum*), and so on.

### A COLLECTING TOUR IN JAMAICA.

LEAVING home early in the morning, accompanied by a native collector to dry and look after such specimens as might be gathered, and a muleteer with a pack-mule loaded with drying paper, change of clothes, &c., we started on the first day's journey, a distance of about 35 miles, over a rugged and, in places, dangerous track. In a distance of about 30 miles we had to descend from near 5000 feet altitude to sea-level, in fact from the Blue Mountains to the coast. The first 6 or 7 miles of our track led us through forest land. Here may be seen huge *Yacca* (*Podocarpus coriariensis*), and other fine timber-trees, literally covered with Orchids, Bromeliads, Ferns, mosses and lichens; magnificent Tree Ferns, from 10 to over 30 feet high, with smaller growing Ferns, Filices, Selaginellas, mosses, &c., growing everywhere in the greatest profusion; *Datura suaveolens*, with its sweet-scented flowers; and the graceful wild Bamboo (*Chusquea abietifolia*), climbing amongst and over the bushes, and hanging in elegant festoons.

The soil is covered to the depth of a foot or more with leaf-mould and vegetable debris. Everything is damp and covered with dewy moisture, although no rain has fallen recently. Small streams cross the track at intervals, and a short distance off, on another spur of this great range of mountains, one gets occasional glimpses of a fine cascade tumbling over the precipitous rocks. The shade is dense, and the sun rarely penetrates, so that the air is always cool, the temperature probably ranging between 50° and 60° Fahr. This is where Ferns grow in luxuriance. At first sight it would appear that every conceivable form is here represented, but on closer examination it is soon found that the number of genera is small. *Nephrodium*, *Asplenium*, *Aspidium*, *Davallia*, and *Pteris* predominating, with, of course, *Hymenophyllum* and *Trichomanes* growing on almost every tree trunk, and the Tree Ferns, *Aleophila*, *Cyathea*, *Marattia alata*, *Danaea Moritziana*, and *Botrychium virginianum* are plentiful, growing in ravines, and in very shady, wet places. Selaginellas carpet the forest.

Leaving this Fern-clad forest, we entered a somewhat open country, with rather steep hills, which have been denuded of their fine forest growth, and are now covered principally, where not under cultivation, with bracken (*Pteris aquilina*), *Gnaphalium* (*Panicum maximum*), and a confused mass of many species of Malvaceæ, Leguminosæ, Myrtaceæ, Melastomaceæ, Compositæ, &c. "Bush" is the apt colonial term applied to stretches of mixed growth of this description.

Negro provision grounds are fairly numerous, and a few settlements are met with. The crops chiefly grown by people in this district are Yams, Cocoes (*Colocasia*), Bananas, Plantains, with here and there a patch of Coffee, Sugar-cane, Maize, Cocoa (Chocolate), and a few Breadfruit and other trees.

The soil is good, and, for a few seasons after the woodland is cleared, it yields enormous crops of Yam, &c., and with the aid of manure and proper methods of cultivation would doubtless continue to yield good crops; but as soon as the surface-mould becomes exhausted, or gradually gets washed off into the nearest gully or watercourse, the piece of land is abandoned, and allowed to revert to "bush," and a fresh clearing is made.

We rode for several hours through such land, stopping now and then to gather specimens of a tree or shrub noticed in flower or fruit, or to explore a likely ravine or thicket for such specimens.

As we drew nearer the coast, along the Swift River valley, we passed through abandoned sugar estates, and there was a decided change in the vegetation. Cocoa-nut Palms, Bananas, and Bamboos were the predominant features in the landscape; patches of Sugar-cane there were also, and around the negro huts were Chocolate, Lime (*Citrus*), Coffee, Annatto bushes, with the beautiful Akee, Kola-nut, and Avocado Pear trees. In the pastures were enormous Silk-cotton and wild Fig trees, and still nearer the coast the beautiful Mahoe tree (*Hibiscus tiliaceus*) is plentiful; also the Broad-leaf (*Terminalia latifolia*), Horse-wood tree (*Pithecolobium latifolium*), Rose-apple (*Eugenia Jambos*), and clusters of the magnificent Anchoy Pear tree (*Grias cauliflora*). Here we first noticed the "Sabana" Calabash (*Crescentia cucurbitina*), and on it we found in flower the pretty little *Ionopsis testiculata*. Farther on we noticed abundance of *Portlandia grandiflora* in flower, a very beautiful shrub, growing in the crevices of the limestone rocks. A space of probably 100 square yards of rock near the Swift River course was quite covered with *Davallia clavata*, an extremely elegant Fern, its creeping rhizomes running in every direction, and clinging to the damp limestone. *Ipomoea* of varied hues, *Entada scandens*, *Securidaca Brownii*, *Fevillea cordifolia*, *Philodendron*, *Syngonium auritum*, *Cardiospermum grandiflorum*, and numerous other climbers and creepers clothed the trees, trunks, and branches. Some of the large Silk-cotton trees were veritable tropical gardens, so covered were their huge limbs with Bromeliads, *Tillandsias*, *Echmeas*, *Guzmanias*; and Orchids, such as *Schomburgkia Lyonsii*, *Epidendrum fragrans*, *E. cochleatum*, *E. polybulbon*, *E. fucatum*, *Seraphyta multiflora*, *Oncidium luridum*, *O. triquetrum*, and others.

During the latter part of our first day's journey hundreds of peasantry passed us with bunches of Bananas; men, women and children carrying the bunches on their heads. Many of the men carried two bunches, one in a net slung on the back, the strap or band of the net placed across the forehead, and the other bunch balanced on the head. The women, boys and girls, usually carried one bunch each. They also had numerous donkeys loaded with fruit, each little animal not much bigger than the four bunches of fruit, two slung on either side, that it carried. These people were all hurrying at a jog-trot to Hope Bay to dispose of their produce, where they would get from 6d. to 9d. per bunch, according to size and quality.

The new line of railway, now in course of construction, runs through here, and on to Port Antonio, some 10 miles further along the coast. The line is being built by Americans, and, of course, everything American prevails. Even the Jamaica negroes employed as labourers on the line are beginning to "guess" and "calculate," and cultivate the American twang, and the results of their efforts are often most ludicrous. The work of excavating and levelling is progressing rapidly and in a very orderly manner. A large number of the famous Kentucky mules are employed on the line. They are splendid-looking animals, standing 16 and 17 hands high, and in excellent condition. The change of climate does not appear to have affected them in the least.

Hope Bay, like most of the villages or small towns on the north-eastern coast, is merely a collection of small houses and huts, uninviting and uninteresting. We got out of it as quickly as possible, and pushed on for St. Margaret's Bay, a village five miles to the

east, on the outskirts of which was our halting-place. Between these two villages is an almost continuous stretch of Cocoa-nut Palms and Bananas, extending for some distance inland. There are also some lagoons and swamps, in which we collected various water plants. We reached our resting place late in the evening, having been thirteen hours on our journey. We came through a splendid fertile valley, the scenery grand, and the vegetation tropical, luxuriant and beautiful. At every turn there was something to attract our attention, something to excite our admiration and wonder. Next morning we decided to explore the banks of the Rio Grande for a few miles up. This is a magnificent river, the second largest river in Jamaica, but owing to the hilly nature of the country through which it runs numerous rapids are formed—consequently it is of little use for navigation. It takes its rise in the Blue Mountain range above Bath, and on its course receives many tributaries from the same range of mountains. It empties into the sea at St. Margaret's Bay, where it is crossed by a fine iron bridge of six spans, each 80 ft. in length. This river passes through a splendid stretch of country, the soil deep, rich, and fertile. Here thousands of acres of Bananas are grown to perfection. We went up the course of the river about 4 miles, and in that distance had to ford it eight times. This had to be carefully done by keeping the heads of our animals well up stream. A careless rider or animal runs the risk of being carried down by the strong current. When this river is in flood, after heavy rains in the Blue Mountains, it is very formidable, and fording is out of the question. The waters rise 10 or 15 feet, and immense trees are washed off its banks and carried down by the raging torrent like strips of cork. Although not navigable for large boats, during fine weather "dug-out" canoes and rafts are employed to a considerable extent. By means of these, the settlers for several miles up the banks of the river convey their Bananas and other produce to St. Margaret's Bay. The "dug-out" canoes are made out of the trunks of the Ceiba or Silk-cotton tree (*Eriodendron anfractuosum*), or the West Indian Cedar (*Cedrela odorata*). The great trunks are hollowed out and fashioned to the requisite size and shape. Rafts are made of Bamboo-stems lashed together. When a canoe or raft is loaded with bunches of Bananas, a man stands on the end of his craft, and with a long pole steers it, the force of the current carrying it down stream. These men perform this work with great skill and dexterity. Bananas, Cocoa-nut, and Chocolate are the principal crops grown on the banks of the Rio Grande, but Yam, Cocoes, Maize, Sugar-cane, &c., are also grown to a considerable extent. The Banana, however, is here the crop *par excellence*, and the Cocoa-nut Palm comes next.

Many planters are now establishing Chocolate through their Banana plantations. The Banana acts as a shade for the young Chocolate, and the return in fruit is sufficient to pay for cultivation till the Chocolate begins to yield a crop.

To show the enormous trade which has been developed in Bananas and Cocoa-nuts within a few years, the following figures are quoted from official returns for the year ended March 31, 1895: Bananas under cultivation, 19,528 acres; number of bunches of fruit exported, 4,768,761; value of bunches of fruit exported, £128,886; Cocoa-nut Palms under cultivation, 9,061 acres; number of nuts exported, 10,143,500; value of nuts exported, £36,770. In 1874 the number of bunches of Bananas exported was 85,083, valued at £6,381, and of Cocoa-nuts 1,359,895, valued at £3,739.

The Banana thrives best in deep, rather open loam, with plenty of humus, in warm, moist valleys. It is a voracious feeder, and quickly exhausts the surface-soil, so that to produce regular and good crops good cultivation is necessary. The plants are put out in rows 18 to 20 feet apart, with a space of about 15 feet between the plants in the rows. All the old stems and leaves are heaped around the growing stems and moulded, and help to manure the soil. On large plantations, American "cultivators" and ploughs worked by oxen are freely used amongst

the rows. Where Chocolate has been planted amongst the Bananas, the land is regularly forked and kept open. *W. Harris.*

(To be continued.)

### THE CARNATION AND ITS CULTURE.

(Continued from p. 53.)

THE question of the most suitable soil and its preparation for successful Carnation culture is such an important matter, that, at my request, Mr. C. Blick furnished me with the particulars of his own method, as adopted in "Border Culture," at Warren House, which I embody nearly in full.

For the beginner, the Carnation season may be taken as commencing with the latter part of September, or the beginning of October, when the layers are ready to be taken off the old plants. The beds are trenched to the depth of 18 inches. The soil of the first trench is thrown out, and the bottom or sub-soil broken up; then a good layer of cow-manure is put in, the top-spit of the next trench being turned on to the manure, at the same time keeping a very sharp look-out for wire-worms—which Mr. Blick rightly considers one of the worst enemies to Carnations—then another layer of cow-manure, and so on as the work progresses. With the fine soil is incorporated a good dressing of lime-rubbish and soot.

When the trenching is finished the beds are well trodden down, the sides thrown up, and the whole levelled over with a rake; being then ready for planting. The beds when finished should show a rise of 5 or 6 inches from the surrounding soil. It is recommended that the planting should be done as nearly as possible in the middle of October—in fact, all planting should be finished by the end of that month, in order that the plants may become well established before severe weather sets in. The layers should be planted moderately deep and firm, setting them out 10 to 12 inches apart each way; or another excellent plan is to plant in sets of three, placing them triangularly, which forms a clump. Should the weather be very dry, a copious soaking with water will be beneficial. Mr. Blick says, plants treated in the foregoing manner in the year 1894 came through the severe weather of that season admirably; in fact, they did not lose 1 per cent. of their Carnations. It is advisable, however, to place a few plants in 3-inch pots, to fill up any vacancies which may occur during the winter. The soil recommended for the plants in pots is two parts fibrous loam and one part of well-decomposed leaf-mould, with a good sprinkling of sand. After potting, a liberal supply of water should be given, the pots then plunged into Cocoa-fibre or coal-ashes in a cold frame, the plants being raised up as near the glass as possible. The lights should be kept off in all favourable weather, and on no occasion must they be kept closed, not even in the severest weather.

If the season is open, the plants should be looked over every week or each ten days for green-fly, also to remove decaying foliage. The time recommended for filling up vacancies in the beds is about the last week in February, or the first week in March, according to climatic conditions.

Mr. Martin R. Smith, in 1894, submitted a sample of his soil as prepared for Carnation culture, to chemical analysis, which gave the following analysis:—

	Per cent.
Sand ... ..	79.924
*Organic matter and combined water ...	12.582
Oxides of iron and alumina ... ..	5.240
Carbonate of Lime ... ..	1.037
Magnesia ... ..	0.259
Phosphoric Acid ... ..	0.369
Sulphuric Acid ... ..	0.076
Potash... ..	0.258
Soda ... ..	0.112
Chlorine, &c ... ..	0.165
Total ... ..	100.000

In regard to the soil question, however, Mr. Martin Smith says:—"My own firm belief is, that the

\* Containing nitrogen, 0.388; equal to ammonia, 0.469.

vigour of a Carnation plant is by no means entirely dependent upon the soil it grows in, but to a far greater extent to its own inherent vigour of constitution. I have plants (seedlings) in the same bed, some of which are dying, and some actually dead, and close alongside of these others (without exaggeration) almost as big as small Gooseberry bushes. I find my own strain of Carnations, as a rule, very much more robust than those I buy from the trade, so much so that I have practically ceased buying plants which I know will pine and probably die. My firm belief is, that the general cause of the weakness of constitution so universal is to be found in the method pursued in the propagation of any new variety that has attracted attention. It is generally layered the first year, and in the second year there may be from eight to thirty plants of it existent. If it is a success, some nurseryman buys it, and between the time he gets it and about a year, he has to produce a sufficient number of plants to satisfy the demand. The plants are all placed in heat and forced into growth, and then every scrap that can be cut from them is struck as a cutting; these again are forced on, and in their turn cut to pieces, until all the natural strength and constitution of the plant is lost, never again to be recovered. I propagate entirely by layers, and from my own strain never get a weak plant. I do find, however, an enormous difference of growth in plants placed into good fresh loam, as against any compost of old soil and manure that can be conceived."

Mr. Lombard says: "Nature's method of increase is by seed, but this has proved so uncertain and slow with the Carnation that the wisdom of man has devised a way to multiply by cuttings. The gardener is thus enabled rapidly to increase such varieties as are found best suited to his needs; by this means are retained the same characteristics, whether they are desirable or not. But while the cutting takes a separate existence, it seems that when this method is carried on year after year, the process of deterioration goes on also, until the vital force of the variety becomes so much impaired and weakened, that it ceases to have sufficient strength to maintain its existence, and continues profitable to the grower. Whenever man supercedes Nature's course we find more difficulties to surmount.

"It is important to remember," remarks Mr. Lombard, "that no matter how excellent the varieties, or how vigorous and healthy the plants, success in pot-culture will, in a great measure, depend on the manner of lifting and planting, and their treatment for the sixty days following their transfer to the greenhouse. The Carnation should not be overfed, nor grown in a high temperature, for if this is done, its constitution becomes impaired, and disease quickly makes its appearance." The insect enemies of the Carnation are few; a weekly fumigation with tobacco, and humidity at 74 per cent., will prevent their appearance; where red-spider can live, the Carnation has not a congenial home. *J. J. Willis, Harpenden.*

(To be continued.)

### JAPANESE LILIES AS ARTICLES OF FOOD AND COMMERCE.

LILIES possess the quality of combining beauty with gastronomic value; indeed, in Japan they are considered even more useful than ornamental, and in books on horticulture and botany we find these plants treated more frequently under the group of edible than of ornamental subjects; that is, far more account is made of the bulbs of the Lily than of its flowers. I do not mean that the beauty of the many varieties, in their manifold shapes and sizes, in their rich colouring of crimson, pink-vermilion, yellow, white, purple, and orange, is not appreciated by us; far from it, and not a flower-garden is regarded complete without them. At the same time, there never is a well-chosen menu which does not include this bulb among its dainties. Moreover, from time immemorial we find Lilies thus mentioned, both for their utility and beauty. No wonder, as different varieties grow wild and luxuriantly on hills and along

dales throughout the length and breadth of the country, our forefathers could but notice their flowers, conspicuous even in the rich flora of Japan, and a little examination could not fail to convince them of the abundant store of nutritive material in their bulbs. According to Miquel, and to Franchet and Savatier, there are no less than seventeen Japanese species of Liliium, but these include a large number of varieties.

The Ainu, an aboriginal race supposed to have once inhabited the whole country, but now confined to a few scattered hamlets on the northern islands of Hokkaido (Yesao of older maps), where they still subsist by fishing and hunting, depend for their vegetable diet chiefly on the bulbs of Liliium Glehni. From the bulb of this plant, called Turep in their language, the Ainu extract a comparatively pure kind of starch. This they make into a hard cake with a hole in the middle, through which a string is passed to hang it by. We can easily imagine that our ancestors may have done likewise, since many varieties flourish in the south, although the climate and the soil there are not as favourable to the growth of Lilies as are those of the Hokkaido, whether we consider the colour or number of the flowers or the size of the bulbs. On Hokkaido we often meet with a stalk bearing as many as thirty flowers, and that without any fertilisation. Especially where there is moisture do they thrive well. By the side of brooks, which are found everywhere in the mountainous districts of the country, our eyes are constantly greeted by the various members of this charming family. Even in their wild state the flowers of Liliium auratum attain a size of over 6 inches in diameter. The bulbs of nearly every variety are edible, but those of wild growth always taste sweeter than those under cultivation. It is said that over one hundred different varieties were known to the gardeners of past centuries, though at present only a little over half that number are cultivated.

The two kinds most need for culinary purposes are the Liliium tigrinum, known here as the Oni-yuri (literally, the Ogre Lily), or Ryuri-yuri (the Cooking Lily), and the Liliium concolor, var. pulchellum. This latter is also called Hime-yuri (the Princess Lily). Chemical analysis has shown that we have not been deceived in our appreciation of this plant. It proves that the bulbs contain no small amount of nitrogenous matter. I will here give the result of the analysis made at the Government Sanitary Bureau:—

Water ... ..	69.630
Nitrogen ... ..	3.402
Fat ... ..	0.015
Starch ... ..	19.109
Dextrin ... ..	1.915
Glucose ... ..	0.820
Pectose ... ..	2.444
Fibre ... ..	1.416
Ash ... ..	1.950
Total per cent. ... ..	98.867

From this table it is clear that the Lily-bulbs furnish an important source of nutriment. A little plot of 6 feet square can be made to yield from sixty to seventy bulbs, and at this rate an acre will produce some 80,000 bulbs. These are produced, according to official statistics of 1888, 43,000 lb. of bulbs in the market gardens of Japan, valued at 9300 yen. These numbers do not, and cannot, include those raised in private gardens. In price they range from half a cent to 2 cents apiece, according to their size and to the season. They are usually boiled and eaten with sugar, otherwise they would be too bitter to be palatable. When they are boiled soft they remind us of Beans, both in their consistency and taste. The bitterness seems to lie especially along the edge of the bulbous scales; and, consequently, by slicing the edge before cooking greater sweetness is insured. The bulbs are also very often boiled with rice. The starch made from them will keep indefinitely, and was, therefore, in former times stored to ward off the sufferings of famine. The variety longiflorum, Thunb., called the Teppo-yuri (the Gun Lily), otherwise known as the Riu-kin-yuri, because of its supposed original habitat, is

esteemed for its flowers, but its bulbs are too bitter for kitchen uses. They give, however, starch of excellent quality. A variety known as Aka-kanoko, which grows to the height of 4 feet, with flowers spotted crimson, has bulbs of a purplish colour, bitter, and altogether unfit for cooking, but furnishing starch of no mean quality. The best way to cook the bulbs for the American table is, we have found from experience, to boil them, and use them as salad, with a dressing of cream and eggs. The small bulblets that appear at the axils of Lily leaves can also be eaten roasted, and the petals of some varieties growing wild in Hokkaido make an exceedingly pretty salad.

This reminds me that some years ago a Harvard professor said that the future food-supply of America could be greatly and advantageously increased by acclimating foreign, and especially Japanese, edible plants. I was, therefore, pleased to hear, recently, that the Department of Agriculture has been circulating reports regarding the cultivation and culinary uses of Lilies. But, as it will take some time to naturalise them in America, the importation of bulbs will not at once be perceptibly decreased. In fact, these bulbs have for some years been an article of export to Europe and America, and we at one time thought that they would soon become naturalised abroad, and were afraid the trade in them must soon cease, but thus far it shows no diminution. Take, for instance, the amount exported from but one firm in Yokohama, the Ueki-shoksi, in 1890—some 913,880 bulbs were sent out, including thirty-one different varieties. Among them the so-called Mountain Lilies (Yama-yuri) were by far the most important, their number amounting to 550,569. The next most important variety was the Gun Lilies (Teppo-yuri), and these amounted to little over 136,000.

The following table gives later statistics of the extent of foreign trade in Lilies, as exported from the country at large:—

Countries.	1894.	1893.	1892.
	Yen.*	Yen.	Yen.
Australia ... ..	1,550	185	610
France ... ..	1,308	485	281
Germany ... ..	11,261	5,562	2,620
England ... ..	29,630	38,734	17,943
Hong-Kong ... ..	4,328	6,480	2,166
United States... ..	19,410	12,679	9,481
Other countries ... ..	737	1,233	392
Total ... ..	68,224	65,423	33,478

The Yama-yuri, mentioned as playing such an important part in exportation, is of wild growth, and although its good qualities are appreciated at home, the Japanese consider it inferior for table use to the Ryori-yuri, and the demand for it here is not so great as for the latter. During an epidemic of cholera a few years ago it was, however, sold in large quantities to supply the deficiency of starchy food in the market.

The readers of *Garden and Forest* may be interested to know what care is taken in raising the bulbs. In October or November, when the stems of the Lilies wither, the bulbs are gathered; but, as they are too small for trade in this natural state, and, moreover, as they are so often more or less bruised when dug out, they are planted in a garden to undergo artificial cultivation for a year or two—a process of fattening, as it were, for the market. Those designed for export to European countries require particular care, since they must endure the heat of the Indian Ocean during their journey. Then, too, European taste demands large bulbs, and plants with about twenty flowers, which only bulbs of two years' artificial cultivation can bear. Americans, on the contrary, like smaller bulbs, and desire plants that bear only half a dozen flowers. Bulbs of one-year's rearing, therefore, meet their wishes; but these die the next year, and hence the regular annual exportation of new bulbs to the United States.

\* A yen is equivalent to an American silver dollar.

The Yama-yuri is indigenous to Kadsusa, Shimosu Sagami, and other central provinces. The transplanted bulbs, reared in a rich garden mould, become quite strong after a year's growth, but those intended for food are not allowed to flower. Sometimes, when the soil is not of the proper kind, the bulbs, though they may grow large in size, are decidedly inferior in weight. Perhaps on this account they do not do well in Europe, except in the Netherlands, the classic land of bulbs. Some of our best bulbs measure a foot or a foot and two inches in circumference, and weigh as much as a pound. I may state here that for choicest cooking; only the twelve best scales are selected from a bulb; indeed, usually eight or nine scales only are taken from each. The size and shape of the bulbs are most remarkably affected by the time when the flower-buds are nipped; and some Lily gardeners think the right choice of this time is the most difficult and delicate part of their labour. When the bulbs are harvested, they are cleaned and then packed in boxes large enough to contain forty or fifty. In price, they range for export trade, according to size (taking for granted that the quality remains the same), from 2.20 to 2.50 yen per hundred for the largest; 1.20 to 1.50 for the next size—of, say, 10 inches in circumference; and 60 yen or so for bulbs of a year's growth, which are usually about 8 inches. Inazo Nitobe, *Sapporo, Japan, in "Garden and Forest."*

## FLORISTS' FLOWERS.

### CACTUS DAHLIAS.

THE so-called Cactus varieties of the Dahlia are scarcely effective as garden plants, though there are a few exceptions, notably Matchless, whose blooms are thrown well above the foliage; and there is still much to be done before these Dahlias are brought into that admirable condition of habit which characterises the Pompon section, the most floriferous and effective of all varieties for outdoor culture. The original type as presented in the scarlet Juarez is more refined, whilst the flat-petalled forms, now termed "decorative," are becoming effective as such. It is not too early to obtain plants from the florist, where no stock roots exist to propagate from, because early ordering ensures strong plants in May. Those who possess stocky roots, may now start them into growth, and strike the young solid shoots as they are obtainable. A good dozen of varieties now in commerce are Mrs. Peart, Lady Penzance, Harmony, Delicata, Mrs. H. Cannell, Bertha Mawley, Robert Cannell, Juarez, Major Haskins, Earl of Pembroke, Purple Prince, and Matchless. These are of the best. Charming newcomers of last year are West's Valkyrie, Heyner's Fasilier, and Royal George, Turner's Endymion and Beatrice; Cheal's Mrs. Wilson Noble, and Ware's Mrs. A. Beck. Trench the ground deeply, but do not too highly enrich it with manure; mulching in the summer being efficacious.

### POMPON DAHLIAS.

Next to the Cactus forms as eligible cut flowers, but before them as outdoor garden flowers, come the beautiful Pompon Dahlias. Though described as miniature show and fancy forms, it is doubtful whether we do find in these, in many cases, forms superior to what many show-flowers can display. Still, it may be easier to furnish the perfect rotundity. Show-flowers should be present in smaller blooms than in large ones. No doubt Pompon Dahlias give three times as many blooms as Cactus Dahlias, but then there is such a remarkable difference in the flower's appearance. For perfection of form and build the Pumpions cannot be excelled for beauty; the Cactus flowers are best by a long way, and as quality and charm in flowers is of more importance than is mere quantity, no wonder the singular Cactus flowers are so popular. However, all are not devoted to them; or if to them, at least not alone; and the next favourite section, without doubt, is the Pompon. There is such a great number of these that selection is more easy, yet more difficult; easy, because there are so many, and all so good; difficult,

because the quality is of such average excellence. Of whites, Lady Blanche and White Aster, cream-shaded; Ceres, salmon; E. Junker and Riogdove, yellow Emily Hopper and Sovereign, carmine; Janet and Phoebe, lilac; Lilian and Mabel, scarlet; Sanabine, Bacchus and Mars, crimson; Favorite and Arthur West, maroon; Little Darkness, and Captain Boyton. Good tipped or edged flowers are Admiration, Eurydice, Laelia, and Cristabella. This is a list of the very best, not made up from a catalogue, but culled at one of the London Dahlias shows when blooms were not only plentiful, but in first-rate form. A. D.

### DOUBLE PRIMULA MRS. A. F. BARRON.

This is one of a batch of seedlings introduced by the late Mr. Richard Gilbert, of Burghley Gardens, Stamford, and now to be seen in very fine character at the Royal Nursery, Slough, where there is a small span-roofed house filled with it, the plants in large 48-sized pots blooming with remarkable freedom. The mistake is sometimes made with the Chinese Primrose of growing the plants so much for foliage that but small heads of bloom result, but this is avoided at Slough; the growth is vigorous and yet spare, and the plants bloom with the freedom of the old double white. Mr. Turner speaks in high terms of it, and prefers it to the old double white variety for cutting for bouquet-making purposes. The flowers, which are of larger size, and fuller than those of the double white, are of a very delicate lavender tint when they open, becoming with age of a pure white. The extent to which this variety is cultivated at the Royal Nursery shows that it is highly appreciated. R. D.

## NEW AND OLD FAVOURITE VEGETABLES.

THE time to order seeds of the nurseryman has come, and those gardeners who have the fancy for trying novelties, and the requisite area of kitchen garden land to devote a small piece to some of them, should not omit to include a packet or two when writing out the seed order. The first to be named is the Climbing French Bean, a prolific, long-bearing variety, growing to a height of 5 feet; in fact, a Canadian Wonder (Red Flageolet), that flowers and bears pods for months—thus it is a saving of land and labour. Whilst writing of Beans, we think that the yellow-fleshed Butter Beans should be tried; they may not be so nice-looking when simply boiled in salted water as the green Beans, but then they should not be so prepared for table, but heated for about five minutes after taking them out of the water in which they have been cooked, in a savoury kind of sauce.

Celeriac is as easily grown as a Cabbage, and its roots when cooked make a nice winter salad, cut in thick slices like Beet-root; and they are palatable either alone or mixed with other things. For flavouring, the root is equal to the blanched Celery, and by thus making use of it the stock of the latter lasts longer. "Crosnes" (*Stachys tuberosa*) should not be forgotten. The sets are cheap, and the cultivation simple. Lily-white Seakale and the white Jerusalem Artichoke are desirable varieties of common kinds of vegetables. There are two varieties of Fennel which some English, and certainly foreign cooks could turn to good account, viz., Florence Fennel, an annual plant, with a distinct, low-growing, thick-set habit, which has joints very close together towards the base. The leaf-stalks overlap each other at the base of the stem and form an enlargement of the size of a hen's egg, and larger, white, and sweet inside. Seed should be sown in the spring for a summer crop, and towards the end of the summer for an autumn crop, sowing in rows 18 inches apart. The other variety is *Foeniculum piperitum*, the stalks of which are taken when running to seed, broken off whilst still tender, and eaten raw. In seasons from March to June. We imagine the red-spotted or tinged Cabbage varieties of Lettuce would find favour with consumers of salads, and one of the best of these is the Red Besson, small dark red and brown Geneva.

The large-leaved Spinaches of recent introductions are not yet generally known, but they are great improvements on the old varieties—we refer to the Victoria, Viroflay Giant, and Longstander. In hot, dry soils, where Spinach soon bolts in summer, the New Zealand Spinach, *Tetragonia expansa*, should be cultivated instead. It should be sown in May on ridges of stable-dung and leaves, such as are made for out-of-doors Cucumbers, or on a disused hot-bed. It requires scarcely any attention beyond keeping free from weeds.

In Solanums we have a family of plants limited in the kitchen garden of most establishments to the fiery Chili Pepper, which few persons can consume with comfort, and the usual destination of whose

vinery till the end of June. The plants would succeed under a garden-frame, if planted out on a south border.

There are many more kinds of vegetables, excellent in root, leaf, fruit, pod, or stem, that might be grown in our gardens, only to mention Gourds, Kohl Rabi, Yams, Maize, white and green-seeded Haricots for winter use; numerous Egg-plants; Chicory, Cardoons, &c., that would give added variety to our rather monotonous national cookery.

### BUSH OF NONSUCH APPLE.

MR. WALLIS, the head gardener at Orwell Park, Ipswich, writes:—"I send you a photograph of a

### THE CALADIUM.

THE season has once more come round when stove plants generally receive, at the hands of the prudent gardener, their annual overhauling, which may take the form of top-dressing, re-potting, or, as in the present case, potting-up the tubers. The sight of more than one hundred varieties of Caladiums now making rapid growth in a propagating case at this place, suggested the penning of a few notes respecting their culture. Caladiums are not so extensively grown as they might be, although within the last two or three years the trade and gardeners have taken them in hand extensively, and the run on some of the newer varieties is very heavy, which may be accounted



FIG. 21.—NONSUCH APPLE AT ORWELL PARK, IPSWICH.

pod is the pickle-jar. There are, however, varieties which are devoid of the burning acidity of the Chili, such as the Large Bell Pepper, which is very mild in flavour, has a pod 2 inches long, thick flesh, and few seeds; Bull Nose or Sweet Mountain, a variety of the preceding, prolific, and earlier than it; the Monstrous pepper has pods 6 inches long and 3 wide—mild in flavour, and of a deep red colour; Spanish Mammoth, in red and yellow-podded varieties, is likewise excellent. In this country they would all require for full development some kind of glass protection—even in the height of summer it would be needed—and to be brought on in a

bush of Nonsuch Apple growing in this garden (fig. 21). It is one of three; the oldest was planted thirty-seven years ago, and for thirty seasons it has not failed to carry fruit." The other bushes are of his own working, and about twenty-eight years old. The crop of fruit borne last season by the oldest bush speaks for itself, and it was equally fine in 1894. There are twenty-four of these bushes in the garden at Orwell, and they are some of the surest-cropping Apples there, and the earliest culinary variety, keeping sound till April. The fruits which accompanied the photograph kindly sent by Mr. Wallis fully bore out the words of his note.

for by the fact that many of the more recently-introduced varieties possess much higher colour in the foliage than the older ones, are compacter and dwarfer, which features in themselves justify the popularity they are held in. There exists an impression that many of these newer Caladiums are possessed of a too delicate constitution, and are therefore unsuited for the average uses to which these plants are put. This is a mistaken impression, for given a year or two in which to recover from the weakness caused by excessive propagation at the propagator's hands, I am confident they will be found as serviceable as many of the older forms. Such varieties as



C. Mrs. H. Veitch, C. Louis A. Van Houtte, C. Madame Mitjana, though not exactly new, may be mentioned as illustrating the robust growing, highly coloured sector, which make immense leaves, produce stout leaf-stalks, and are possessed of a robust constitution, making them subjects of easy culture. Another variety may be mentioned in the class of recent introductions, a valuable addition, viz., Baron Adolphe de Rothschild, which is one of the finest yet brought into commerce. Dwarfier subjects include C. Le Nain Rouge, C. Wm. Bull, and C. Adrian.

Of the lighter-coloured sorts, C. Rose Laing stands at the top of the list—a lovely variety, which should be found in every collection; C. Baronne Clara De Hirsch, C. L'Antoine, C. Guil Mar, and the older C. Louise Duplessis. It will not be necessary to mention the useful C. argyrifera, or C. minus rubescens; these are sufficiently well known as to make remarks upon them superfluous.

To increase the stock of any particular variety is an easy matter, from the fact that the *Caladium* does not suffer permanently by being cut into pieces, and every little crown, so to speak, if deftly cut out, and rubbed over with charcoal-powder, and some little time allowed it to get dry, then placed in a thumb-pot, and plunged in a propagating frame, or a clove case in the propagating-pit, where a bottom-heat of say 85° can be depended on, will grow. It is not absolutely necessary to plunge in a case, so far as the main tuber is concerned, but when much cut up the aim should be to produce as big a plant as is possible in the shortest time, hence the need of rapid rooting in a case. The soil on this occasion should consist of loam, peat, and sand in equal parts, the whole being passed through a ½-inch sieve. As soon as these small pots are fairly filled with roots, the plants may be removed from the case and placed on a shelf or bench near the light, when in about a week from this time they may have a shift into 48 or 4½-inch pots, using the soil as before, with one-third of the whole of dried cow-dung added. The crocking should be liberal, as the plants delight in copious supplies of water when in full growth, which should pass off quickly. It will be found necessary to re-pot some of the stronger-growing varieties before midsummer, and this time the soil may be somewhat rougher in texture, and besides adding cow-manure to it, a 6-inch potful of Thompson's vine and plant manure to each barrow-load of soil will do good. The plants should be arranged near the glass, in a bright well-appointed house, if the beauties and contrasts are to be noted; they will require very little shading, and that only during the hottest parts of the day, and the shading stuff should be of a very light texture. The leaves should never be wetted, otherwise spotting of the foliage follows, and eventually the unsightly leaves have to be removed.

I usually grow two batches; one lot grown in 48's are grown on the back stage of a Croton-house having a southern aspect, while the others are placed in 48's, 32's, and 16's; these, after being fairly established in their pots, are placed in the mixed plant-stoves, Fern and other houses, in the summer months, out of which it is easy to draw them for furnishing purposes, thus allowing the main batch to remain untouched. *J. F. McLeod.*

## TREES AND SHRUBS.

### JUNIPERUS RIGIDA.

I much fear that the specific name of this Japanese Conifer is responsible for its absence from many of our parks and gardens. It should, however, be remembered that the name *rigida* has nothing whatever to do with the habit or outline, but directly refers to the stiff, sharp-pointed leaves which render the plant almost as difficult to handle as a bush of Furze. It is at once one of the most distinct, hardy, and beautiful of the many species of *Juniperus*—indeed, I much question whether any other can surpass as a standard specimen a well-grown,

healthy bush of *J. rigida*. It has a warmth of foliage tint, and a gracefully irregular habit, shapely without formality, that renders it one of the most pleasing of small or bush-growing Conifers. Usually it forms a bush of about 12 feet in height, with the diameter of branch spread almost equal from base to tip, the branches slightly ascending, and the branchlets and young shoots gracefully pendulous. A peculiar habit of this species is that some of the branches project further than others, but curiously enough, such branches are so regularly spread over the specimen, that any irregularity of habit is quite lost sight of, and this is further aided by the weeping tips which hang limp and free for several inches in length, and constitute an unusual and distinctive charm. Very beautiful, too, is the silvery sheen of the foliage that is brought about by the conspicuous glaucous furrow that is present on the upper sides of the leaves. Each leaf is half an inch long, narrow, and very stiff, and terminating in a sharp point. At no period of growth is *Juniperus rigida* more beautiful than during the months of June and July, for then the light green (almost of a yellowish tint) of the young growths contrasts markedly with the deep bright green of the older foliage, which later on assumes a warm brownish tint.

For ornamental planting I would place this only second to the better-known *J. recurva*, but it has the advantage over that popular species in that it succeeds well in the very soil where the other becomes rusty and infested with red-spider.

By far the finest specimen that has come under my notice is growing in deep sandy soil near the race-course at Sandown Park; it is 13 feet high, and nearly 5 feet through, and is as perfect a specimen of Conifer as could be desired. *A. D. Webster.*

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WHITE, *Burford, Dorset.*

**SEASONABLE RE-POTTING.**—Owing to the prevailing mildness, many Orchids may have begun to make growth, and the plants should be examined individually, and plants requiring to be re-potted or surface-dressed attended to. In the Mexican-house the bloom is past on *Laelia Gouldiana*, *L. autumnalis*, *L. albida*, *L. Marriottiana*, *L. anceps*, and its varieties, and soon bunches of new roots will issue from the base of the last-made pseudo-bulbs. Immediately this is observed supply fresh materials. Well-established plants in pots or baskets sufficiently large for their needs should not, as a rule, be disturbed at the roots unnecessarily; but should the old materials about the roots have become quite decayed, they should be carefully removed with a pointed piece of stick, and by swilling out the remainder which cannot be conveniently got at. The proper time to choose for doing this operation is when the materials have become dry. The drainage should then be made perfect, and fresh materials afforded. For these plants shallow pans, or wooden baskets may be employed, and in arranging them the leading pseudo-bulbs should be elevated a good bit above the rim, affording a small quantity of the best fibry peat and sphagnum-moss for them to root into. Press the materials firmly together, inserting a few large crocks here and there, so as to render the passage of the water rapid. A good deal of judgment is needed in affording water to plants which have been disturbed in this way, to prevent the decay of the pseudo-bulbs, rhizomes, and roots, more particularly those of freshly-imported pieces; and to guard against this kind of loss much moisture should not be applied till the plants are re-established. For the present, keep the temperature of the house about 55°, by means of the apparatus, and as much higher as sun-heat will carry it, providing the house be well ventilated at the same time, and there is not much humidity therein. When the new growths appear, both heat and ventilation may be gradually increased in amount. Endeavours should always be made by the cultivator to prevent injury to the roots by insects, such as wood-lice and cockroaches, both of which do much harm by gnawing them.

**ODONTOGLOSSUM CITROSMUM.**—In this house the plants of *Odontoglossum citrosimum* may be starting into growth, but they should not be dis-

turbed, the new growths excited by heat or otherwise to make a rapid advance, or they might grow away and produce no flowers at the proper season. Keep them in the coolest part of the house, and afford no water at the root till the flower-spikes show. The leaves on our plants are quite fresh and green, although the pseudo-bulbs are considerably shrivelled, but when the time arrives to supply the plant with moisture, the latter will very soon acquire plumpness.

**INTERMEDIATE-HOUSE.**—The *Sobralias* here are growing fast, and to enable the plants to form strong flowering breaks, will be afforded as much sunlight as possible; with this intent I cut away down to the roots all the flowering shoots of last season, and tie out the young growths wide apart. *Sobralias* need at this season a plentiful supply of water at the roots, and occasionally some mild liquid-manure.

## THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**MANURING FRUIT TREES.**—All fruit trees in bearing, or those growing in poor soils, are benefited by having manure placed over their roots at least once a year, and a good time to apply it is as soon as the pruning, &c., is completed. This layer may be from 2 to 3 inches in thickness, and consist of partially-decayed farm-yard manure. This will not exclude air from the soil; and during its rather slow decay, its manurial properties will be carried down to the roots by rain and snow. Whenever practicable, a mulch should be left on the surface, not removed after a time; and if a little attention be paid to putting it on evenly, and lightly smoothing it with the back of the fork, it will have no objectionable appearance, and after a shower or two of rain, will present a clean surface. When the ground is frozen is a good time to mulch, but the work should always be performed without delay after the pruning is finished, so that the adjoining borders may be prepared for cropping. In a soft state of the soil, boards should be used for wheeling on, also on the walks if these are at all soft. If the wall-tree borders are narrow and uncropped, as is usual, the entire space should be mulched, but if these are so wide that a portion of the ground can be cropped, a space 3 feet wide should be lined off, the old mulching removed, together with a small portion of the soil, so as to avoid raising the border above its proper level; the whole 3 feet space should be slightly dressed with freshly slaked lime, a sprinkling of wood-ashes made from the prunings of fruit trees, lightly pointing them in with a fork, and finishing off with a mulch of manure. Pyramids, bushes, cordons, and espaliers growing at the sides of walks should be attended to in the same manner, but making a basin 3 to 6 feet square and 3 inches deep round each tree according to size. The mulch will then be brought to the level of the surrounding soil; and by giving each tree its basin, water during the summer is more efficiently applied, and it does not run off the borders on to the walks. Bush fruit quarters, usually new, require a dressing of soot, at the rate of 1 peck per square rod, before mulching them; and when the space between the rows of bushes is cropped, any of the old spent mulching which is left should be lightly raked on to this portion, the garden line stretched along about 2 feet on each side of the stems, and the enclosed space of 4 feet in width regularly mulched. The alleys may then be dug up in readiness for cropping. All quarters on which the mulching is left the whole year should have a dog space of from 1 to 2 feet in width left as a margin by the sides of the walks, so as to impart a neat appearance, and prevent the mulch being scratched by birds on to the walks. Trees which have borne heavy crops of fruit should receive a dressing of bone-meal and kainit in equal parts at the rate of 4 oz. to the square yard, sprinkling it over the mulching.

## PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

**WINTER-FLOWERING ZONAL AND OTHER PELARGONIUMS.**—These plants should receive at each alternate watering a weak dose of Peruvian-guano, which is best prepared by putting the guano in a muslin-bag, which should be dipped into the water that is being used, till it has acquired a brown colour. The Ivy-leaved section of *Pelargonium* is also benefited by this kind of manuring. Fancy and show varieties of the *Pelargonium* that were struck last autumn should, by this time, have made good growth, and may be put into their flowering-pots, 5 or 6-inch ones, according to the size and vigour of

the plants. Such sizes of pots confine the roots, and the plant shows flower earlier, and it can always be assisted by liquid-manure when signs of exhaustion appear. Specimen Pelargoniums of these two sections which have been at rest, should be placed close to the glass, in order to get them to break previous to being pruned, re-potted, or top-dressed, as may be required. It is better to annually repot these specimens after they have attained the desired size; but it is not necessary to use larger pots—indeed, rather reducing the size of the ball instead, and repotting in the same sized pot. The best kind of soil for specimen Pelargoniums for show purposes consists of two parts of good rich loam, one part leaf-mould, one part dried cow-manure, the loam being unsifted, but the other ingredients sifted through a half-inch sieve before being mixed with the loam. After potting the plants, lightly sprinkle or spray them once a day, or in bright weather morning and evening. The application of water to the roots will need much care until the roots have permeated the new soil. Previously to potting any specimens which may have been dried off and rested for some time, thoroughly saturate the mass of soil and roots; failing to do this, results in much of the water afforded after re-potting running off into the new soil, little if any of it reaching the middle of the ball.

**CALADIUMS.**—Examine the stock of tubers, selecting those which are new and rare, or of which the stock is to be increased, for starting. Shake the tubers out of the old soil, and put them into 3-inch pots at first, Caladiums being plants that are much benefited by repeated repottings during the growing season. Most of the varieties are good for decorative purposes; and one which is still the best for certain uses, such as dinner-table decorations, filling small vases, or grouping in larger ones for edging a stage, is *C. argyrites*; it goes well with *Adiantum capillus-veneris*. At starting, afford the tubers a bottom-heat of 80°, plunging the pots to the rims in the bed, and withholding water until they are fairly on the move.

**ACHIMENES.**—Some of the tubers of these plants may now be started in boxes or pans filled with peat, loam, sharp sand, and leaf-mould, in equal parts. Place the tubers about an inch apart, and when the stems have grown to an inch or two in height, lift them, and transplant them into baskets, pots, and pans. Place the tubers in brisk heat till growth has become general, when they may come into a warm vinery.

**VENTILATION.**—With the increased temperatures recommended in my previous Calendar, many plants will soon become active, calling for attention on the part of the cultivator. In mild weather, afford ventilation to all kinds of plant-houses, carefully avoiding draughts. Where the air can be admitted to stoves by means of ventilators fixed near the ground-level, and it can be passed over the hot-water pipes before it reaches the plants, there is no difficulty found in ventilating a hot-house; but all houses are not so sensibly built, and the best has to be made of existing contrivances.

### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**HARDY AZALEAS.**—The Ghent and Mollis varieties may now be planted, there being little risk to the plants owing to their lifting with plenty of roots and soil attached to them. When planting them the soil should be made very firm about the roots. Few plants make so fine a show out-of-doors in early summer as these Azaleas, and there is now a great variety of form and colour, and some possess very agreeable fragrance. Although of so much beauty, Azaleas are frequently relegated to some odd corner of the shrubbery, and left to take care of themselves. But they deserve better treatment; for the effect of a group of the plants, when well cared for, is very beautiful seen either at close quarters or at a distance. Planted in ordinary well-drained loam, they succeed and withstand the severest winters; but the position should preferably be a moist one, and not exposed to cold winds. The habit of the plant is not in the least formal, and therefore it looks best at home in beds of regular pattern, and best in informal masses in the wild garden, or grouped naturally in the American garden, or in the woods surrounding a garden. Where the staple soil is not suited to the plant, a mixture of peat, rubble, and coarse sand will grow the Azalea well, and means be taken to ensure free drainage. Beautiful patches of colour may be created in our flower gardens and pleasure grounds by the judicious planting of hardy flowering shrubs in masses instead of isolated single plants, as is too often done.

**BOX EDGINGS.**—These may be relaid only during mild weather. In re-laying Box, take up long sections of the edgings and shorten both roots and tops, and keep moist. Having dug up the soil of the edging, make it firm and level, and incorporate some adjoining fresh soil with it, and proceed to cut with the spade a shallow trench with an upright face, perfectly true. The pieces of Box should be laid in thickly enough to make a close line, even at the top and sides, and raised above the soil about 2 inches. Make each piece firm by the hand, and after putting more soil over the roots by the foot also, finally levelling off with the spade, and throwing the soil not needed on to the bed or border. Whenever a big job of Box laying is undertaken, the gravel, shingle, &c., of which the walk consists, must be shovelled off to a width of 3 feet, and deposited on the opposite side or wheeled wholly away.

**SEEDS FOR PRESENT SOWING.**—Those of *Pentstemon*, *Antirrhinum*, *Verbena hybrida*, *Pyrethrum*, *Parthenium aureum*, *Lobelia*, *Gaillardia hybrida*, &c., may now be sown in a mixture of loam, leaf-mould, and silver-sand, with ample drainage given in the seed-pots, pans, or boxes. These seeds should be covered lightly with the finest soil, and placed in a temperature of 60° to 65°, to be removed when the seedlings appear to a place in the same house nearer to the glass, otherwise very weak growth will be made. Seeds of the alpine *Auricula*, *Polyanthus*, *Carnation*, *Marguerite*, *Hollyhock* and *Dianthus Heddewigi*, may also be sown similarly to the above, but not subjected to a higher temperature than 50° to 55°. It is good practice to place a sheet of shaded glass or paper over the pots or pans in which these small seeds are sown, to be removed as soon as the seeds begin to germinate. *Auricula* seed germinates very slowly, and great care is necessary in not allowing the soil to become dry.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Droppins, Maidenhead.*

**ONIONS.**—Where it is desired to obtain some extra large Onions either for exhibition or for home consumption, seeds should be sown forthwith in boxes in size about 4 inches in depth, and 1 foot in width, and of any convenient length, putting over the bottom a thickish layer of half-rotten leaves of Beech or Oak, filling the boxes with good loam passed through a half-inch sieve, to which one-third leaf-mould has been added. Before sowing the seeds, make this soil moderately firm; scatter them evenly and thinly on the surface, and lightly cover with fine soil. Place the boxes in a temperature of 55°; a corner of the Mushroom-house is a good place for them, taking care to remove the boxes to a light pit or house on the first appearance of germination having taken place. If the plants are not crowded, they may remain in these boxes, and be gradually hardened-off preparatory to planting them out-of-doors early in April. This early sowing of all Onions in boxes is to be recommended for gardens in which the Onion-maggot is a common pest, as by planting-out plants that are fairly strong, a crop can often be obtained when the weaker seedlings succumb to the attack of the Onion-fly. The now well-known *Excelsior*, *Ailsa Craig*, and *Ronsham Park* represent three good varieties, the two former, of globular shape, are preferred by some gardeners to those having flattish bulbs.

**LEEKs.**—These, if required early in the autumn and large in size, may be raised in the same manner; but for ordinary purposes, the sowing made out-of-doors in March will suffice.

**TURNIPS.**—If frames or brick pits are available, mild hot-beds should be made up, consisting mostly of tree leaves, with just enough fresh stable-dung to start the fermentation; and when the heat is ascertained to be about 80°, and not likely to rise higher, a layer of light rich soil 6 inches in thickness may be put on them, made level and firm, and the Turnip seed sown in drills 8 inches apart, or broadcast. Pay close attention to the bottom-heat, and if it should rise beyond the above figure, means must be taken to let it escape. The top-heat should range from 55° to 58° without sun-heat. Afford air liberally when the plants appear, and thin them when large enough to handle. A broadcast bed or some few drills of Turnips may be sown in a warm spot in the open, so as to form a succession to the crop raised under glass. An early variety, *Extra Early Milan* (purple top) is very good.

**RADISHES.**—A sowing of long or turnip-rooted Radishes may now be made outdoors in a sheltered

position on a south border, or other sunny spot, in the kitchen garden. The soil for this early sowing should be well pulverised, and if it is a tenacious kind, a dressing of wood-ashes and leaf-mould should be thoroughly mixed with the surface-soil. Trample the bed, if the soil is dry enough to allow of it being done, and make firm and level. Sow the seed in drills, made 6 inches asunder, and half an inch deep; and in frosty weather, lightly cover the bed with litter, Russian mats, or bracken, taking especial care to remove it when the sun shines. As a long Radish, *Wood's Early Frame* is still the best; the early scarlet and white forcing Turnip varieties are suitable for this sowing.

**CABBAGE.**—Owing to the prevailing mildness, spring Cabbages are making considerable progress, and I notice that some of *Eltam's Early* are already forming hearts. The growth of weeds is also rapid, and means should be taken to keep them in check. The land may be slightly stirred with the fork, just turning it, and working well up to the stems of the Cabbages; or falling that, drawing some up to them with the hoe after the stirring is finished.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**EARLY GRAPE VINES.**—Where these Vines are cultivated in ordinary garden-pots or small tubs, the berries and the bunches also will have been thinned ere this, and the former begun to increase rapidly in size. At such times liquid-manure should be abundantly afforded at a little higher warmth than the air of the house. Sun-heat should be utilised by closing early in the afternoon, but hard forcing by fire-heat alone is not advisable, a temperature of 65° on cold nights being sufficiently warm, with an increase of 5° when the weather is mild.

**SUCCESSION VINERY.**—Early Vines which are planted in borders should not be pushed on quite so hard as the pot Vines; but they may be pushed on rapidly when the amount of sunlight is greater than it is at the present time. If a heap of fermenting stable-litter and leaves has been in use in the vinery it may be removed, and the border dressed with fresh horse-droppings, affording air at the top of the house in the early morning, so that the ammoniacal fumes from the same may escape, otherwise young, tender foliage may get injured. Avoid, however, admitting currents of cold air from without, and guard against wetting highly-beated pipes, both of which are conducive to rusting of the berries. Should the borders be outside ones, and covered with warm leaves and manure, the warmth of the covering should not be suffered to decline, but fresh material should be added as may be required to maintain it. The bunches and berries of advancing crops should be thinned as soon as they are surely set, or have reached the size of *Sweet Pea* seeds. In selecting the bunches which are to remain, give preference to the more compact ones; and when thinning the berries it is better to thin sufficiently at one thinning than to go over the bunches two or three times.

**SUCCESSION VINERIES.**—The warmth in the vineries where the Vines have arrived at the flowering stage should be kept steadily at about 65° at night, any excess of moisture guarded against, and more or less air afforded daily according to the state of the weather, so as to avert the growth of warty leaves and stem-roots. Let shy-setting varieties of Grapes be brushed over at midday with pollen from the *Black Hamburg* or other free-setting variety, or draw the hand gently over the bunches. Great care should be observed in bringing the shoots down to the trellis-wires, which should not be done all at once, but by degrees, and when the flowering is passed they will come readily into their proper place, although it is seldom they can be left so long a time, as they should not be allowed to touch the glass-roof.

**VINES STARTED AT THE NEW YEAR.**—These Vines will now be breaking, and as soon as the bunches can be seen, syringing should be discontinued, a genial moist atmosphere being maintained by damping all available surfaces two or three times a day, increasing the temperature to 55° at night, and 65° in the daytime, with an advance of 10 by sun-heat. The vinery must be carefully ventilated in bright weather, and closed soon after noon. Vines to supply ripe Grapes in July may be closed forthwith, beginning with a warmth of 50° by night, and 55° to 60° by day, the treatment followed being generally that described in these calendars for earlier Vines.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

## APPOINTMENTS FOR FEBRUARY.

SATURDAY,	FEB. 1	{ Isle of Wight Horticultural Association Meeting; Société Française d'Horticulture de Londres meet.
SUNDAY,	FEB. 2	{ Royal Horticultural and Agricultural Society of Ghent meet.
THURSDAY,	FEB. 6	—Lionean Society meet.
SATURDAY,	FEB. 8	—Royal Botanic Society meet.
SUNDAY,	FEB. 9	—Brussels Orchidëenne meet.
TUESDAY,	FEB. 11	{ Royal Horticultural Society Committee Show and Annual General Meeting.
THURSDAY,	FEB. 20	—Lionean Society meet.
FRIDAY,	FEB. 21	{ Royal Gardeneers' Orphan Fund Annual Meeting.
SATURDAY,	FEB. 22	—Royal Botanic Society meet.
THURSDAY,	FEB. 27	—Kew Guild Annual General Meeting.

## SALES FOR THE ENSUING WEEK.

MONDAY,	FEB. 3	{ Azaleas, Pæonies, Phloxes, Begonias, &c. at Protheroe & Morris' Rooms.
TUESDAY,	FEB. 4	{ Orchids, from Messrs. H. Low & Co., at Protheroe & Morris' Rooms. Carnations, Violas, Iris, Lilliums, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	FEB. 5	{ Lilies from Japan, Importation of Hemerocallis, Begonias, Roses, &c., at Protheroe & Morris' Rooms.
THURSDAY,	FEB. 6	{ Camellias, Roses, Hardy Border Plants, and Bulbs, at Protheroe & Morris' Rooms.
FRIDAY,	FEB. 7	{ Special Sale of Hardy Perennials, Clematis, Pæonies, Amaryllis, &c., at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39° 3'.

Horticultural Societies, judges, and schedule-drafters in particular, should be grateful to the Royal Horticultural Society for the publication of the "Rules for Judging, and Suggestions for Schedule-makers, Judges, and Exhibitors." The compilation must have been difficult and laborious. The code now issued, though generally unexceptionable, is sure to have some weak places, but as it represents the work and opinions of so large a body of expert exhibitors and expert judges, it may safely be assumed that whatever defects there may be upon points of detail, the work could not have been done better on the whole.

Moreover, if the committee can be called together at intervals, the code can be gradually improved and brought up to date.

During the exhibition season, that is, from spring till late autumn, we and our contemporaries are continually called on to decide knotty points about judging and the interpretation of schedules. If we have not seen the exhibit it is, of course, almost impossible satisfactorily to answer the question put to us unless it be one of abstract principle. In the case of schedule interpretation we have often to decide between what the framers of the schedule really meant and what they said. We have to take into consideration not only the one isolated phrase in dispute, but the

general construction of the whole schedule, as well as the usual custom. Now, we have at § 8 a distinct pronouncement as follows: "Any exhibits contrary to the wording of the schedule are disqualified." But what if the wording of the schedule be inconsistent? (and consistency, as we shall show, is not attained even in the present code); or, what if the wording leads to absurdities if construed literally, as not unfrequently happens? We mention these matters to show how very difficult a matter it is to draw up a schedule in unequivocal and adequate terms, and what perplexities the committee must have felt in the course of their work. With the code now before us, the task should at least be less difficult, and we, for our parts, shall be heartily glad to be able in future to direct our enquirers to the code. We shall hope to be saved the time and responsibility incurred in giving opinions generally upon unsatisfactory or imperfect evidence.

The title would be more to the point, if it were amended to "Suggestions to Horticultural Societies in regard to the framing of Schedules, with some hints for the assistance of exhibitors and of judges." As it now stands, there is conveyed an imputation of inefficiency on the part of the judges, as if they needed instruction in their work! The compilers of the *Rules for Judging* seem to have had some notion at least of this when they state "It is not however suggested that, in the practical work of judging, the experienced judge will often find it necessary to go in detail through the form of estimating each separate item upon the basis given." (These are the best men to choose.) It may fairly be assumed that there are plenty of capable men who act as judges every season, and for whose services there is a great demand, but whose views might not coincide with those selected to frame these rules now laid down. Are these judges to subordinate their own views to those of the 1896 Code of Rules? The rules are an honest attempt to effect something for the satisfaction of exhibitors, by giving some guidance to the judges employed. The fact, however, remains, that fault-finders and dissatisfied exhibitors will still be found. We have yet to learn that when practical men are employed the fault lies with the judges. It lies rather in the indefinite wording of the schedule, and in non-compliance with the clearing rule at the fixed hour for judging to commence, as well as in allotting too much work for the judges to perform.

It is not by any means the first time the subject has been discussed before the society. We may call attention, for instance, to an excellent paper on the same subject by the late THOMAS MOORE, whose knowledge of plants and of their "points" has never been excelled. Mr. MOORE's paper seems to have escaped the notice of the compilers of the present code, or they would surely have availed themselves more freely of the work and opinions of so highly competent a judge. It is contained in the *Journal of the Royal Horticultural Society* for 1866, new series, vol. i., p. 99. There are, of course, underlying principles beneath the arbitrary arrangements and definitions which, for convenience sake, it is necessary to make; and the less these principles are violated or departed from, the more satisfactory is the result in the long run. Mr. MOORE had a firmer grasp of principles than is evidenced in the present production. We may also call attention to the hints to exhibitors published by Dr. WILLIAMSON, and edited by Mr. MALCOLM DUNN.\*

There is wisely no attempt to define the words "kind" and "variety," but concrete examples are supplied from which we may glean the meanings of the compilers. It would have simplified matters to have abolished the word "variety" altogether. This in botany has a distinct meaning, different from that adapted in the code. If the compilers had laid more stress upon the distinction between "kinds of fruit," "kinds of vegetables," or "kinds of flowers," as general terms, and kinds of Peaches, Apples, Cabbages, Beans, Roses, Chrysanthemums, &c., as specific appellations, they would have avoided the necessity of using the term "variety" at all. If a further distinctive term be really required, the word "sort" might arbitrarily be used to indicate the subordinate differences; thus we might conventionally speak of kinds of vegetables, and sorts of Cabbages and Potatoes, kinds of fruits and sorts of Grapes, &c. As it is, we have Peaches and Nectarines classed as distinct kinds in spite of the fact that the latter is but a bud variation from the former. As neither the word "kind," nor the word "sort," is commonly used in botanical language, there would be no fear of clashing, but in many cases there would be no need of using the word at all.

If, as in the case of such words as "species," "genus," "section," "tribe," "family or order," botanical terms are used, then they should be employed as botanists use them. Else we fall into the same sort of errors as those would do who speak of companies, regiments, battalions, brigades, as being of equivalent meaning and interchangeable. This is one of the commonest and apparently most ineradicable of errors in gardening literature, and we fear the Code will do nothing to improve matters.

The necessity for more precision, difficult as it may be of attainment, is seen, for instance, in § 73, wherein "the Cabbage (Brassica) family is spoken of." Now, except in the vaguest of everyday speech, there is no Cabbage family, and no Brassica family. Brassica is a genus of the family or order Cruciferae, and no one has ever thought of promoting the genus Brassica to the rank of a family. On p. 5 the Cabbage "tribe" is spoken of. It can hardly be a tribe and an order too! For exhibition purposes we are told (p. 10) that Cauliflower, Brussels Sprouts, Cabbage, Borecole, Kale, Savoy and Broccoli, are considered as distinct kinds of vegetables, thus giving to the word "kind" a more restricted signification than that given to it on p. 5, where "kinds" are, with some exceptions, of which this is one, made synonymous with "natural genera." All the plants just named are not only distinct as vegetables in a popular sense, but they are distinct kinds of Cabbage. So in this code, which is to be the guide for schedule-makers, we have the same group called in one place a "family," in another a "tribe," in another a "genus," in another a "kind." This shows how difficult it is to be consistent!

In collections of vegetables, schedule-makers are recommended to word their programme as follows (see p. 5), "Class —, collection of vegetables, six distinct kinds, only one [or two, as the case may be] of the Cabbage-tribe may be included—for, if such a note be not added, the exhibitor would be at liberty to show white Cabbage, red Cabbage, Kale, Savoys, and Brussels Sprouts, as five of the six kinds required." The term *Cabbage-tribe*, would properly include Turnip-tops, but we do not think these were within the intent of the framers of this code. If the distinction between kinds of vegetable and sorts of Cabbage be borne in mind, no such difficulty need arise.

\* To be had at the Society's Office, 117, Victoria Street, S.W.

\* *The Horticultural Handbook and Exhibitors' Guide*, (Blackwood & Sons) New Edition, 1895.



LAKE AT SWINTON PARK, MASHAM, YORKSHIRE.



OVERFLOW STREAM FROM THE LAKE AT SWINTON PARK.





At p. 9, among the models for imitation is also this:—

"iv. Collection of twelve vegetables, not less [fewer] than eight distinct kinds, two of the Cabbage-tribe only allowed." This also raises the doubt whether Turnips would be admitted either as roots or as tops, or in both states. Botanically they would, but we should be puzzled to answer the question off-hand from a "schedule point of view," or from the indications furnished in the Code.

Section 5 requires a little more expansion. It reads thus: "Two or more persons shall not exhibit for prizes separately from the same garden, nursery, or plant-house." This, as it stands, would exclude an Oroid-grower and a fruit-grower in the same establishment from exhibiting. The words "in the same class" seem to have been omitted.

Section 9 contains the wholesome rule that "as regards the relative merit of the exhibits, the decision of the judges is final, but in case of any objection to the interpretation of the wording of the schedule, no prize shall be paid until the matter under dispute has been referred to committee of the show or other authority."

The Council at section 12 undertake their willingness to act as referee in cases of dispute, which is quite as it should be. The gardening papers have, and do this constantly, but they do not get, as the Royal Horticultural Society proposes to do, a fee of 10s. 6d. for the task! At least, they do not. By the way, if there is to be a fee at all, the one proposed is too small.

The definition given of amateur, section 13, is not (perhaps, could not be) satisfactory. It allows, so far as we understand it, a person who sells grafts, or cuttings, or buds, of new seedlings or sports to consider himself an amateur, and permits him to compete with the amateur proper who does nothing of the kind. Surely the line should be drawn so strictly as to exclude all commercial or pecuniary transactions whatever, else there is no end to the doubts and difficulties that arise. One well-known grower was in the habit of distributing broadcast price catalogues of his plants for sale—and yet, forsooth, pleaded, and sometimes successfully, that he was only an amateur! Other tradesmen describe themselves as "amateur nurserymen!" A strict rule coupled with the award of an "extra" prize where deemed requisite, would best meet such cases. So far we have dealt mainly with generalities; we propose, in a subsequent article, to deal with the subject more in detail, and from the point of view of the judge and of the exhibitor respectively.

**LINNEAN SOCIETY.**—On the occasion of the meeting held on Thursday, Jan. 16, Mr. C. B. CLARKE, F.R.S., President, in the chair, Messrs. O. V. APLIN and WILLIAM COLE were elected Fellows of the Society. On behalf of Mr. G. H. ADCOCK, F.L.S., of Geelong, Victoria, Mr. A. B. RENDLE, F.L.S., exhibited and made remarks upon some photographs of *Hakea grammatophylla*, F. Muell., a little-known species of the Proteaceae of local distribution in South Australia (see *Gard. Chron.*, p. 85, fig. 14). Mr. G. F. SCOTT ELLIOT exhibited specimens of bark-cloth from Uganda and the shores of Lake Tanganyika, and gave an account of the mode of its preparation from the Bark-cloth Fig, the fleshy Euphorbia and *Acacia* of British East Africa, illustrating his remarks with lantern slides from photographs taken by himself. Mr. ELLIOT remarked that the native cloth manufactured on the shores of the Tanganyika was made on the same sort of rough loom which he had seen employed near Sierra Leone, and that as the Tanganyika is ethnographically

logically and botanically part of the west coast, it was interesting to find that the methods employed in countries so far apart were so similar in detail. A discussion followed, in which Messrs. RENDLE, HOLMES, T. CRAISTY, and W. CABRETTES took part. On behalf of Mr. W. R. OOLIVIE GAANT, Mr. HASTING exhibited some land shells and eggs and skins of two rare petrels from the Salvage Islands, lying between the Canaries and Madeira. These Islands were stated to be of volcanic origin, faced with steep rocks from 100 to 300 feet in height, and covered with loose sandy soil, the vegetation consisting chiefly of the wild Tomato (*Lycopersicon esculentum*), the Ice plant (*Mesembryanthemum crystallinum*), *Aparagus Scoparius*, and *Cistanche lutea*. A paper was then read by Professor T. RUPERT JONES, F.R.S., and Mr. FREDERICK CHAPMAN, on the "Relations of the Pistulose Polymorphisms and the Ramulinae," with the view of showing the existing evidence for or against the suggestion that several specimens referred to the latter of these two sub-families may really belong to the former.

— An evening meeting will be held [on Thursday, February 6, 1896, at 8 P.M., when papers will be read as follows:—I. "On Polytelic roots of certain Palms," by Mr. B. J. CORMACK. II. "On a Remarkable use of Ants in Asia Minor," by R. MORTON MIDDLETON, F.L.S., &c.

**DR. MORRIS, C.M.G.**—It is gratifying and inspiring to hear of the Assistant Director unfurling the flag of Kew, if we may so speak, not only in our colony of Bahamas, but in New York itself. Dr. MORRIS turned a winter holiday to account by visiting the Bahamas with a view of developing the vegetable resources of the colony, and of promoting the culture of the valuable Sisal Hemp. His lectures were attended by the Governor and the leading citizen, and there can be no doubt that good results will follow. In New York, a descriptive and illustrated lecture was given on the Royal Gardens at Kew, which was specially appropriate, in view of the establishment of a similar institution in the vicinity of New York. Dr. MORRIS, it appears, visited the proposed site, expressed his approval of it, and took the opportunity to wish God speed to the enterprise on the part of the botanical institutions of the Old World. Before leaving the city, he was entertained at dinner by the President and members of the Torrey Botanical Club.

**RAILWAY RATES FOR FARM PRODUCE.**—A correspondent of the *Times* writes:—Will you permit me to give you my experience of the recent reductions so loudly talked about in railway charges for farm produce? I ordered from a farmer at Upminster, Essex, fifteen miles from London, 1 cwt. of Potatoes, to be delivered in Croydon; they were sent through by the Great Eastern and Brighton railways, and I was charged for carriage 2s. 6d., just the price of the Potatoes. I then ordered 1 cwt. from a farmer at Ilford, eight miles from London, to be sent to Croydon; he sent them through by CARTER, PATESON & Co., who charged for carriage 9d. How can such a difference be justified?

**ROBERT DOUGLAS.**—The *National Nurseryman* gives a portrait and a sketch of the career of this gentleman. He was born at Gateshead in 1813, migrated to the States in 1836, and located permanently at Waukegan since 1844. Mr. DOUGLAS has been an enthusiastic and judicious planter, and is widely renowned for his knowledge of Coniferous and other trees.

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—Among the numerous gathering of friends of the institution present at the friendly supper which took place at the termination of the annual meeting, were the honorary secretaries of the Bath and Bristol and Worcester auxiliaries. The hon. secretary for the last-named town brought a cheque for the sum of £85, contributed by that branch to the parent institution. It also transpired that a friend of the charity, having connection with Covent Garden Market, had given a donation of £32 11s.

(thirty-one guineas), for the purpose of seeding one guinea to each of the thirty-one unsuccessful candidates.

**RIPE CRANBERRIES IN JANUARY.**—"I have just seen," writes an Aberdeenshire correspondent on Saturday, 25th ult., "a spray of the Cranberry plant, bearing a number of perfectly grown and ripe fruit. They were pulled by Mr. JOHN GRAY, Boghead, Birse, —up Deeside, some 50 miles from Aberdeen—near the roadside in the Forest of Birse. The ripening of this fruit at this time of the year is phenomenal, as Cranberries are generally ready for pulling about the month of August. The phenomenon is certainly illustrative of the mildness of the season."

**A CAUTION TO GARDENERS.**—We desire to warn gardeners, especially those looking out for a situation, against the wiles of a man travelling in the neighbourhood of London who gives the gardener to understand that he has the filling of a situation as head gardener at such and such a place, always fictitious; and then under some plausible pretext extracts money from him. A case has lately come to our knowledge in which a vacancy was stated to have occurred at Hook Hall, Basingstoke.

**DOUBLE COCOA-NUT.**—Mr. FLETCHER, of Warrington, kindly sends us a photograph of this extraordinary Palm in process of germination. From Mr. G. S. Jenman we have also received a similar photograph, so that we may infer the germination presents no special difficulties. We should gladly have engraved one or other of these illustrations, were it not for the fact that we have repeatedly figured the Palm as growing at Kew.

**VEGETATION IN THE SOUTH OF SCOTLAND.**—A correspondent writes:—"The Rhododendrons at Logan House are at present in bloom. The China Roses in my garden have produced flower-buds within the last fortnight; and I have found several, newly formed, on A. K. Williams, one of the finest of the hybrid perpetuals."

**A £50 PRIZE FOR THE BEST FRUIT AND VEGETABLE DRYER.**—Through the Bath and West of England Agricultural Society, which will hold its annual show at St. Albans from May 27 to June 1 next, the proprietors of the *Ironmonger* newspaper, London, offer a prize of £50 for the best machine for fruit and vegetable drying. It is hoped that this offer may have the effect of bringing forward a machine which will enable our fruit and vegetable growers to dry their products, and so realise a much higher price for them than they commonly do now that the universal practice is to glut the markets with all kinds of fruit directly it is ripe. Full particulars of the competition will be supplied by the Secretary of the Bath and West Society, Mr. T. F. PLOWMAN, 4, Terrace Walk, Bath; and the machines will be tried and judged at the St. Albans show.

**THE SURVEYORS' INSTITUTION.**—At the ordinary general meeting, held on Monday, January 20, a paper was read by Col. G. W. RAIKES (Fellow), entitled "The Re-apportionment of Rates and Taxes." A discussion followed, and was concluded, and a vote of thanks was unanimously passed to Col. RAIKES for his paper. The next meeting will be held on Monday, February 3, 1896, when a paper will be read by Mr. R. F. COLAM (Associate), entitled "An Improved Method of Settling Disputes as to Rights of Way." The chair to be taken at 8 o'clock.

**READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—The first of the series of meetings for the new year was held in the Abbey Hall, on Monday, the 27th ult., when the newly-elected president, Mr. A. W. SUTTON, invited the members and their wives to tea at 6 o'clock, the party numbering 170. The tables were tastefully decorated with Palms, Ferns, &c. Amongst those present at the tea and entertainment were Mr. and Mrs. A. W. Sutton, Mr. Leonard Sutton, Mr. Hubert Sutton, Mr. Neve, the chairman of the association; Mr. Burton, vice-chairman; Mr. J. Pound, Jun.,

hon. secretary; Messrs. Martin, Woolford, Bowie, Ontram, Turton, Dockerill, R. Webb (Beenharn); Townsend (Wellington College); Williamson (Wokingham); Wise (Blackwater); Dearlove (Burghfield); Barefoot (Mortimer); Johnson and Hatt (Egglefield) Osborne (Sonning); Barton (Bexley Heath), &c. The president, who was received by prolonged cheering, expressed the very great pleasure it had given him to accept the post of president for the present year, and promised to do everything in his power to further the interests of the association during the coming season. Mr. Sutton also promised to repeat his lecture on Potatoes read before the Royal Horticultural Society, if the secretary could find a suitable evening for it.

**ESLING HORTICULTURAL SOCIETY.**—The annual meeting of this society took place on the 24th ult. The report stated there was great need for an increased amount of subscriptions, and by way of bringing increased support the committee hoped to offer special prizes, open to all comers, and to form a reserve fund. The last summer exhibition at Gunnersbury Park was scarcely so full as usual, as owing to the dry weather there was a falling off in the classes for fruit, flowers, and vegetables. The financial statement showed a balance on the year of £28 15s. 4d., though the takings at the Chrysanthemum show fell below the usual average. It was resolved to offer a series of special prizes, open to all comers, with a view of providing additional attractions. The next summer show will be held on July 1, in the grounds of Hanger Hill House, Ealing.

**ESLING DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—This newly-established suburban society encourages the reading of papers on horticultural subjects; embodying original research, at its weekly meetings, held during the winter months; and as affording a stimulus to its members, Mr. W. W. RICHARDSON offers three prizes for an essay on the cultivation of Roses in the open air; and Mr. J. HUGHES an equal number for an essay on the Chrysanthemum. The Honorary Secretary is Mr. W. ROBERTS, Braemar Gardens, North Common Road, Ealing.

**PEOPLE'S PALACE HORTICULTURAL SOCIETY.**—One of the course of monthly lectures delivered before the members of this society was given on Saturday, January 25, by Mr. R. DEAN, who took for his subject, "Preserved Flowers and Grasses and their Uses," a number of examples in the way of grasses and flowers having been furnished to illustrate the subject of the lecture by Messrs. OSMAN & Co., Commercial Street. There was a large and attentive audience.

**FERN STEALERS.**—WILLIAM MOBEY and CHARLES WILLIAMS, of Bexley, Kent, were charged at Totnes with damaging Devonshire hedges. The evidence went to show that prisoners were engaged with a horse and cart in the wholesale removal of Ferns, about 5 cwt. of roots being found in an outhouse. Previous convictions were recorded, and the Bench inflicted fines—MOBEY, £5; WILLIAMS, £2 10s.; together with the amount of damage. The money not being forthcoming, MOBEY was sentenced to six weeks' hard labour, and WILLIAMS to one month.

**HIGHGATE CHRYSANTHEMUM SOCIETY.**—The eleventh annual meeting of members was held on the 22nd ult., Mr. C. CATLING, the President, presiding. The annual report stated that the exhibition held in November was exceptionally good. The special prizes offered by the President and Mr. W. BECKETT for groups of Chrysanthemums were well contested, and constituted a leading feature of the show. The financial statement showed that the year was commenced with a balance in hand of 6s. 5d. The total amount of receipts for the year was £121 6s. 8d. The chief item of disbursements was £70 8s. for prize-money, and after all expenses had been met, there remained a balance to the good of 19s. 8½d. Votes of thanks having been given to the retiring officers, the election of officers for 1896 was proceeded with, and the Chairman proposed as

President, Mr. H. W. BIAKS, whose name was adopted with unanimity. For the posts of Treasurer and Secretary, Mr. J. W. KEARSON and Mr. W. E. BOYD were re-elected; as were also Messrs. G. ATKINS and G. W. SMYTH as auditors. The exhibition for the present year has been fixed for November 12 and 13.

**DEVON AND EXETER GARDENERS' ASSOCIATION.**—At a meeting of this Association, held in the Guildhall, Exeter, on the 22nd ult., a paper on "Fruit Culture, with special Reference to the Selection and Cultivation of Small Fruits," by Mr. BERRY, was read by Mr. HOPE, Hon. Secretary. In the discussion that followed, it was thought that some of the experiences gained by the author when in the East of England, had but little application to the more humid climate of Devonshire. It was agreed, however, that the paper conveyed many excellent hints upon the cultivation of these smaller or bush-fruits.

"THE JOURNAL OF THE ESSEX TECHNICAL LABORATORIES" shows how admirably the directors of those establishments understand the requirements of the times. The combination of thorough grounding in principles and of manual training in the practice of agriculture and horticulture, cannot fail to produce excellent results in the future. In principle we cannot imagine a better training for beginners than is afforded under the auspices of the Essex County Council, supplemented by further experience in a good garden.

"AMERICAN GARDENING."—The number for January 4 possesses peculiar interest as being a jubilee number. The auspicious event is celebrated by the adoption of a weekly instead of a fortnightly issue. During the fifty years that have elapsed the journal has many times changed its name and its editors. As the *Horticulturist* it was founded by A. J. DOWNING, a name held in honour on both sides of the Atlantic. PATRICK BANAY succeeded in the editorial chair. In 1858 it was merged into the *Gardeners' Monthly*, edited for years by another famous man, THOMAS MEEHAN. On the death of the publisher, the *Gardeners' Monthly* was incorporated with the *American Garden*. The paper indeed seems to have undergone a series of changes, now being amalgamated with this one, and again, Amceba-like, engulfing that. It is rather puzzling for us to follow all these changes; it must suffice to say that Dr. HEXAMER was once editor, and that under the title *Popular Gardening* it was under the editorship of Professor BAILEY, one of the foremost men in his department. Him succeeded our former collaborator and our present friend LEONARD BARRON. The changes he has introduced have been evidently beneficial, and we look forward with something like paternal interest to the future progress of *American Gardening* under his direction. It is significant of the identity of national stock to note that there have been and are many English-born editors of American gardening periodicals. On our side we are always glad to welcome American correspondence and American co-operation. Among literary and scientific men the difference of nationality is for the most part practically ignored. Who that knew him personally, ever thought, for instance, of ASA GRAY as an American?

**THE CURATOR FOR THE SIERRA LEONE BOTANIC GARDEN.**—For the newly-established Botanic Garden at Sierra Leone, Mr. FREDERICK ENOS WILLEY has, according to the December *Kew Bulletin*, been appointed as curator. Mr. WILLEY has been in the employ of the Kew Gardens for some three years, part of which time was spent by him as curator of the botanic station at Abusi, Gold Coast, during the absence of the late Mr. CROWTHER. Mr. WILLEY's manifested skill and experience are recognised by his appointment by the Secretary of State for the Colonies to this new post.

**PUBLICATIONS RECEIVED.**—We have received vol. x. of the *Proceedings and Journal of the Agricultural and Horticultural Society of India*, July—Sep-

tember, 1895. This contains, Some notes on the sacred flowers of the Hindus, a Report on the manufacture of Tea in Assam, and other papers.—*Bulletin of the Botanical Department, Jamaica*, for December, 1895, including notes on Coffee and its cultivation and curing; Badding Orange Trees, by W. CRADWICK; Packing Oranges; and Synoptical List of Ferns (continued).—*Bulletin of Miscellaneous Information*, from the Royal Gardens, Kew, for December, 1895, including articles upon cultivation of vegetables, Decades Kewenses (description of new plants), and miscellaneous notes, among which is a curious note on the fate of the great Screw Pines at Kew, including a reference to an account of a similar calamity in the Breslau Botanic Garden, drawn up by Professor CORN; and a like disaster at Glasnevin. The cause of the disease is a fungus—*Melanconium Pandani*.—*Culture of the Chrysanthemum*, by W. WELLS, Earlswood Nurseries, Redhill; price 1s.

## BELGIUM.

### THE EDITORSHIP OF THE *LINDENIA*.

M. A. COGNIAUX, the well-known Belgian botanist, has undertaken, from the beginning of the present year, the editorship of the *Lindenia*. Our correspondent, M. Ch. De Bosschère, takes charge of the editor's department of the *Illustration Horticole*, on the 30th of each month; that for the 15th will be retained by M. Rodigas. M. Lucien Linden, who is at the head of three large horticultural establishments, finds himself obliged to relinquish the editorship of these publications, of which he is the proprietor and director.

### NOTES FROM HEYTHROP PARK.

On January 15, the usual annual ball at Heythrop, the country seat of Mr. A. BRASSEY, M.P., took place, and at such times a great floral display is to be found in the gardens. A few days before the event took place, a visit paid to the glasshouses showed some excellent white Butterfly Cyclamen, two-year-old tubers, in 32-sized pots, one of which I counted 150 fully-expanded flowers, of good size and substance, which I should think would bear comparison with the German strain. The Poinsettias were a grand lot of plants, with heads of bracts measuring 18 inches in diameter; the plants about 3 feet high, with foliage down to the pot. About 200 Poinsettias are grown. Calanthes are well cultivated, and these consist of *C. Veitchii*, *C. V. rubra*, and *C. V. aurea*, the flower-spikes of *C. Veitchii* measured more than 3 feet in height, the flower of good size and colour. Euphorbia jacquiniiflora is largely grown. Among the Orchids, I noticed some excellent pieces of *Cœlogyne cristata*, three plants each measuring 3 feet through, were masses of open flowers. Other Orchids in flower were *Dendrobium Wardianum*, *D. nobile*, *Phalanopsis Schilleriana*, *Lycaste Skinneri*, *Saccolabium giganteum*, *Dendrochilum glaucum*, and some good pots of *Sophranites grandiflora*. Here, too, are two of the finest plants of *Adiantum Farleyense* I have ever seen; they are 4 feet high, and as much through, and the picture of health. Growing in the same house is a fine specimen of *Anthriscum Scherzerianum*, fully 4 feet through, very healthy, and free flowering. Winter-flowering Begonias, double-flowered Primulas, Hyacinths, Narcissus, Mignonette in small pots, and as specimen plants; large specimen plants of Lilacs, *Viburnum opulus*, *Dentzia cantoniensis*, *Rhododendron Princess Alice*, *Azalea indica*, *A. mollis*, and *A. amœna*, &c. Violets, both in pots and frames, are quite a feature of the place, and the frames number twelve lights, and the pots about 150. The demand for Violets for buttonholes is very large, Marie Louise and Swanley White are the varieties grown. In the conservatory, a fine specimen of *Luculia gratissima*, as much as 12 feet high, was just coming into flower. Everything about the gardens bears witness to careful, painstaking cultivation. C. Collett.

### VIEW IN MR. ARDERNE'S GARDEN.

We have already given illustrations of the manner in which ornamental plants grow in the beautiful gardens of Mr. Arderne at Cape Town. The view we now give (fig. 22), shows a broad border filled with the very lovely white-flowered *Watsonia O'Brieni*. This is one of the most beautiful flowers of its class, and the way in which it has been grown in the open at Kew shows that we are not debarred from its cultivation in this country.

### HOME CORRESPONDENCE.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION ELECTION.**—I was sorry to read Mr. Findlay's note (p. 116) respecting the Gardeners' Royal

North, will not deny others the benefit of the same influence, even if it does run contrary to his channels. Before this sort of thing can be done away with, those carpens whom Mr. Findlay hints at in his preface will have to come in, and after getting rid of the present race on earth, will "at the beginning" be careful to have a pure pair to start with, and ensure their keeping so. In making these remarks, I do not infer that the non- or short-subscribing candidates who get on the fund at the annual elections are always the most deserving; while human nature remains what it is, we shall not get an ideal perfection in this or any other matter. To me the saddest portion of Mr. Findlay's note is where he infers that unless the rules are altered, as he suggests, he will refrain from asking gardeners to subscribe in the future. I venture to assert that those gardeners who follow his leading in this respect will in the long run be the only real sufferers. Personally, I have not done nearly so much for the Institution as Mr. Findlay, not having his influence and position.

It was after thinking this matter over that I decided to become *A Subscriber*.

— I am sorry to say anything against what Mr. Bruce Findlay advances on any subject, but his remarks on the Gardeners' Royal Benevolent Institution, see *Gardeners' Chronicle*, p. 116, January 25, seem to call for special notice. He seems to have entirely missed his mark—the Gardeners' Royal Benevolent Institution is not a benefit society, nor ever has been. I, as one of the committee, suppose that I know something of its working, so I may as well say at once that we could not give the pensions to 158 persons if we had to depend on the subscriptions of gardeners alone. If Mr. Bruce Findlay or anyone else will kindly take the trouble to go through the annual report, it would soon be discovered what a number of pensioners would have forthwith to be told their pension had ceased, if the pensions depended on the contributions of their brethren alone. The worst of it is,

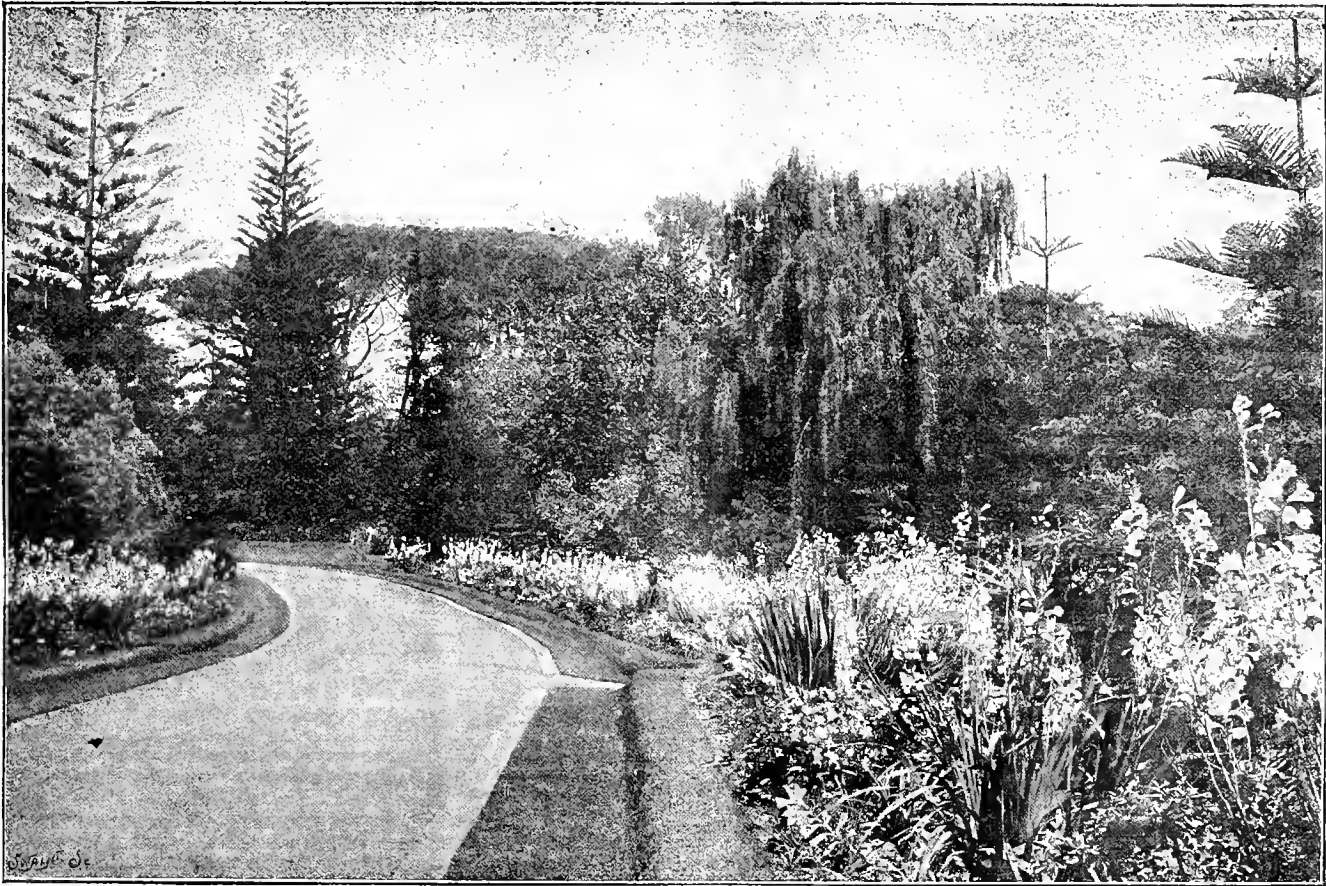


FIG. 22.—*WATSONIA O'BRIENI* IN THE GARDENS OF H. M. ARDERNE, ESQ., CAPE TOWN.

Benevolent Institution, for it is well known that that gentleman has long been a subscriber to it, taking a personal interest in its well-being. I fear that like some of the rest of us, he is a bit disappointed at not getting his non- or short-subscribing candidate on to the pension list. I say non- or short-subscribing candidate advisedly, as even Mr. Findlay knows full well that all candidates who have subscribed over fifteen years, and are otherwise eligible, are put on without an election. Those who have not subscribed long enough, have votes allowed them *pro rata* to the time they have done so. I for one cannot agree with his proposal, that only subscribers to the fund should be put on the pension list. This is striking a blow at the root of the Institution, which is a benevolent one, not a benefit society in the strict sense of the term, though it is such in reality, as no election takes place until all eligible subscribers are put on. Surely, Mr. Findlay, whose well-known personal influence has done so much in the past for horticulture in the

Still, I have done a little to help its funds by word and deed, and feel I can still conscientiously ask all my non-subscribing fellow gardeners, on the grounds of self-interest, if for no other motive, to become subscribers. I would say, do this in good time, and then if you need its help you are certain to get it, without the trouble and uncertainty of an election. The rules are plain enough in this matter—he who runs may read, if he will. As bearing on this matter, allow me to mention an incident told me (in confidence) over sixteen years ago by the late energetic secretary, Mr. E. R. Cutler. Some thirty years ago, he (Mr. C.) wrote to a gardener then occupying a good position in the gardening world, pressing him rather closely to become a subscriber to the "Benevolent." He received a very offensive reply from the person in question. Some years later this said gardener called on Mr. Cutler at his office in London begging him, with tears in his eyes, to do all he could to get him on the pension fund. Both persons are now dead.

that for some cause, which I have failed to discover, a large number of those gardeners who, in the heyday of their health and strength and unsilvered hair, were the loudest in their denunciation of the management of the Gardeners' Royal Benevolent Institution, are the first to apply for its benefits when they find their strength failing, and their days of active work are nearly over. They then come and pay £10 down, or for a few (a very few) years, pay an annual £1 1s, and expect to be put on at once, and so to get back the very first year two or, it may be, three times as much money as they have subscribed. If the gardeners who will not pay a penny in subscriptions, will only look down the list of pensioners, they will find many names of men who once scarcely ever had a good word to say about the Royal Benevolent Institution for gardeners. *W. Denning, Heathfield Nursery, Hampton, Middlesex.*

— As an old subscriber to this excellent Institution, I regret to read Mr. Bruce Findlay's letter (p. 116).



I know of no kindred society that gives so much to subscribers who need assistance for so little subscribed, and the amount paid in the shape of pensions is out of all proportion to the subscriptions received from gardeners. On the 16th inst., out of fifteen successful candidates, five were placed on the list of pensioners without the trouble or expense of election, simply because they had been subscribers; and out of the remaining ten who were elected, two only had not been subscribers, one aged 73, and the other 81, who had been a gardener nearly all his life. If the benefits of the Institution were to be restricted to those only who have been subscribers, it would, in my opinion, degenerate, and fail to receive the support that it has had in the past. Legacies have been left, and large sums given on the faith of existing rules, and the Institution has been enrolled under the Friendly Societies' Act. It would scarcely be just to limit the voting power in the manner proposed. It is not the case that a non-subscriber can be nominated over the heads of those who have been subscribers. These are credited with votes according to the number of years they have subscribed, and thus start in their candidature with an advantage over those who have never subscribed. Having had much experience with charitable institutions, I know that some candidates appear to have powerful friends, when, in fact, it is their distress that has gained them. *W. Ronpell.*

— Your Manchester correspondent has "hit the right nail on the head" in his pithy remarks re the above valuable Institution, and unless the abuse complained of is removed, and none but subscribers—and those who have subscribed the longest have the prior claim—be eligible for election as pensioners, a great injustice is done, not only to those who, in or out of situation, have continued, and often at great self-denial, their subscriptions, but also to the Institution itself. Already a great difficulty is experienced in getting young gardeners to subscribe, for the very reason of the favouritism complained of. It certainly does seem hard, to say the least, that such an abuse should be practised that those who have never subscribed should become pensioners of any benevolent institution, and I trust now the subject has been ventilated, subscribers will not let it rest until the abuse is removed. *A Subscriber of Sixteen Years.* [We would advise our correspondent and other cavaliers to carefully read the remarks of *W. Ronpell*, *W. Denniog*, and "Old Subscriber," in the present issue, for the purpose of obtaining exact statements of the aims and objects of the Institution. *Ed.*]

— I was glad to see the letter over the signature of Mr. Bruce Findlay with reference to the practice of soliciting votes for candidates for the pension. The perusal of the list of candidates must leave a strong feeling of regret in every one to know that so many of them, poor and deserving as they evidently are, will have to wait at least another year for the pension that will help to brighten and cheer the last days of their lives. But that feeling is intensified when we learn that subscribers of ten, eleven, and twelve years respectively have been unsuccessful, and the pension has been awarded to some who have been indifferent to their own welfare as well as to the well-being of the Institution. I am not prepared to endorse Mr. Bruce Findlay's remedy for the evil, serious as I consider it to be. There have been years in the past, and I have no doubt there will be times in the future, when there will be funds sufficient for all; and I think if subscribers generally will only give the matter their serious consideration, they must see how unfair it is for people of high position in the horticultural world to use their influence in favour of any one candidate, however deserving he may be, unless they know there is not another in a still worse plight. Perhaps there will always be a few who are anxious for the success of their friends, and in kindness of heart will do their best to help them. But if the majority of the subscribers will refrain from pledging their votes until they see the full list of applicants, and will then give their votes to those who have tried to help themselves and their brothers, we should not then have to regret that many of the most deserving have to apply again and again for help. *George Burt.*

— Before reading Mr. Findlay's remarks on the above institution, similar thoughts had occurred to me, and I quite agree with what he says on the subject, that none but subscribers should be eligible for election as pensioners; it is not right or just for a non-subscriber (who probably in his palmy days thought the institution beneath his notice) to be elected over the heads of men who have been sub-

scribers for some years; and I for one shall not give my votes to a non-subscriber so long as there are subscribers eligible for election, of which there generally are more than sufficient. *J. Wallis, Keele Hall Gardens.*

— It may interest many of the supporters of this valuable Society to know that in the year 1856 the anniversary meeting of the Society took place in the rooms of the Horticultural Society, 21, Regent Street, on January 16, the late Mr. George Paul being in the chair; the total income then being £824 5s. 6d., made up of annual subscriptions, £547 1s.; donations at the annual festival in the previous year £181 12s.; and dividends on stock, £95 12s. 6d. When these figures are contrasted with those presented at the annual meeting recently held, some idea can be gained of the growth of the Society during the past forty years. Pensions had been paid amounting to £442. £300 worth of 3 per cents. had been purchased for £2692s. 6d., and the total expenditure amounted to £876 8s. 8d.; at that time the amount invested was £3700. At this meeting, Mr. John Lee was elected a trustee of the society. On June 11, the anniversary festival was held, Sir Joseph Paxton in the chair; the donations amounting to £270; and on July 9 there was an election of two pensioners out of sixteen candidates. *R. D.*

**AQUILEGIA SKINNERI.**—I read with much interest Mr. Wolley Dod's note on *Aquilegia Skinneri*, as I have for nearly twenty years tried to obtain the type of this species, but without success. The plant which we have in our garden under this name is only *A. canadensis*, with longer flowers, and a more slender and erect habit. I have never had any other, and had begun to question whether *A. Skinneri* were not a myth. But this is what complicates matters. I have grown since 1884, and under the name of *A. arctica*, *Hort. Loudon*, a Columbine with red flowers, answering to the description that my friend, Mr. Dod, gives of *A. Skinneri*, as obtained by him from seed from Mr. Thompson. This *A. arctica*, *Loudon*, is *A. formosa*, Fischer (in *D. C. Prodr. Rom.*), and a good coloured figure of it is to be found in the *Flore des Serres*, by Van Houtte, t. 8. It comes from eastern Kamtschatka, and flowers at the end of July, as did Mr. Wolley Dod's *A. Skinneri*. May not this be the same plant? Is *A. formosa* identical with *A. Skinneri*, and does it grow in Kamtschatka or in Mexico, or if it grows in both places? Or are they two different species, and, if so, what are the specific characteristics distinguishing each of them? *H. Correvon, Geneva.*

**EUCHARIS GRANDIFLORA AT THE GARNONS, HEREFORD.**—A thoroughly healthy batch of this plant, quite free from mite and mealy-bug, with broad, dark green, stiff foliage, and plenty of flowers, on about a hundred plants in pots, varying from 7 inches to 12 inches, is a grand sight; and it may be of interest to others to know that Mr. Fox, the able head gardener, keeps them always growing. The plants were potted three years ago in a mixture of three-quarters good loam, one-quarter charcoal and sand, and the bulbs covered fully 2 inches. During summer they get a good syringing twice a day, and an occasional syringing about now. Water is given rather sparingly just now, but in the growing summer time heavy watering is afforded, and also once a week some weak liquid-manne. *W. E.*

**RHODODENDRON ARGENTEUM.**—During a recent trip round the Dukeries, I was much struck with a fine tree of *Rhododendron argenteum*, which I found growing in one of the houses in the excellently-kept gardens attached to Osberton Hall, near Worksop, the residence of the Right Hon. F. J. Savile Foljambe. This tree measures about 14 feet high, and would doubtless grow much larger did not the dimensions of the house unfortunately necessitate its being cut-back; it is now in full bloom, and is literally one mass of huge trusses, each truss consisting of from eighteen to twenty-two flowers. The milky-white colour of the blooms with their deep claret splash present a truly magnificent sight. Mr. T. H. Crasp, the head gardener at this establishment, has been moving a lot of large old fruit trees with conspicuous success, and although the present is usually regarded as a "rough" time in the garden, at Osberton everything will be found as neat and bright as the proverbial new pin. *A. J.*

**MECHANICAL MOTORS.**—I have read with much interest and some amusement Mr. Lawson's letter, on p. 116, concerning the use of mechanical motors in gardens. I quite fail to see the force of his arguments against them. His objection to their

noisiness applies equally to the lawn-mowers and rollers commonly employed. Probably the new motor would do the work so much more expeditiously that a longer daily period of quietness and peaceful enjoyment of the garden would be possible. I cannot see, either, how a person accustomed to hauling a roller or walking between the handles of a lawn-mower would be lowering his position by tending a mechanical motor; indeed, if he became expert in the latter occupation he would have made a distinct advance in usefulness and intelligence. The motor, not necessarily a noisy smoke-producer, would have the advantage over an animal-propelled machine of not damaging the turf by hoof-prints, and could, for that reason, be worked in weather that would forbid the use of horse or pony. As a gardener of over forty years' practice in fairly large establishments, I hail with satisfaction the prospect of the use of these motors in horticulture. *G. D., Hawkhurst, January 25.*

**A TRADE GARDENER'S REQUIREMENTS.**—I think that the letter which appeared in the last issue of the *Gardeners' Chronicle*, under the above heading, will have caused considerable amusement and some sensation to those who read it, and who may be connected in any way with the gardening fraternity. It is a great pity that your correspondent did not answer it, so as to have got a reply, stating what wages he would receive if he possessed all the above qualifications, viz. bricklayer, glazier, painter, architect, designer, clerk, market-gardener, company-promoter, &c. &c. Had ever one man possessed a knowledge of all these trades and professions, if so, his annals ought to be recorded in the lives of famous men, and be certainly ought to rank higher than any cabinet minister, or military or naval hero. But how often do we see in the advertising columns of the gardening papers men wanted to fill so many positions, and yet called gardeners. Only recently there appeared in the *Gardeners' Chronicle* an advertisement requiring a man with good knowledge of Orchids and crows; or a young journeyman, or improver, with a fair tenor or bass voice, to join the church or chapel choir; indeed, the requirements are given in endless variety, and the payment made is a sum of 16s. per week, and perhaps a botch. *Foreman.*

**THE ROYAL HORTICULTURAL SOCIETY.**—There are occasions when it may be well to break a wholesome rule, and write a word about one's self, as, for instance, in answer to the letter (p. 115) of "A Horticultural Fellow of the Royal Horticultural Society," because this writer is disparaging not myself only—a matter of little consequence, but a large number of the amateur Fellows of the society. The disabilities which be thoughtfully assigns to me, and so to very many of the Fellows, are these:—1. I am a clergyman; 2. I live "in a rural district of Hampshire;" 3. I am a member of the Scientific Committee. To consider these objections one by one. 1. It has hitherto been reckoned a matter of historical fact that the clergy have, perhaps, shown more interest in horticulture than any class of men not professional gardeners, and that some of them have even attained to eminence in this branch of knowledge. From the every-day practical point of view, they have opportunities, which they largely use, of spreading the love and knowledge of gardening. Lastly, they form a not inconsiderable part of the society. 2. It is, doubtless, a mark of inferiority and a disqualification to live in a "rural district," and the activity of the country Fellows should be strictly limited to the punctual payment of their annual subscriptions. Yet even we provincials and rustics have gardens, read books—nay, even write them sometimes—and have been known to visit London. 3. It will not be intuitively clear to every reader of the *Gardeners' Chronicle* that ignorance of practical horticulture follows as a necessary logical sequence from membership of the Scientific Committee. We must await a further demonstration of this truth from the "Horticultural Fellow," whom I will not, by the same reasoning, call unscientific in his argument because he is horticultural. Antibiographical memoirs are the fashion, so I will not ask pardon for saying that I have given the leisure of a great part of my life to a kind of horticulture which I consider practical, that I have been for a dozen years a Fellow of the Royal Horticultural Society, and have served on the Scientific, the Floral, and the Narcissus Committee, and that for two years I have been a lecturer on horticulture under the Wiltshire Technical Education Committee. But whether it has been my fortune to "render services to practical horticulture which qualify &c.," it is

not for me to say. I can only say that, when asked, quite unexpectedly, to let myself be nominated for the Council of the Royal Horticultural Society, I willingly, as many another rustic would do, consented to face the considerable trouble and expense which my possible election would entail, if only I could be of any service to the Society, and to the advancement of horticulture in general. I do not know what the "Horticultural Fellow" means by practical horticulture, and am not sure he knows himself. I commonly dig in my own garden, but have not yet qualified myself by digging in his. It is noticeable that this writer desires the Council of the Royal Horticultural Society to be drawn from the London district, and, presumably, from the profession. If he really means that no amateur, no clergyman, and no countryman should ever be on the Council, he will do well to say so plainly, and if his opinion proves to be that of the majority, it will be time for the Fellows who are in all or any of these categories to resign. Other correspondents have lately been urging the wisdom of the amateurs being represented, and of the rural districts being brought within the Society's influence. There is not always help in a multiplicity of counsel, and it is difficult to see any practical help in the letter of the practical "Horticultural Fellow." *George H. Engleheart, Appleshaw, Andover.*

I had written a long letter, but "A Horticultural Fellow," dated January 20, has written so well, that my occupation is gone. Allow me, then, to hope that February 11 will result in a good matter, and a clear understanding be given why the Secretary should be allowed to assume a dictatorship. Another thing strikes me as an extraordinary expenditure; the Journal of the Royal Horticultural Society costs the Fellows, with postage, £750 6s. 5d., Mr. Barron's pension £180—virtually £1000—nearly one-third of the entire income on a blue-book which is never read, and which would be so much more useful if published by the horticultural press, and thus save £750 a-year. We require also to be told who was responsible for the Secret Committee? Some names appear on it which I was very sorry to see. Some years since, I remember, one of the said committee figured in a somewhat similar occupation, which resulted in the resignation of my friend Mr. Dodwell, of Carnation celebrity. The affair of Mr. Barron's seems a difficulty; the successor of Mr. Barron may be already born, but he is not made. *A Poor Fellow of the Royal Horticultural Society.*

**ORIENTAL LILIES.**—I was interested in the communication on the above in vol. xix., p. 75, by Mr. Williamson, especially in respect to *Lilium giganteum*, in which I note he deprecates the use of manure, especially in the liquid form. A good-sized bulb planted in 1833 in a Rose-border in this garden, with a north-east aspect, flowered for the first time last summer, the spike being a very strong one, and seventeen perfect flowers were developed, which have given me any amount of seed, of which I send you a podful. I notice in Nicholson's *Dictionary of Gardening* that he gives six to twelve as the average number of blooms. When I planted the bulbs of this species I put a small quantity of peat with them, and since that time it has benefited by the dressing of good rotten manure put on the Rose-border each year, and as soon as the spike reached 3 feet in height, I deluged the plant with farm-yard liquid-manure, and to this I attribute some part of my success with the Lily. Does Mr. Williamson mean that this liquid-manure injures rather than assists the development of the spike, or the bulb in after years? I have been given to understand that the bulb of this variety dies away after flowering. Is this so? At any rate, I am hoping to see some young bulblets appear this spring. *J. Mayne, Bickton, East Devon.*

**GROWING UNRIPE SEEDS.**—In your leading article on the effects of growing unripe seeds, I would like to remark that from my experience, gathered from the information of friends abroad, they all agree that this remark specially applies to economic plants. If the seed has been gathered from young trees, it is immature, and the trees never prove a success. To go to the extreme in this case, seed gathered from wild trees, such as the Coffee, which have been found growing in the forests, make fine trees, both strong and healthy, and yield large crops. Every year more importance is being attached to the collection of such seed by cultivators. Although I have lately had some slight success with the transportation of seed of *Erythroxylon coca*, I have great difficulty in raising plants from these seeds, in comparison with

the seed taken from old trees that are growing in my houses, showing that the seed does suffer by transport and age. I have just been informed by a friend who is connected with the surveying expedition in South-East Africa, that his men report that they have come across a large plantation of wild Coffee trees. The trees were laden with fruit, and the ground had quite a thickness of Coffee debris upon it under the trees. I have sent out to have some of this seed carefully collected and sent to England, as we have no idea what variety it can be. *Thos. Christy.*

**UNDERGROWTH IN GAME COVERT.**—At this place, Erlestoke Park, Wilts, the Periwinkle, *Vinca major*, grows well under trees, also Wood Laurel, *Daphne laureola*. The last-named has one fault, it loses its bottom. We have Tree Box from 3 feet to 10 feet high, and the same widths, and these the rabbits do not gnaw. I have also planted in the coverts old Box edging plants 2½ feet high. *Hypericum calycinum* is another plant of low growth which does not get touched by rabbits or hares. We have nothing else here as undergrowth in the woods. *J. Wood.*

**DENDROBIUM WARDIANUM.**—I was pleased to see the notes of a gardener who has been successful with this beautiful species of *Dendrobium*, and should be very grateful, as would doubtless be many others, if Mr. James Hebdien would kindly state the kind of treatment he pursues with this Orchid. *Anxious.*

**FARMERS AND FRUIT CULTURE.**—Practical men who have to get their living by fruit-growing will smile at "A. D.'s" advice, at p. 114, to plant fruit trees thickly, and in three or four years to lift and replant them. It will barely pay to plant the trees once, let alone the expense of lifting and removing six or seven-year-old trees to some distant piece of ground, and planting and staking them; nor will it pay for trenching the ground. A much more economical plan would be to plant the trees at the proper distance apart in the first instance, cultivate, and crop the ground with vegetables; for a soil that will grow good vegetables will produce good fruit. Should the orchard be formed from pasture land, Potatoes would be an excellent crop the first year; then anything afterwards that is likely to pay best. Trees growing rank, and needing root-pruning, a row of Celery planted 6 or 7 feet from the trees, would, when this comes to be earthed, serve the purpose of root-pruning, and another year the same may be done transversely. Some of the trees may bear fruit the following year, but if lifted bodily, no crop could be expected. I have served some old trees in this manner for some years, not with the view of root-pruning, but in order to place a supply of fresh food within reach of the roots. The row of Celery was, and is, planted on the surface, just clear of the drip of the branches; but to get sufficient soil for earthing, it had to be taken for a distance of 3 feet underneath the branches, and to a depth of about 18 inches, or down to the clay, some of this being used to bank up the more friable soil. The spaces between the rows are dug up the depth of the spade, and 6 inches of manure, with the lung litter as brought from the stables, is placed therein, to prevent the clay adhering to the man's shoes when taking up the Celery. Without it the bottom would be converted into a "pan," preventing the passage of water downwards, and so long as the strawy particles are not decomposed, the passage of water and air through the upper soil is facilitated. The rows of Celery were only planted on one side of the trees in the first instance, but since both sides have been treated in their turn every three or four years, receding a little from the stem each time to avoid cutting the tufts of fibrous roots that have been put forth where the roots were severed before. As the trees met in the row I could not run trenches transversely, but the surface under the branches is pricked out annually, and the best mulch available wheeled on, usually in frosty weather, and spread after the frost is well out of the ground. "A. D." will, perhaps, retort that my method entails much labour, but I did not put the clay there, and I would not advise anyone to plant fruit trees where this substance is so near the surface. I recently listened to a paper read by a technical instruction lecturer on "Orchard Trees," and he advised making holes a few feet in diameter where the clay was near the surface, taking a portion of it out, and replacing it with more suitable soil. Advice like this, and that of "A. D.," is calculated to deter any one embarking in fruit culture, if ever so much inclined. By all means select suitable soil for the

trees, and such as needs no preparation. Crop with vegetables at first, and if these are not remunerative, fill vacant spaces with bush fruit trees, which have frequently proved more remunerative than the crop overhead. With the present conditions of land tenure, it is useless urging the farmer to plant fruit trees. If it is to be done at all it must be done by the landlords, and matters are not very encouraging for them; for more than one instance has occurred where the landlord has formed orchards, and in a few years after the farmer has left or become bankrupt, and the cattle have been allowed the run of the orchard and destroyed the trees. I saw an orchard last spring attached to an untenanted farmhouse, where the trees had been barked all round by cattle as high as they could reach. The contents of the orchard did not appear to be of any great value, but it would, I dare say, be all the same had they been. There is a little to learn in the handling, packing, and grading fruit, but even a farmer would soon master those little matters. I have advocated the use of boxes in preference to hampers for conveying fruit to market in this district more than a dozen years ago, and a few who have had fruit worth taking care of have adopted the plan. The hampers or baskets in this part are made of Willow, and are infinitely worse than the baskets or sieves seen in Covent Garden, and it is not unusual to see some with five score of Apples in. They are so flexible that on every movement the Apples in contact with the Willows must be impressed by them, and being so inconvenient for handling, they get frequent jerks in loading and unloading. Except the large market growers, most of the market produce in this part is conveyed to market in the ordinary farm-cart, which is so opposed to the light spring vans seen in the London market. We have not, with one or two exceptions, any that confine themselves to fruit culture in this part; but it is associated with farming, vegetable culture, Willow culture, and basket-making, or some other industry or occupation, and the chief fault I have had to find with them is the handling of the fruit. *W. P. R., Preston.*

**EARLY BUDDING OF THE DOUBLE FLOWERED WHITE-THORN.**—Amongst the many indications of an early spring, perhaps none is more striking than a double-flowered White-thorn I noticed this morning in the grounds of Beckford Hall. This tree is growing in a shrubbery having a north aspect, and at the time of my visit, January 28, it was green all over, the leaf and flower-buds ready to burst. In other parts of the grounds, Snowdrops formed almost white sheets of blossoms. *G. Read, Evesham.*

## FORESTRY.

### DISTRIBUTION OF ROOTS.

MANY fallacious ideas exist regarding the roots, their uses, and formation, which are not, however, confined to any set of persons, but are shared by those who have worked with and amongst plants all their lives. Darwin's researches and observations did much to render the properties of roots and their mode of growth familiar to the general reader, but there are many persons still whose principles or inclinations refuse to place much trust in the great naturalist's teachings. There are many facts concerning roots which may be learnt without going to books for them, providing the observer works with patience and without preconceived erroneous notions. One of the most interesting subjects, and perhaps the most important from a practical point of view, is the distribution and range of roots in the soil. A great many persons know little about this matter, and it is likewise true that no one can positively say without investigation, where or in what direction the roots of a long-established tree extend. The more primitive theory was, and is still in some quarters, that the roots, or, at least, the more important part of them, are to be found directly beneath the trunk. When a pig or cow died on a farm, this theory found practical application, and the carcass, if not thought fit for food, was buried as close to the stem of the farmer's favourite Apple-tree as possible. If a good Apple year followed the interment, no further proof was needed as to the effect of this application of a highly-concentrated manure, although in all probability, the only real

benefit derived at the time was due to the limited root-pruning which accompanied the digging of the hole. Such ideas as these may be thought to be confined to the unenlightened backward parts of these islands, but this is seemingly not the case. An article which appeared last year in a well-known illustrated weekly, contained some startling revelations in root-lore, which might fairly compete with the views of the "oldest inhabitant" on tree growth. In it we are told that "every Girton girl knows that a well-conducted British Oak spreads its roots as far and wide through the soil beneath as it rears its boughs above towards the air of heaven." This statement, though capable of qualification, would pass fairly well in a crowd, but it is evidently too moderate for the writer, for he proceeds, "but what every Girton girl does not, perhaps, so confidently know is this, that on the whole, the tips of the roots and the tips of the branches correspond roughly in situation with one another," &c. It would be interesting to have the writer's definition of "roughly" here, for at first sight it would seem that the Girton girl is not quite alone in her presumed ignorance of this interesting correlation of growth. Gardeners and fruit growers have hitherto been preparing borders for the roots of their wall fruit on principles which, according to this statement, are certainly wrong. The drainer, whose pipes get choked with what he calls roots, can no longer blame the Elm or Ash tree thirty or forty yards distant. Further on we are told, although from motives of modesty we would prefer not to repeat it, that "foresters and nurserymen know well you must lop the roots and the branches (when transplanting trees), so as to cover equal superficial areas, or else the water will not fall on the parts best adapted to receive it." The possession of this information by the followers of those callings must be exceedingly valuable to them, and nurserymen at least have clearly a scientific answer to give grumbling customers who complain of bad-rooted trees. It is rather curious, however, that the former should invent less plausible excuses for this frequently-recurring condition, but perhaps it has hitherto been a trade secret, and only imparted to foresters as a special favour. We have yet to learn how that intimate connection (or we ought more properly to call it, a correspondence) is maintained between the tips of the roots and the tips of the branches, which enables the one to know the (roughly speaking, of course) exact position of the other, so as to prevent the over-reaching of the branches by the roots while the former are enjoying their winter's nap. A. C. F.

## LAW NOTES.

### ACCOUNT FOR DAFFODIL BULBS.

**JOHNSON v. PIPER.**—In this case, Messrs. Johnson & Son, seed merchants and florists, of Long Sutton, sued Messrs. T. Piper & Son, seed merchants and florists, of Maresfield, for £8 15s. for goods sold. Mr. J. Holt appeared for the plaintiffs, and Mr. G. E. Hillman for the defendants. Mr. J. Johnson, a member of the plaintiff's firm, deposed to receiving and carrying out, in May, 1894, an order for 50,000 Daffodil bulbs, at 3s. 6d. per thousand. After the bulbs were got ready, they received a letter asking them not to send them until they wrote again. They were, however, sent, and a letter received acknowledging them, and promising to pay in three months. In cross-examination, witness admitted that the bulbs were taken up a month earlier than usual. They were, however, ordered from sample. They had had no letter from defendants stating that the bulbs were heated and rotting, and that they would plant them, and pay for such as turned out good. John William Cross, in the employ of the plaintiffs, deposed that the bulbs were sent off in a dry and perfect state. For the defendants, Mr. Piper, jun., said the bulbs when unpacked were in bad condition, owing to having been lifted too early. They laid them in a trench, and wrote to plaintiffs that they should claim a reduction for such bulbs as proved bad. He considered the good bulbs worth

about £1 or £1 10s. George Goldsmith, in the employ of the defendants, described the bulbs as in bad condition, and for the most part unfit for sale. Mr. Kenward, nurseryman and florist, deposed that bulbs taken up in May, and packed in sacks for transit, would probably heat and spoil. Judgment was given for the plaintiffs with costs.

## SOCIETY.

### ROYAL HORTICULTURAL.

#### Scientific Committee.

JANUARY 14.—*Present:* Dr. M. T. Masters in the chair; Dr. Müller, Rev. W. Wilks, Mr. Douglas, Mr. Michael, Dr. Russell, and Rev. G. Henslow, Hon. Sec.

*The Colouring of Flowers and Fruit.*—The following communication was received from Mr. Roppell, of Harvey Lodge, Roupell Park, in reply to inquiries upon the artificial colouring of Apples:—"The lime used was the best chalk lime air-slaked. The lime and soot formed part of the compost with which they were planted; say, one part soot, two parts lime, and twenty parts ordinary kitchen-garden soil, carefully blended. In this comparatively dry and warm compost the trees made short growths of well-ripened wood, and bore well the second year. I have since had lime and soot sown over the trees just before the buds began to burst in the proportion of two parts lime and one part of soot, and at the rate of half a pound of the mixture to the square yard. This served as a protection against the larvae of certain moths, as well as a manure. The soot and lime should be used quickly to avoid the escape of ammonia. The mixture caused a deeper colour in Apples and Pears. This was especially so in Lane's Prince Albert, Red Juneating, Mr. Gladstone, Irish Peach, Melon Apple, Cox's Grange Pippin, Beauty of Kent, and Peasgood's Nonsuch. The pale green varieties, such as Lord Suffield, were, I think, made to assume a deeper green, just as grass and Wheat do when dressed with a similar mixture. My experience is that Pears and Apples are more highly coloured when grown on a soil abounding in iron and dressed with lime and soot than in a soil deficient in iron and lime. Louise Bonne of Jersey, Beurré Clairgeau, Tront Pear, Clapp's Favourite, Buroudeau, Beurré Rance, Uvedale's St. Germain, Verulam, Vicar of Winkfield, and Catillac, are deficient in colour when grown on a cold clay soil. I have also observed that Apples and Pears are more brightly coloured in a good showery season than in a very dry and hot one, and that some Apples, such as the Dartmouth Crab and some astringent cider Apples are red all over and not merely on the sunny side." With reference to other fruits, Mr. Roppell further remarks: "Black Grapes colour best in partial shade, and white varieties when exposed to the sun. They then assume an amber tint. Thomson's Vine-manure intensifies the purple or black of Grapes. Green Tomatoes become red when ripened in the dark, and some Apples gathered green become deep yellow, and flushed with crimson, according to the variety in the fruit-room." The secretary observed that several letters had appeared in the *Gardeners' Chronicle* upon this subject, some writers attributing the brightening of the colour mainly to "air and direct sunlight," others to the presence of iron, sulphate of iron and soot being given. "The iron helps the colouring by its absorbing sun-heat, and thus rendering the soil warmer." One writer observed that, of 100 trees of Wellington Pippin, only one gave red Apples, and "that tree had soot and iron given to it. With these, and plenty of light and sun, I got the best colours I can wish for." The writers generally insist on a warm soil. In commenting on these experiences, Dr. Müller observed that it was theoretically doubtful whether the iron—a common ingredient in all soils—has any effect, as it enters only to a very minute extent into the essential parts of plants (the chlorophyll). If it be applied with lime, then the solution of iron sulphate, under the influence of the air, is very soon changed into calcium sulphate and ferric hydrate. The former may then act beneficially as a "holder" of ammonia, and enhance the activity of the soil. But since the soot contains ammonia salts (chiefly sulphate), it would seem that the colouring may be most probably traced to this ingredient, rather than the iron or lime. It was suggested that experiments should be tried by using nitrate of ammonia, in the proportion of 1 oz. to a gallon of water.

*Rose Sportings.*—Mr. J. Hall, of Cheltenham, wrote to say that "in the summer of 1890, a Rose grown on Dartmoor from a slip of a tree in Torquay, bloomed, and on comparing the two the one from Dartmoor was a deep red-orange, the one in Torquay, a pale lemon-yellow. The soil in Torquay is the red sandstone; Dartmoor is decomposed granite with some peat." Mr. Wilks observed that the Rose (from the above description), might be William Allen Richardson, which is of a deep apricot colour, but has the habit of sporting to a pale yellow, so that the soil may not have been the cause.

*Cyclamens Unhealthy.*—Mr. Leek, of Bullington House, forwarded a plant which did not appear to be attacked with any disease, but had received some check by cold draught, or other cause. Mr. Douglas observed that he had experienced a similar effect in some of his plants. Mr. Leek also sent a Primula, remarkable for an increased viscosity, but it appeared to be perfectly healthy.

*Lycaste Skinneri, virescent.*—Dr. Masters showed a drawing of a specimen received from Mr. Snader, in which the perianth was green. The cause of virescence is obscure, being permanent in the well-known green Rose.

*Dianthus Attacked by Grubs.*—With reference to this subject, brought before the committee at the last meeting, Mr. Douglas remarked that he had lost some thousands of plants, and that the only remedy was to pick out the grubs with a needle. Dr. Müller observed that it attacks the very youngest plants when only three or four leaves are present, and especially *Dianthus glacialis*.

*Peach Tree Gumming.*—Mr. S. T. Wright sent a piece of a trunk badly gummed from Chiswick, saying that it appeared to have some grubs upon it, but none could be seen. It was forwarded to Mr. McLachlan for further investigation. Mr. Douglas observed that when gumming first appears, trenching all round the roots, with the insertion of fresh loam, checks it at once; but if it has reached an advanced stage, as in the specimen sent, the tree must be removed.

*Pinus Coulteri (macrocarpa).*—Dr. Masters exhibited some handsome cones and foliage of this tree, grown at Lord Ducle's grounds, Tortworth, Gloucestershire. It is also quite hardy in Kent. He observed that it was harder than *P. insignis*, though it comes from a lower altitude than the former in California. There is a variety sometimes met with in which the scales are blunt at the end.

*Orchids, Monstrous.*—Baron Sir Ferd. Von Müller sent specimens, drawings of which were shown by Dr. Masters, of flowers of *Glossodia* and *Calceana*, the former having three lips, while the latter had no lip but a petaloid column, &c.

## FRUIT REGISTER.

### APPLE, DUTCH MIGNONNE.

This is one of the best late Apples for kitchen use, and is one not to be despised for dessert purposes during the months of February and March. It is one of the yellow-fleshed kinds, to which class most of the best-flavoured Apples belong; and although classed in most fruit catalogues as a kitchen variety only, I find it very useful as a late dessert kind, choosing for that purpose the medium-sized and best coloured fruits. This season the flavour seems unusually good, and in my opinion decidedly better than King of the Pippins, Fearn's Pippin, and some others that are always classed as good dessert varieties. Its cropping qualities are excellent; if any fault, it is that it bears too heavily, and if not thinned, many of the fruits are small. Our trees, which are orchard standards, planted about twenty-five years ago, have not failed to produce a good average crop for many years past. Fruits of this variety should be among the latest gathered, and be left on the trees as late in October as the state of the weather permits. C. H.

## MARKETS.

### COVENT GARDEN, JANUARY 30.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

#### PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.	s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Foliage plants, doz.	12 0-24 0
Aspidistra, per doz.	12 0-30 0	Hyacinths, per doz.	9 0-12 0
— specimen, each	5 0-15 0	Lilium Harrisii, per	dozen pots
Azalea, per plant	2 0-3 6	Marguerites, p. doz.	6 0-12 0
Chrysanthemums,		Mignonette, p. doz.	6 0-9 0
doz. pots	6 0-12 0	Palms, various, ea.	2 0-10 0
Cyclamens, per doz.	9 0-15 0	— specimens, ea.	10 6-84 0
Dracaena, each	1 0-7 6	Poinsettia, per doz.	12 0-18 0
— various, p. doz.	12 0-24 0	Primula sinensis,	
Ericas, various, doz.	9 0-24 0	per dozen	4 0-6 0
Evergreen Shrubs,		Tulips, doz. pots	6 0-8 0
in variety, doz.	6 0-24 0	Solanum, per doz.	9 0-12 0
Ferns, small, doz.	1 6-3 0	Spirea, per doz.	9 0-12 0
— various, p. doz.	5 0-12 0		
Ficus elastica, each	1 0-7 6		

#### FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.	s. d. s. d.	
Apples from Nova Scotia, per barrel	14 0-22 0	Grapes, Gros Colmar, 1st quality, p. lb.	1 9-2 3
— Wellington, 1st quality, per bushel	4 8-5 0	— Gros Colmar, 2nd quality, p. lb.	1 3-1 6
— Wellington, 2nd quality, per bushel	3 0-4 0	— Alicante, 1st quality, p. lb.	2 0-6 0
Cobs, per 100 lb.	25 0-30 0	— Alicante, 2nd quality, p. lb.	1 3-1 6
		— Fine-apples, St. Michael, each	2 6-4 6

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Orchids:—	
Azalea, 12 sprays...	0 6-1 0	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bun.	0 6-1 0	Odonoglossum	
Carnations, 12 blms.	1 0-3 0	crispum, 12 blm.	3 0-6 0
Chrysanthemums,		Pelargoniums, scar-	
per 12 bunches	2 0-3 6	let, per 12 bunch	6 0-9 0
Eucharis, per dozen	3 0-5 0	per 12 sprays...	0 6-1 0
Gardenias, per doz.	6 0-12 0	Poinsettia, 12 blms.	6 0-12 0
Hyacinths (Roman)		Pyrethrum, 12 bun.	2 0-4 0
12 sprays...	0 6-0 9	Roses, Tea, per doz.	1 0-3 0
per doz. spikes	3 0-4 0	coloured, p. doz.	2 0-4 0
Lapageria, per doz.		pink, French, doz.	3 0-4 0
blooms...	0 6-1 6	yellow (Maré-	
Lilac, French, p. bu.	3 0-5 0	chal), per doz.	4 0-9 0
Lilium Harrisii,		red, per dozen	9 0-12 0
per bunch	4 0-6 0	Safrano,	
Lily of the Valley,		French per doz.	2 0-3 0
per doz. sprays...	0 6-1 0	Stephanotis, 12 sps.	6 0-9 0
Maidenhair Fern,		Tuberose, 12 blms.	0 3-0 8
per 12 bunches...	4 0-8 0	Tulips, various, doz.	0 6-1 6
Marguerites, per 12		Violets, 12 bunches	1 6-2 6
bunches...	3 0-6 0	per bunch...	3 6-5 0
Mignonette, per 12		per bunch...	2 6-3 0
bunches...	4 0-8 0	Mimosa or Aca-	
Narcissus, White,		cia, do. ...	1 0-2 0
French 12 bun.	1 6-2 6		

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Asparagus, 1st size,		Mushrooms, per lb.	0 6-1 0
per bundle	5 0-6 0	Onions, Eng., cwt.	5 0-6 0
2nd size, do. ...	2 6-3 0	Potatoes, Channe-	
(spine), do. ...	0 6-0 9	Islands, per lb. ...	0 5-0 6
Beans, Channel Is-		Sea-kale, per punnet	0 9-1 0
lands, per lb.	1 3-1 8	Tomatoes, Canary Is-	
Madeira, p. bas.		12 to 14 lb. ...	5 0-5 6
(8 to 10 lb.)...	4 6-5 0	Canary boxes,	
Cauliflowers, p. crate		4 to 4 1/2 lb. ...	1 9-2 8
(6 doz.) ...	5 0-7 0		
Cucumbers, per doz.	9 0-10 0		

OLD POTATOS.

There is no movement in this trade, and prospects are certainly not favourable for better prices. A cold February would have a tendency to lift us out of a possible bad finish.

NEW POTATOS.

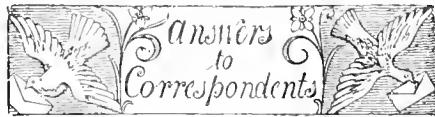
Larger quantities are coming to hand, and consequently prices have been put much lower, viz., from 16s. to 18s.; fancy samples, 20s. to 24s. per cwt.; and small, 14s. do. J. B. Thomas.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.— Above (+) or below (—) the Mean for the week ending January 25.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.				10ths Inch.	Ins.	Per cent.	Per cent.		
	Day- deg.	Day- deg.	Day- deg.	Day- deg.						
0	1 +	5	32	+ 3	— 65	3 +	22	5 3	10	8
1	1 +	5	42	— 6	— 44	5	— 16	1 4	28	15
2	0 av	3	33	+ 11	— 66	4	— 14	1 3	30	14
3	1 —	3	45	+ 15	— 78	1 +	15	1 5	26	13
4	0 aver	4	42	+ 24	— 90	2	— 13	1 1	21	11
5	1 +	9	26	+ 20	— 85	3	— 12	1 0	19	10
6	1 +	9	32	+ 18	— 53	8	— 17	2 7	16	12
7	0 aver	8	30	+ 32	— 72	2	— 13	2 0	11	12
8	1 +	23	14	+ 35	— 85	2	— 14	1 7	18	14
9	0 aver	10	29	+ 31	— 57	4	— 17	2 4	28	13
10	0 aver	17	18	+ 41	— 51	4	— 14	1 8	27	15
*	2 +	25	0	+ 41	— 33	4	— 17	1 4	14	13

The districts indicated by number in the first column are the following—  
0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W. 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.



ADDRESS: H. & F. The address of Mr. D. M. Davies is 11, King Street, Brynmawr.

A GOOD CROP OF CUCUMBERS: *Market Grower*. As many as a plant can develop to a fair size without being seriously checked in growth. We can only say what is the approximate number a plant can carry from first to last, much depending on the vigour of the plant, whether the fruits were left till fully grown, and the number left on the bine at any one time, on culture, &c. A strong plant should be able to perfect twelve fruits fully in one month, besides carrying as many small ones to succeed these.

BLACK CURRANTS: *W. H. S.* The bushes are infested by the Currant-bud mite, and you must cut off and burn all shoots having unduly swollen buds. In this instance, as in many others, the somewhat abused tomtits do good service in devouring the mites.

BOOKS: *Ambitious*. A cheap book is Kemp's *How to Lay Out a Garden*, published by Bradbury, Agnew & Co., Limited, 10, Bonverie Street, E.C. 2. *Botany for Beginners*, published by Bradbury, Agnew & Co., Bonverie Street, Fleet Street, E.C., if you can get it, but it is probably out of print; *Structural Botany*, by D. H. Scott, published by Adam & Chas. Black, London, in 1894.—G. A. Wolf's *Analysis of Plants*. Enquire of Messrs. Williams & Norgate, 14, Henrietta Street, Covent Garden.

CHARCOAL FROM A FILTER: *X.* It is probable that you will note the good effects of the use of this substance in potting soils. Ordinary charcoal has a merely mechanical effect on the soil, rendering it, when mixed with the soil in a finely comminuted state, porous, at the same time that it absorbs water to a large extent, thus affording available moisture to the roots of plants. We are not surprised to hear that Pelargonium cuttings root freely in it. They do this in powdered brick equally freely.

EARLY MARKET TULIPS: *Pomologist*. These are obtained early in flower by purchasing naturally early-flowering varieties as soon as they can be obtained from the importers. The bulbs are placed in boxes of light soil or cocoa-nut fibre refuse, and kept in the dark in a cool place till a good number of roots are made, when forcing commences. It is usual to force them in the boxes in which they have made root, transferring them to baskets, pots, jardinières, or selling them as they stand when on the point of opening their blossoms. Those early-bloomed Tulips, which come on about the end of December, have a very short scape, and they are not "drawn," as you suggest.

EXAMINATION IN HORTICULTURE: *Ambitious*. You should make enquiries of the secretary, 117, Victoria Street, Westminster, S.W.

GARDENERS' DIRECTORIES: *A. S. P.* These books are to be obtained at the offices of *The Garden*, 37, Southampton Street, Strand, W.C.; and *Journal of Horticulture*, 171, Fleet Street, E.C.

GRUBS: *T. V.* Those sent are the grubs of the Maybug, *Melolontha vulgaris*. They remain as grub and chrysalis about three years underground. We do not think you can do better than turn up the soil with a digging-fork occasionally, thus exposing the grubs to the attention of the birds. There is nothing you could use against them that would not injure the plants.

KNIFE FOR CUTTING MUSTARD AND CRESS: *Cress*. Such a knife as that you describe can be bought of Messrs. Blackburn & Horner, gardeners' sundriesmen, 43, Wellington Street, Covent Garden, W.C.

MARKET FLOWERS: *H. H. A.* We should advise you to visit the markets at all seasons, noting what they are supplied with. We may mention Carnations, Orchide, tender Annuals, as Aster, Stock, Sweet Sultan, Zinnia; Roses, a few varieties of pretty form and decided colours, or pure white; *Stephanotis floribunda*, *Chrysanthemums*, all kinds of forced plants, bulbs, &c., white Lilac, *Petnias*, single, double-flowered, decorative, Ivy-leaved, and other species and varieties of *Pelargoniums*, &c.

NAMES OF FRUITS: *B. W. W.* 1, Blenheim Orange; 2, much bruised, not certain; 3, New Hawthornden.—*W. Fisher*. Large, Small's Admirable; small, Golden Winter Pearmain.—*P. R.* 1, unknown; 2, Winter Quoining; 3, unknown; 4, Cellini; 5, Pear Vicar of Winkfield.—*Shirburn*, Rosemary Russet.

NAMES OF PLANTS: *W. C. Rossiter*. Specimen has no flowers, but it is probably *Hypericum humifusum*.—*F. H., Darmstadt*. So far as we can judge by the dried flower sent, your *Lælia* is *L. albida*. Hybrids of it have appeared, but they bear larger flowers than yours, and the labellum is different in shape, and the column stouter.—*F. P.* 1, *Epidendrum ciliare*; 2, *Epidendrum cochleatum*.—*Thos. P.* *Lælia anceps*.—*J. F.* Your *Rhododendron* is *R. canescens* var. *Nobleanum*. As you observe, it is a pity that these early-flowering *Rhododendrons* are not more grown in gardens.

NITRATE OF SODA: *Gardener*. You may apply it to the turf of the paddock when the grass begins to grow freely at the rate of 5½ cwt. for the whole season, in two dressings at an interval of a month, of 1 oz. per superficial yard. Apply it, if possible, in rainy weather.

OCTOBER-REMOVED PEACH TREES: *Pomologist*. The trees would carry half to two-thirds of an ordinary crop this year. You would do well to be guided in this matter by the nature of the wood-growth made; if it be weak and late in pushing, crop lightly—say, half a crop.

PALM FOLIAGE DRIED UP: *T. H. B.* You should know better than we what has caused the injury. It is probably the result of excessive dryness of the soil in which the plants were growing, or of exposure to gas containing much sulphur, or to frost.

PHOTOGRAPHING PLANTS: *Pomologist*. We believe Mr. Upcott Gill, *The Bazaar* office, 170, Strand, publishes a manual on this subject, which will afford you the kind of information that you are seeking. There are many little requisites besides the camera, but the cost of these is not great. Why not consult the editor of the *Photographic Art Journal*, Charterhouse Square, E.C.

PRIMULAS FAILING TO OPEN THEIR FLOWERS PROPERLY: *G. T. M.* The result of some kind of check, such as dryness at the root, cold, &c.

SEEDLING PEACHES: *G. W. E.* You will be able to test the fruits in a shorter period of time if you bud them on to the Plum stock, or a shoot of a bearing Peach or Plum tree. On their own roots they might not fruit under five or six years.

TO KEEP A CONSERVATORY GAY THE YEAR ROUND: *W. B. S. N.* To be able to do this satisfactorily, you must be a good gardener, understanding the culture of a great many species and varieties of plants; and we do not suppose that any manual would serve your purpose, or take the place of actual practice in a garden.

WILLOW FOR GROWING INTO TIMBER: *G. W. E.* *Salix alba*—the common indigenous species.

COMMUNICATIONS RECEIVED.—Weekly Budget.—Van der Smussen—Stegitz.—A. F. B.—D. H.—W. G. S.—T. H.—A. W.—D. M.—M. Pater, Paris.—F. W. B.—J. L.—C. N.—W. T. D.—J. L. & Sons.—G. H. E.—T. B.—W. T. G.—G. J. I.—R. O.—A. B. F. M. (with many thanks)—D. T. F.—Attwood & Co.—W. P. W., Philadelphia.—Professor Macfarlane.—J. Barry.—R. S. & Co.—Puzzled.—J. H.—W. R.—Bailey Wadda.—A. M.—R. D.—Hortus.—E. C.—J. O'B.—J. McK.—G. D.—J. Backhouse.—W. K.—H. D. C.—W. T. & Sons.—H. A. Davidson.—J. J. Robinson.—F. M.—W. Lee.—W. B.

DIED.—On January 23, at Blairhill, Rumbling Bridge, N.B., JAMES RICHARD HAIN, of Blairhill, and Highfields Park, Sussex, aged 61. Friends will please accept this intimation.

CONTINUED INCREASE IN THE CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertiser are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.



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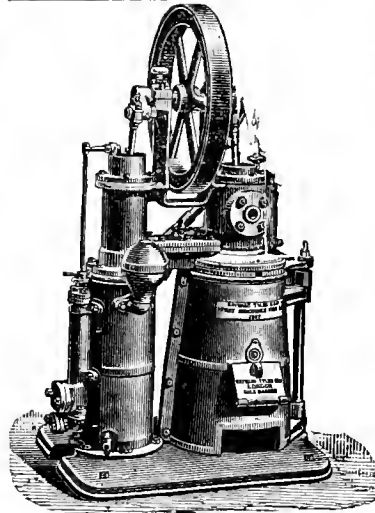
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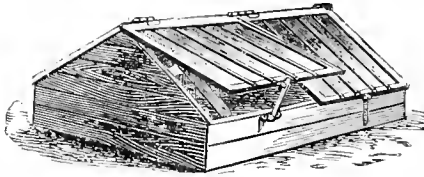
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**PORTABLE PLANT FRAMES.**  
These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	<b>CASH</b> <b>PRICES,</b> <b>CARRIAGE</b> <b>PAID.</b>	2	0	0
6 feet " 4 feet "		2	5	0
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*Larger sizes at proportionate prices.*

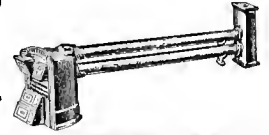
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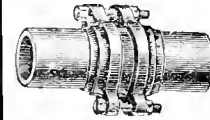
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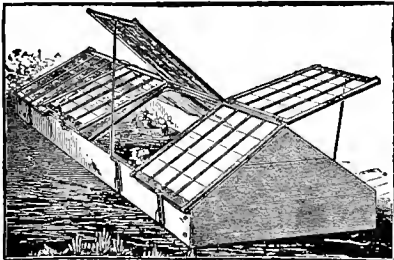
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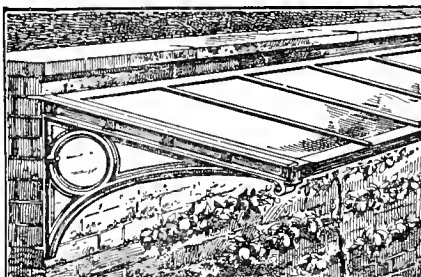
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No. 73. SPAN-ROOF GARDEN FRAME.



4 ft. by 6 ft. ... £2 9 0 | 12 ft. by 6 ft. ... £5 7 0  
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**FRAMES in every variety. Send for LIST.**  
Cucumber 16 ft. by 4 ft., Painted and Glazed, ea. 13/3  
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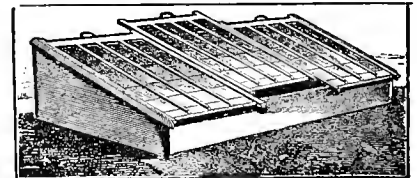
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With removable glazed lights.  
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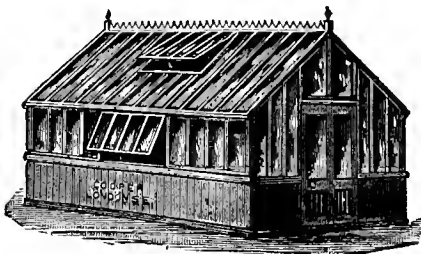
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TENANT'S FIXTURES. EVERYTHING COMPLETE.

Lot.	Span-roof.	Usual Price
Long.	Wide.	Packed on rail.
1 to 5	7ft. ... 5ft.	£2 16 0
6 to 8	8ft. ... 5ft.	3 10 0
9 to 10	9ft. ... 6ft.	4 0 0
11 to 11	10ft. ... 7ft.	5 0 0
15 to 25	12ft. ... 8ft.	6 0 0
26 to 32	15ft. ... 10ft.	8 10 0
33 to 33	20ft. ... 10ft.	12 0 0
37 to 42	25ft. ... 10ft.	17 0 0
43 to 45	30ft. ... 10ft.	30 0 0
46 to 49	30ft. ... 10ft.	40 0 0
50 to 55	30ft. ... 10ft.	40 0 0

Lot.	Lean to.	Usual Price
Long.	Wide.	Packed on rail.
56 to 64	7ft. ... 5ft.	2 8 0
65 to 67	9ft. ... 6ft.	3 10 0
68 to 76	12ft. ... 8ft.	5 10 0
77 to 81	15ft. ... 10ft.	8 0 0
82 to 86	20ft. ... 10ft.	11 10 0
87 to 91	25ft. ... 1ft.	16 10 0
92 to 95	30ft. ... 10ft.	28 0 0

### SPAN-ROOF FORCING HOUSE.

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Long.	Wide.	Packed on rail.
96 to 101	20 by 9	£9 0 0
102 to 105	20 by 12	11 0 0
106 to 114	20 by 14	14 0 0
115 to 117	40 by 9	17 0 0
118 to 123	40 by 12	21 0 0
124 to 128	40 by 14	25 0 0
129 to 134	60 by 9	40 0 0
135 to 137	100 by 12	48 0 0
133 to 142	100 by 14	55 0 0

Lot.	Lean to.	Usual Price
Long.	Wide.	Packed on rail.
143 to 145	20 by 9	7 10 0
146 to 147	20 by 12	9 10 0
148 to 150	20 by 14	12 10 0
151 to 152	40 by 9	14 0 0
153 to 154	40 by 12	18 0 0
155 to 156	40 by 14	21 10 0
157 to 158	100 by 9	33 0 0
159	10 by 12	4 0 0
1 0	100 by 14	47 0 0

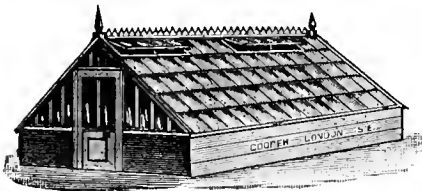
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354 to 371	1-Light Frame, 4ft. by 3ft. ... £2 18 0
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395 to 397	2 " " 8ft. by 6ft. ... 2 14 0
398 to 399	3 " " 12ft. by 6ft. ... 3 15 0

### THE AMATEUR FORCING-HOUSE.

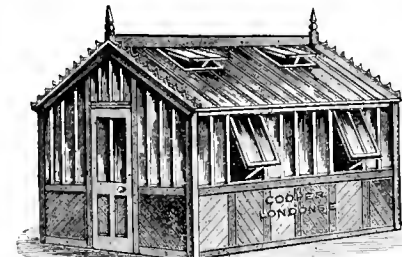


TENANT'S FIXTURE (SPAN ROOF). EVERYTHING COMPLETE

Packed and put on rail at following prices:—

Lot.	Length.	Width.	Usual Price.
264 to 265	7ft.	5ft.	£2 10 0
266 to 268	8ft.	5ft.	3 0 0
269 to 270	9ft.	6ft.	3 10 0
271 to 275	10ft.	7ft.	4 10 0
276 to 277	12ft.	8ft.	5 10 0
278 to 281	15ft.	10ft.	7 15 0
282 to 283	20ft.	10ft.	10 15 0
284 to 287	25ft.	10ft.	15 5 0
288 to 294	30ft.	10ft.	27 0 0
295 to 299	100ft.	10ft.	45 0 0

### SPAN-ROOF VILLA CONSERVATORIES.



Lot.	Long.	Wide.	Usual Price.
300 to 307	9ft.	6ft.	£7 10 0
308 to 317	12ft.	8ft.	10 0 0
318 to 324	15ft.	8ft.	12 0 0
325 to 328	2ft.	9ft.	16 16 0
329 to 334	25ft.	9ft.	21 0 0
335	50ft.	9ft.	40 0 0

21-oz. glass for roof 5 p.c. extra.

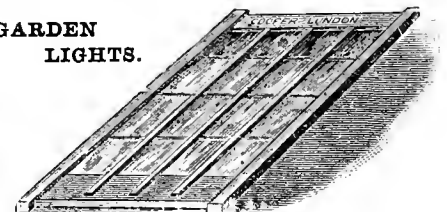
### THE RAPID PROPAGATOR.



The only perfect Propagator for raising plants from seeds, slips, or cuttings.

Lot	Usual Price.
343 to 345	1 ft. 8 in. by 1 ft. 6 in. ... £1 5 0
346 to 349	2 ft. 6 in. by 1 ft. 10 in. ... 1 10 0
350 to 355	4 ft. by 2 ft. ... 3 0 0

### GARDEN LIGHTS.



Framework made of 2 in. by 2 in. stiles, and properly rabbeted for the glass, with good 2 in. sash-bars. The Glazed Lights are nailed and bedded in good oiled putty.

Lot.	Usual Price
400 to 421-3 ft. by 2 ft., Painted and Glazed	... 5 0
422 to 433-4 ft. by 3 ft. " " with 21 oz. 7	6
434 to 499-6 ft. by 3 ft. 8 1/2 in. " " " 10	6
500 to 517-8 ft. by 4 ft. " " " 10	6
518 to 529-Good Sound Lights, 6 ft. by 3 ft 9 in., Glazed	...
21 oz.; nearly new stiles, 2 1/2 in. by 1 1/2 in.	10 6
9 Unglazed Lights-4, 7 ft. by 4 ft.; 2,	...
6 ft. by 3 ft. 10 in.; 2, 4 ft. 10 in. by	...
2 ft. 10 in.; 1, 4 ft. 4 in. by 3 ft. 4 in.	45 0
530-8 Glazed Lights-2, 4 ft. 4 in. by 3 ft. 4 in.;	...
1, 5 ft. 2 in. by 2 ft. 8 in.; 2, 5 ft. by	...
4 ft.; 3, 3 ft. by 2 ft. " " " 6	0
531 to 537-Unglazed Lights, 6 ft. by 3 feet 1/2 in.; stiles,	...
2 in. by 2 in. " " " " " 4	0

### GARDEN HAND FRAMES.

These Frames will be found to be very useful for protecting plants, seeds, slips, and cuttings, during the spring, which, if left uncovered, would probably fall victims to the extreme cold so prevalent in this country during that season.

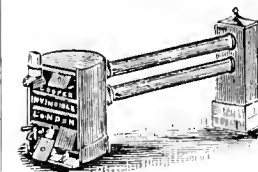
Zinc open tops, with glass cut to sizes and zinc clips for glazing same.

Lot.	Usual Price.
161 to 189	12 in. by 12 in. ... 7s. 6d. each.
170 to 175	14 in. by 14 in. ... 8s. 6d. "
176 to 181	16 in. by 16 in. ... 9s. 0d. "
182 to 191	18 in. by 18 in. ... 10s. 0d. "
192 to 203	20 in. by 20 in. ... 11s. 0d. "
204 to 215	22 in. by 22 in. ... 12s. 0d. "
216 to 221	24 in. by 24 in. ... 13s. 6d. "

### "INVINCIBLE" HOT-WATER APPARATUS.

MOST EFFICIENT AND CHEAPEST IN EX STENCE.

LOT 538 to 552.



Requires no sunk stove-hole and no brick setting. Will last all night without attention. Will burn house cinders; therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed No. 1 Boilers only, capable of heating 75 ft. 4-inch piping.

Usual price 55s.

Estimates for Complete Apparatus Free on Application.

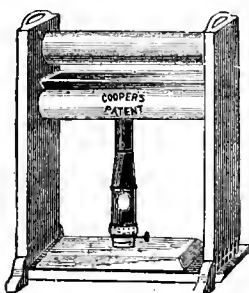
### SPAN-ROOF POULTRY HOUSES.

Made in sections, complete, with door inside and window at end, a flap at back for access to nest boxes, a raised floor about 2 feet from ground, so as to form dry run underneath; nest, perch, ladder, &c; painted one coat outside.



Lot	Length.	Width.	Height of Ridge.	Usual Price.
Ft.	Ft.	Ft.	£ s. d.	
554 to 559	4	4	6	1 10 0
560 to 567	5	4	6	1 13 0
568 to 571	6	4	6	1 18 0
572 to 574	7	5	6 1/2	2 5 0
575 to 583	8	6	7	3 0 0

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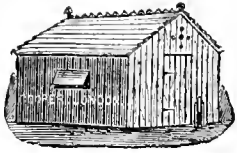


### COOPER'S HYGIENIC HEATER.

Burning Paraffin or Gas without smoke or smell. These Heaters are constructed as a means of Heating by Hot Air without the use of hot-water or fires.

Lot	No.	Usual Price.
232 to 231	0	£1 0 0
232 to 239	1	1 10 0
240 to 247	2	2 5 0
248 to 251	3	3 5 0
252 to 259	4	3 10 0
260 to 263	5	4 0 0

W. COOPER'S SALE BY TENDER—continued.



**MOVABLE POULTRY HOUSES.**

(SPAN ROOF).  
These houses are pretty in appearance. They are substantially constructed in sections.

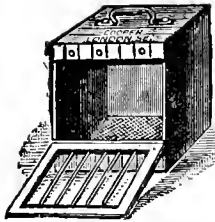
Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
584 to 587	5 ft.	4 ft.	6 ft.	3 ft. 6 in.	£1 5 0
588 to 593	6 ft.	4 ft.	6 ft.	3 ft. 9 in.	1 10 0
594 to 601	7 ft.	5 ft.	6 ft. 6 in.	4 ft.	1 16 0
602 to 611	9 ft.	8 ft.	7 ft.	4 ft. 3 in.	2 2 0

**SPAN-ROOF IMPROVED POULTRY-HOUSE.**



These Houses are very roomy and well ventilated, and specially constructed so that they may be easily taken to pieces or erected.

Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
611a	5 ft.	4 ft.	8 ft.	5 ft. 6 in.	45s.
611b	4 ft.	4 ft.	8 ft.	5 ft. 9 in.	50s.
611c	7 ft.	5 ft.	8 ft. 6 in.	6 ft.	55s.
611d	9 ft.	6 ft.	9 ft.	6 ft. 3 in.	63s.



**NEST BOXES.**

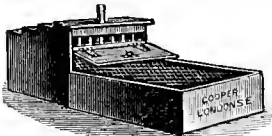
LOT 612 to 723.

This is the popular method of sitting hens, and should be universally adopted.

Usual Price, 4s. e. ch.

**SAFETY CHICKEN COOP.**

These Coops are constructed upon the most improved principle, and are very neat in appearance.



Lot.	each.
724 to 791	Usual price £0 5 6
792 to 800	3 ft. movable wire runs Usual price 0 4 0

**ROOFING FELT.**

PATENT ASPHALTIC. Rolls 25 yards, 32 in. wide.

Lot.	Usual Price	Per Roll.
801 to 857	...	£0 4 8
858 to 874	...	Better quality 0 5 0



**GALVANIZED CORRUGATED IRON ROOFING.**

LOT 875.  
Best Quality, Perfect S'abs, 27 in. wide.

	Usual Price.
3 ft. long	1s. 1d.
4 ft. long	1s. 5d.
5 ft. long	1s. 8d.
6 ft. long	1s. 11d.
7 ft. long	2s. 2d.
8 ft. long	2s. 6d.
9 ft. long	2s. 11d.
10 ft. long	3s. 6d.

Special Quotations for 2 Ton lots.

**CHAPEL or MISSION HALL.**

A handsome building with organ cham or vestry and porch complete; neat in design, and cheap. Ventilation is here supplied through the upper portion of Windows at sides, being made to open and shut; also ventilators in roof. A circular window hung to swing in each gable end creates a through circulation of air.



Everything complete. Ready for erecting. Match List, Lot.

Lot.	Usual Price.
876	46 by 20 ... £140 0 0
877	60 by 30 ... 275 0 0

Several Small Mission Halls and Iron Buildings. Specification on application.

**GALVANISED PEA GUARDS.**

LOT 898.

Usual Price ... Per dozen £1 4 0

**LOAM—SURREY.**

LOT 903—Splendid Quality, full of Yellow Fibre.  
Usual Price ... Per Sack £1 2 6

**GALVANISED WIRE ARCHES.**

Lot.	Usual Price.
899—7 ft. by 4 ft. by 1 ft.	£0 5 0
900—Ditto ditto	0 6 0
901—Ditto ditto	0 7 0
902—Ditto ditto	0 9 6

**WILLIAM COOPER'S GENERAL POTTING COMPOST.**

LOT 904—Specially Prepared.

Usual Price ... Per Sack £0 2 6

**WILLIAM COOPER'S CELEBRATED CHRYSANTHEMUM COMPOST.**

LOT 905.

Usual Price ... Per Bushel £0 3 0

**WILLIAM COOPER'S PREPARED COMPOST FOR POTTING FERNS.**

LOT 906—Specially Prepared.

Usual Price ... Per Sack £0 2 6

**WILLIAM COOPER'S PREPARED COMPOST FOR POTTING BULBS.**

LOT 907—Specially Prepared.

Usual Price ... Per Sack £0 2 6

**LEAF SOIL, BEECH AND OAK, WELL DECAYED.**

LOT 908—Usual Price ... Per Sack £1 2 6

**IRON BUILDINGS.**

Wooden Framework, covered with Corrugated Iron, suitable for store room or workshop. Made in sections.

Lot.	Usual Price.
878—10 ft. by 8 ft. Complete	£7 0 0
878a—14 ft. by 10 ft.	11 0 0
878b—18 ft. by 12 ft.	18 0 0
878c—22 ft. by 14 ft.	22 0 0

**CRICKET PAVILION.**

WOOD FRAMEWORK COVERED WITH CORRUGATED IRON.

Lot.	Usual Price.
878d—10 ft. by 8 ft.	£7 0 0
878e—14 ft. by 10 ft.	11 0 0
878f—18 ft. by 12 ft.	16 0 0
878g—14 ft. by 10 ft. Complete with Flooring Joists, Matching, Felt, &c., &c.	16 0 0

**PORTABLE IRON STABLE, COACH-HOUSE, and HARNESS ROOM COMBINED.**

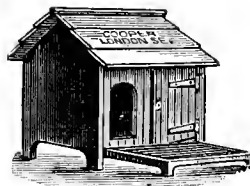
WOOD FRAMEWORK COVERED WITH CORRUGATED IRON.

Lot.	Usual Price.
878h—10 ft. by 8 ft.	£7 0 0
878i—18 ft. by 12 ft.	16 0 0
878j—22 ft. by 14 ft.	22 0 0
878k—19 ft. by 20 ft.	45 0 0
878l—Span Roof Corrugated Iron House, with Floor, Door, and Window, 12 ft. by 8 ft.	9 0 0

**PIGGERIES.**

Constructed of Galvaized Corrugated Iron, with timber uprights. Cheap, durable, and easily removed.

Size: 8 ft. wide, 8 ft. long, including 5 ft. run. Spaniels ... Usual price, £1 10s.



**PORTABLE DOG KENNEL. WITH PLATFORM.**

Securely packed and put on rail at the following respective prices:—

Lot. No.	Lgth.	Wth.	Hght.	Usual Price.
879a—1. Suitable for Terrier	2 5	1 6	2 5	16s.
879b—2. Collies, Retrievers, and Spaniels	3 6	2 3	3 4	26s.
879c—3. St. Bernards, Mastiffs, and Newfoundland	4 6	2 6	4 2	36s.

**HANDSOME RUSTIC SUMMER-HOUSE.**

LOT 880—Made for Exhibition purpose, about 19 ft. square and 23 ft. high, complete, with Seats, Table, Curtains, &c. Erected in our Show Ground. Usual price £100.

**TIMBER DEPARTMENT.**

SPECIFICATION.

Materials required for Span-roof 100 feet by 12 feet Cucumber-house.

LOT 881 to 889—Best red deal, all planed, rabbetted, &c., ready for use.  
Door and Ventilators made.  
105 feet 1 1/2 by 6 Ridge,  
105 feet 1 1/2 by 4 Capping,  
230 feet 3 by 3 1/2 Plate,  
210 feet 3 by 3 Drip,  
4—8 feet 2 1/2 by 3 End Rafter,  
120—8 feet 1 1/2 by 3 Bars,  
15 Ventilators about 4 feet by 2 feet,  
15 Ventilators, Seats about 60 feet.  
1 Door and Frame, 6 ft. by 2 ft. 6 in.  
Packed free on rail. Usual price, £9 10s.

**ODD GREENHOUSES.**

ALL HOUSES ARE COMPLETE AS PER LIST.

Lot.	Usual Price.
890—Lean-to Greenhouse, 14 ft. by 9 ft., for Brick-work	£7 0 0
891—Span Roof (circular) Light Conservatory, 12 ft. by 8 ft.	12 10 0
892—Lean-to Greenhouse, 16 ft. by 10 ft., for Brick-work	8 5 0
893—Lean-to Greenhouse, 15 ft. by 8 ft., Door and 2 Ventilators in Front	15 10 0
894—Span Roof Greenhouse, 45 ft. by 10 ft., Portable Wood Bottom	23 0 0
895—Three-quarter Span Greenhouse, for Brick-work, 30 ft. by 10 ft.	23 0 0
896—Span Roof Greenhouse, 60 ft. by 10 ft., with 3 Partitions, making a Complete Range of Houses	50 0 0
897—5 Cucumber and Tomato Houses, 10 ft. long, 10 ft. wide, for 2 ft. Brickwork, Complete with centre Gutters, Top Ventilators, Doors, &c., &c., everything New and Complete, ready for erecting, good 21 oz. glass, nearly New, the lot	200 0 0

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FOR HARDWOOD AND STOVE PLANTS. LOT 910—Usual Price ... 21. 6d. per Sack. Special quotations for truck-loads, F.O.R.

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SUPERSEDES ALL OTHER PREPARATIONS OF THE KIND. LOT 914—Usual Price ... 1a Tins, 1 lb., 1s.

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(COARSE OR FINE) LOT 916—Usual Price, 2 cwt. Sacks, 3s. 3d.; 4 ton Truck on Rail, at Pit losses, 27s.

**BEST COCOA-NUT FIBRE REFUSE.**

(Fresh and Clean.) LOT 917—Usual Price, 1s. per Sack; in Truck, loose, free on Rail, over 2 tons, 3's.

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(Nearly New) LOT 918—Usual Price ... 2s. each.



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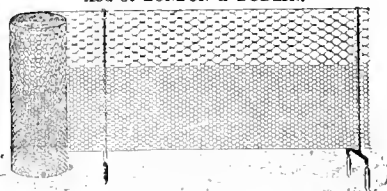
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 MR. P. JAKEMAN, for the past five and a half years General Foreman at Somerlayton Hall Gardens, as Head Gardener to RICHD. R. HEAP, Esq., Blackmoor, West Derby, Liverpool.

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**WANTED, SECOND GARDENER for the Houses, Feb. 15. Competent reliable Man, age about 25 (Christian preferred). Must be quick, with an interest in his work. Well recommended. State particulars.—HEAD GARDENER, Bryn Glas, Newport, Mon.**

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**GARDENER (HEAD WORKING).**—Age 28, married; good practical experience in all branches. Strongly recommended by present and previous employers.—G. WILLIAMS, The Gardens, Eriwood, Bagshot, Surrey.

**GARDENER (HEAD WORKING).**—Age 36, married. A thorough practical, experienced man in all branches. Excellent references character and abilities.—Hon. Rev. A. BYRON, Kirkby Mallory, Hinckley, Leicestershire.

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#### To Nurserymen.

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**FOREMAN, in the Houses.**—Age 24; has had experience in good establishments. Four years in present situation. Bothy preferred.—THOMAS WOODS, The Gardens, Wantworth Castle, Barnsley.

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**JOURNEYMAN, Inside, or Inside and Out.**—Age 22; six years' experience. Good references.—W. F. C., Rose Cottage, Ammore, Cosham.

**JOURNEYMAN, Inside and Out.**—J. GORNEY, Gardener, Manor House, Shepperton, Middlesex, will be pleased to recommend a young man (age 25) as above. Eight years' experience. Abstainer.

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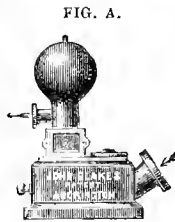
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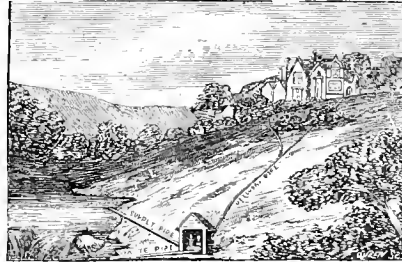
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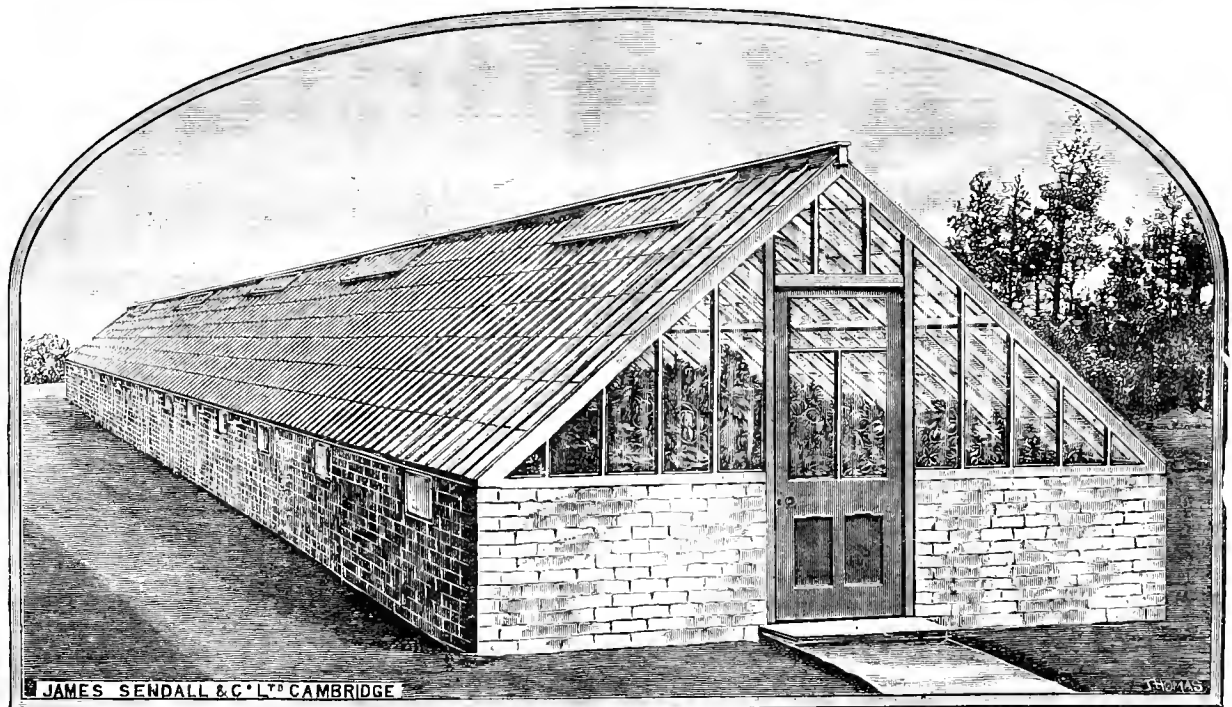
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## CONTENTS.

Ascott, the gardens at ... 165	Nursery notes—	Sutton & Sons, Reading ... 177
Bamboo, Japanese, and their names ... 166	Turner, Chas., Slough ... 178	
Books, notices of— ... 179		
Botanical Magazine ... 172		
Daffodils, blind ... 177	Orchids, some easily-grown ... 179	
Dombeya Wallichii ... 169	Oriental Lilies ... 176	
Epping Forest ... 174	Pinus Laricio var. Salzmanni ... 175	
Eucharis grandiflora ... 177	Pitcairnia corallina ... 175	
Female gardeners and their apparel ... 174	Potato-tray, an improved ... 177	
Flowers, early, in a Cornish garden ... 178	Rose Show Fixtures for the coming season ... 172	
Forestry ... 187	Royal Horticultural Society, the ... 172, 178	
Frost, the great, of 1895, and its effects at Kew ... 169	Rules for judging ... 168	
Fruit culture and farmers ... 177	Sarda Melons ... 175	
Fruit supply of Covent Garden Market ... 146	Societies, reports of ... 174, 175, 179	
Gardeners' requirements ... 175	Timber and Game Trees and shrubs ... 178	
Gardeners' Royal Benevolent Institution ... 174, 178	Vegetables—	
Gardeners' Royal Orphan Fund ... 174	Onions, on preparing land for ... 179	
Hybrids among Orchids Iris Niphioides, a group of, at Cambridge ... 167	Weather, the ... 180	
Kew, the Douglas Spruce Fir spar at ... 175	Week's work, the	
Linnaeus and Browall according to Quarterly Review ... 178	Flower garden, the ... 179	
	Fruits under glass ... 171	
	Kitchen garden, the ... 171	
	Orchid houses, the ... 170	
	Plants under glass ... 171	

## ILLUSTRATIONS.

Flower parterre, at Ascott ... 165
Potato-tray, an improved ... 177
Spanish Iris, group of, at the Yews, Cambridge ... 167

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**THE "LONDON" TOBACCO JUICE.**—Duty free. Will bear diluting with from four to eight parts of water. In Bottles: Pinta, 1s.; quarts, 1s. 9d.; half-gallon, 2s. 6d.; gallon, 4s.; or in casks of 10 gallons and upwards at 2s. 6d. per gallon. Sold by all Seedsmen. Sole Makers: CORY & CO. (LTD.), LONDON, E.C.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, 4 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BRESOY, Bone Mills, St. Neot's, Hants.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulans, London." Telephone, No. 6727.

## SALES BY AUCTION.

WEDNESDAY NEXT.

## GREAT SALE OF ROSES.

A Grand Collection of Choice named Standard, Half-Standard, Dwarf, Climbing, and other ROSES, including most of the best and leading sorts, from well-known English and French growers.

*Latania borbonica*, *Corypha australis*, *Dracaena*, and *Azalea indica*, from a Continental Nursery. Also a collection of STOVE and GREENHOUSE PLANTS, FERNS, cool ORCHIDS, &c.

Pyramid and Dwarf trained Apples, Pears, Plums, PEACHES, CHERRIES, and other Fruit Trees of named kinds. Also

A Splendid Assortment of Border Plants, including many Novelties in CARNATIONS, IRIS, PYRETHRUMS, &c. A collection of Home-grown LILiums, SPIRÆAS, CANNAS, BEGONIAS, Ornamental Shrubs, Flowering Trees; a collection of GLADIOLI, LILiums from Japan, a surplus stock of Dutch and other BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, February 12, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

VALUABLE IMPORTED ORCHIDS.

By order of Messrs. Lewis &amp; Co.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 13, at half-past 12 o'clock precisely, grand IMPORTED ORCHIDS, comprising *Oncidium concolor*, *Jasyle* and hybrids, in fine pieces, lotted to suit all buyers; *Lælia* except from the district from whence came such beauties as *L. anceps*, *Ameisiana*, *Finkeniana*, *Dawsonii*, &c.; *Cattleya Harrisonii* violacea; also *Odontoglossum Rosii* majas, *Oncidium Marshallianum*, and a few plants of the grand new *Ingapachian* type of *Lælia Pinellii*, &c.

ESTABLISHED ORCHIDS, comprising *Cypripedium niveum*, *C. bellatulum*, *Miltonia Roezlii*, *Oncidium tigrinum*, *Odontoglossum triumphans*, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

By order of a Private Collector.

A fine Importation of DENDROBIUM CAMBRIDGIANUM, D. CELOGYNE, D. INFUNDIBULUM; a choice lot of VANDAS, *Cypripedium bellatulum* album, two fine plants; and a COLLECTION of ORCHIDS in FLOWER.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 13.

On view morning of Sale, and Catalogues had.

Monday Next, February 10.

200 AZALEA INDICA, 150 A. MOLLIS, 36 DRACÆNA INDIVISA, 24 CORYPHA AUSTRALIS, 24 ACUBA JAPONICA, 33 RHODODENDRONS and PALMS, from the Continent; GLADIOLI, PEONIES, CARNATIONS, DAHLIAS, English-grown LILIES, PHLOXES, SEAKALE, PYRETHRUMS, HOLLYHOCKS, IRIS, and ANEMONES; 300 Dwarf ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 10, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, February 11.

SPECIAL SALE of CARNATIONS (the newest and best varieties); new VIOLETS, VIOLAS, hardy CYPRIPEIDIUMS, IRIS, CALOCHORTI, BEGONIAS, TIGRIDIAS, HOLLYHOCKS, LILiums, in great variety; and a great assortment of rare HARDY PLANTS, HERBACEOUS PLANTS, 300 DWARF ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 11, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Thursday Next, February 13.

75 AZALEA INDICA, 38 PALMS, 300 DWARF ROSES; STOVE and GREENHOUSE PLANTS, HARDY BORDER PLANTS and BULBS in great variety, Double Herbaceous PEONIES, DAHLIES, English-grown LILIES, BEGONIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 13, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, February 14.

IMPORTANT SALE of HARDY PERENNIALS, EXHIBITION HOLLYHOCKS, PANSIES, IRIS, CYPRIPEIDIUM SPECIABLE, LILiums in variety, ANEMONES, TIGRIDIAS, MONTBRETIAS, BEGONIAS, GLOXINIAS, DAHLIAS, CLERMATIS, TEA and other ROSES, CARNATIONS (new and old varieties), PINKS, PHLOXES, Double and Single PEONIES, AMARYLLIS, 300 DWARF ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, FEBRUARY 14, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next, February 12.

2,740 LILium AURATUM  
3,990 " SPEIOSUM ALBUM  
1,540 " " RUBRUM  
600 " MELPOMENE,  
350 " TIGRINUM

165 assorted Lilies just received from Japan.  
5,000 EXCELSIOR DWARF PEARL TUBEROSES  
5,000 CHOICE HYBRID GLADIOLI  
700 EXTRA QUALITY SPIRÆA JAPONICA  
140 LILium BROWN

120 Choice Double PEONIES, LILY OF THE VALLEY CLUMPS, BEGONIAS, 40 Sacks of Brown FIBROUS PEAT, and 40 Sacks of Pure LEAF MOULD, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 12, at Twelve o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, February 14.

SANDER'S GREAT SPRING SALE.

For Amateurs and the Trade.

13,000 ORCHIDS, WITHOUT RESERVE,

Lotted to suit all Buyers.

500 clumps of the best Hardy Plant of the century—HEMERO-CALLIS AURANTIACA MAJOR.

The most magnificent BURMESE ORCHIDS—*Dendrobium Wardianum*, noble, *Findlayanum*, *Bensonia*, *Fytcheanum*, *chrysoxanthum*, *suavisimum*, *clavatum*, *densiflorum*, *crassinodum*, *Cambridgeanum*, *formosum giganteum*, all unflowered in Europe, and all in the best of order.

Eleven splendid varieties of CATTLEYA; collector's descriptions guaranteed.

A Burmese form of CYPRIPEIDIUM INSIGNE and C. CHARLESWORTHII, found together.

A PBAIUS SPECIES possibly new, but resembling the superb P. Sanderianus.

A CYMBIDIUM SPECIES, growth and flower-spikes appear identical with C. Traceyanum.

An ONCIDIUM SPECIES, new and distinct flowers, borne in bouquet-like clusters.

ONCIDIUM SPECIES No. 2, resembling the very rare and lovely *hiliflorum*.

CYPRIPEIDIUM PARISHII, &c. Also

300 ORCHIDS IN FLOWER or BUD. To be SOLD, WITHOUT RESERVE, by

MESSRS. PROTHEROE AND MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 14, 1896, at half-past 12 o'clock, by order of Messrs. F. SANDER & Co., St. Albans.

On view morning of Sale, and Catalogues had.

## OLD CATTLEYA LABIATA

MESSRS.

## PROTHEROE &amp; MORRIS

67 &amp; 68, Cheapside, London, E.C.,

HAVE RECEIVED INSTRUCTIONS FROM

F. SANDER &amp; CO.

To Sell a wonderful new importation of this unrivalled and unapproachable type of CATTLEYA LABIATA,

## SWAINSON'S TRUE OLD TYPE,

Producing the large brilliant varieties.

Date of Sale of this big Importation next week.

"Providence," The Elms, Ramsgate.

By order of the Trustees of W. B. MILLER, Esq., deceased. TO SEED GROWERS, NURSERYMEN, FLORISTS, FLORICULTURAL EXHIBITORS and OTHERS.

MESSRS. J. W. SCARLETT & CO. have been favoured with instructions to SELL by AUCTION at the above address, on THURSDAY, February 13, 1896, at 11 o'clock precise time, the whole of the Contents of the Conservatories, and including the best sorts of NAMED and SEEDLING GERANIUMS.

The Geraniums comprise the latest productions of the deceased owner, whose merits as a Geranium Grower are too well known to need any comment. 189 Varieties include Rainbow, Pink, Largest Common, Best White, Best Yellow, Double Yellow, Blue Beard, and Occulated, the 1894 Plants are Yellow, Double Orange, Darkest Large, Very Dark, Blue Peter, King of Kings, Monte Carlo, Dark Salmon, Scarlet Centre, Purple Round, Blue Bright Occulated, Best White, and others. The 1895 Plants are Rich Crimson, Purple, Large Flat Purple, Rich Purple White Eye, Fancy Light Purple, Extra Large Dark Crimson, Crimson Flat Eye, Rich Large Crimson, Crimson Velvet, Immense Scarlet, Large Dark Scarlet, Rich Dark Scarlet, Red Nosegay Two Colours, Big Trust Large, Two Colours Large Ditto Flat, Soft Salmon, Large White Eye, Double Salmon, Yellows Double and Single, Double Lilac, Black Large, Large Dark, Blue and Thick Purple, Dwarf Occulated, also SEVERAL HUNDRED SEEDLINGS, and a quantity of Maiden Hair and Moss Ferns.

On View 11 to 4 on day previous to Sale. Catalogues of the Auctioneers, 38, High Street, Ramsgate.

WANTED, to Rent or Purchase, about 800 ft run of GLASS, in good condition; suitable for Tomatoes and Cucumbers. Must be near to station, and on Great Eastern Railway.  
BROOKS, 23, St. James' Road, Edgbaston, Birmingham.

FOR SALE.—FREEHOLD HOUSE and NURSERY; good opening for a Man who wishes to start with 6 or 9 acres of light land; easily worked.—A. O. W., 41, Wellington Street, Strand, W.C.

FOR SALE, Main Road, near Railway Main Line, GLASSHOUSES and FITS, heated in suitable divisions; also Cold Frames, &c.; Shop and Dwelling-house; good order; compact; spare land; fenced in. If you see it, you will buy.—H., 41, Wellington Street, Strand, W.C.

TO LET, about 7 acres of excellent MARKET GARDEN; near good town and main road. Particulars from A. BILLIMORE, Caversham, Reading.

Crown Lands, Eltham, Kent.

TO BE LET, with immediate possession, about 23 acres of NURSERY and MARKET GARDEN GROUND; and 12 acres of Grass Land at the west end of the town of Eltham, lately in the occupation of Mr. Henry Dickinson, and now known as Oakburat Farm, but formerly known as 'Todman's Nursery.'

For particulars, apply to Messrs. CLUTTON, 9, Whitehall Place, London, S.W.

MALVERN (near).—FREEHOLD RESIDENCE. Six Bed-rooms, two Reception-rooms, and Offices, Gardens, several Hot-houses, with productive Fruit Trees and Vines, Orchard, Cottage, Stabling and Outbuildings. Total area, 2 a. 0 r. 20 p. In midst of most picturesque scenery. Good Hunting, Fishing, and Shooting in neighbourhood.

Full particulars of Messrs. PROTHEROE AND MORRIS, Estate Offices, 67 and 68, Cheapside, London, E.C. (Folio 3748.)

LONDON, Eight miles from Covent Garden. —TO BE LET on Lease direct from the FREEHOLDER, a NURSERY of Two Acres, Nine Greenhouses, each 99 feet long. Efficiently heated. Rent, £50 per annum.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C. (Folio 3729.)

NOTTINGHAMSHIRE, near Station, G.N.R. —CAPITAL FREEHOLD MARKET NURSERY; 4 acres of Ground, 10 good Greenhouses, all well Stocked. Part of the Land could be developed for Building. The whole now in good working order. Capital required, about £1000.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C. (Folio 3749.)

FRUIT TREES WANTED, for Planting

several hundred yards of Keshiers.—CURRANTS, Carter's Champion, Black Naples, Lee's Prolific, La Versailles, Red Grape, Fay's Prolific, Cherry, and best Whites. GOOSE-BERRIES, Early Sulphur, No. 1, Industry, Warrington, and best Desserts for succession. RASPBERRIES, Lord Beaconsfield and others, all to have good roots. Price, size, and sorts, per 60 or 100. Also one or two years Cordons healthy Apples, Cherries, Pears (dessert), Plums, Apricots, Peaches, Nectarines, Jno. Downie Card, bush and standard Keswick Codlin, Tom Putt, Worcester Pearmain, ROSES, General Jacqueminot, W. A. Richardson and other Pillars; A. K. Williams and other good colours, Dwarfs. Prices and sizes, cash on delivery.  
Address: N. R., 41, Wellington Street, Strand, London, W.O.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

LARCH.—Extra strong transplanted, to offer, 3 to 4 and 4 to 5 feet. Price per 1000 on application to—LITTLE and HALLANTINE, Nurserymen, Carlisle.

TOMATO PLANTS, Chemin Ronce, strong plants, showing flower bracts in 60's, 20s. per 100; smaller plants, fit for planting out in 60's, 18s. per 100.  
W. WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.  
P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

ASPARAGUS, for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price of Covent Garden.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

WM. WOOD AND SON beg to offer the following fine specimens of—CEDRUS ATLANTICA, 8 to 10 feet, 7s. 6d. to 10s. 6d. each. PICEA FINSAPO, 6 to 7 feet, 7s. 6d. to 10s. 6d. each. Also fine transplanted bush MAHONIA AQUIFOLIUM, 1½ to 2 feet, at 20s. per 100. Address, Woodlands Nursery, Maresfield, Uckfield, Sussex.

GLOXINIA "AIGBURTH CRIMSON."—Matchless vivid crimson self variety, of great size, finest form and substance; reproduced quite true from seeds—the most brilliant variety ever raised. First-class Certificate. Per packet, 2s. 6d. from leading seedsmen, or post-free from the raisers.—ROBT. P. KER AND SONS, Bansett St., Liverpool.

GARDEN SEED LIST (Free).—Illustrated, Descriptive, Cultural, Reliable Quality. Pure and Economical. TOMATO, Collins's Challenger. Four First-class Certificates awarded. The best in cultivation. Only in our sealed packets, 1s. Thousands sold annually. (Wholesale Agents: HURST & SON).  
COLLINS AND CO., 39, Waterloo Road, London, S.E.

## GRAPE VINES AND TEA ROSES.

JOHN COWAN AND CO. have a large and fine stock of GRAPE VINES suitable for fruiting in Pots and planting Vines. They have also a large and fine stock of TEA and other ROSES in POTS. Descriptive and Priced Lists post free on application to the Company—  
THE VINEYARD AND NURSERIES, GARSTON, NEAR LIVERPOOL.



**FOR ORCHIDS and GARDENERS**  
to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

**THE CHEAPEST IN THE WORLD.**—Send for my CATALOGUE of FLOWERS, VEGETABLES, and SEED POTATOS. Fully Illustrated (gratis).  
GEORGE F. LETTS, Seedsmen, West Haddon, Rugby.

**THORN QUICK.**—Extra transplanted, and very strong, 5-yr., 25s. per 1000; 6-yr. 30s. Extra, extra strong gapping Quick, 40s. per 1000; 4-yr. old, very good, 16s. per 1000.—Apply to ISAAC MATTHEWS AND SON, The Nurseries, Miltoe, Stoke-on-Trent, S.O.

**LILIES OF THE VALLEY.**—I beg to offer first-class Forcing Crowns for immediate delivery. Also Planting Crowns, 1 and 2-yr. old. Prices on application.  
T. JANNOCCH, Dersingham, Norfolk.

**LILIAM AURATUM.**—Importation just to hand in splendid condition; good flowering bulbs, 4s. per dozen; magnificent bulbs, 6s. per dozen, packed free for cash with order.—H. HRADLAND & CO., Old Road, Gravesend.

**CHRYSANTHEMUM CUTTINGS.**—Madame Desgranges, 2s.; Mrs. Hawkins, best early bright yellow, W. H. Lincoln, Viviani Morel, &c., 4s.; Lady Fitzwigram, Thérèse Roy, 6s. per 100. Cash with order.  
MEW, Florist, Earlswood, Surrey.

**CLEARANCE SALE OF ORCHIDS.**—Owing to the enormous success of the West's Patent Orchid Baskets, we offer our whole Stock at 20 per cent. off catalogue. Must clear.—LEEDS ORCHID CO., Roundhay, Leeds.

**F. V. RASPAIL GERANIUM.**—Unrooted Cuttings, 4s. per 100, or 30s. per 1000. SMILAX ASPARAGOIDES, in 60's, good stuff, 10s. per 100. Free on rail; cash with order.  
P. BOULTON, Beechen Nurseries, Swanley.

**CHRYSANTHEMUMS.**—Good strong cuttings of Snowflake, L. Canning, and Lady Lawrence, 2s. 6d. per 100; W. H. Lincoln, 4s. per 100. Cash with order.  
FOREMAN, Perlycross Gardens, Teignmouth, S. Devon.

**CUCUMBER SEED.**—True Rochford's variety; 28,000 Seeds sold last year. We now offer it at 2s. 6d. per 100; lower quotation per 1000.  
HAMLIN AND FULLER, Bletchley, Bucks.

**PEACH TREES (trained).**—Early Alexander, height of stem, 2½ feet; spread of head, 13 feet. Early Silver, height of stem, 6 feet; spread of head, 18 feet. Fruit-trees of kinds. Forest-trees, Ornamental Shrubs, Garden and Farm Seeds.—HENRY AND SON, Hill Nursery, Hartley Row, Winchfield, Hants.

To the Trade.  
**SEED POTATOS.**  
H. AND F. SHARPE are prepared to give special quotations for their fine selected Stocks, and well-dressed samples of SEED POTATOS, comprising all the best varieties in cultivation, and including an extra selected Stock of the Yellow-fleshed SHARPE'S VICTOR.  
Prices for large and small quantities will be found very advantageous to purchasers, and may be had on application.  
SEED GROWING ESTABLISHMENT, WISEBCH.

**DOUBLE WHITE LILAC, MADAME LEMOINE,** one of the finest plants raised by Lemoine (the most successful of living hybridists). Strong plants with bloom buds, 2s. 6d. each, for cash with order. Postage 3d. extra.

**CACTUS DAHLIA SEED.**—Saved from the choicest sorts, including new vars. of 1895, of our own special collection, 1s. per pkt. Single, Pompon, and Tom Thumb, each, 6d. per pkt.

**ROSE SEED.**—The greatest novelty in seeds for 1896 is Rosa multiflora; will flower in three months from the time of sowing, in great profusion and variety of colour; was introduced by the largest seed grower in the South of France, and flowered well last year according to description. Seed, 1s. per pkt.; smaller pkts., 6d. each.  
See Seed Catalogue, post free on application. Seeds post free for cash with order.  
POPE AND SONS, Seedsmen, Birmingham.

Panicles, Pauls' Broxbourne.  
AWARDED SILVER MEDALS OF ROYAL HORTICULTURAL SOCIETY in 1893, 1894, 1895.

PAUL AND SON recommend the present open season for planting these. 12s. to 30s. per dozen for strong, vigorous plants of the best varieties.  
Descriptive LIST on application to—  
THE OLD NURSERIES, CHESHUNT.

The New Single Carmine Pillar Rose.  
PAULS' CARMINE PILLAR.  
—Strong Plants, with this year's growths of 7 to 8 feet, 7s. 6d. each.  
PAUL AND SON, CHESHUNT.

**FERNS A SPECIALTY.**  
50,000 PTERIS CRISTATA, in large thumbs, 10s. per 100.  
50,000 PTERIS TREMULA, in large thumbs, 10s. per 100.  
20,000 PTERIS CRISTATA, in 48's, 5s. per dozen.  
15,000 PTERIS TREMULA, in 48's, 5s. per dozen.  
PACKING FREE.

M. Larsen, ROEBUCK NURSERY, ENFIELD HIGHWAY.

# CHRYSANTHEMUMS.

*MAGNIFICENT NOVELTIES*  
which no "up to date" Grower can afford to miss.

**PRIDE OF EXMOUTH.**—An immense bloom of superb form; white, slightly frosted cherry-pink. Considered by many who have seen it to be the finest novelty of the year. 7s. 6d.

**MISS MARY GODFREY.**—Of the largest size; a distinct and lovely pink, being that of the Peach bloom. 7s. 6d.

**ARONA (Briscoe-Ironside).**—In size and form similar to Col. Smith, but of richer colour and of much better substance. 7s. 6d.

**MRS. HUME - LONG.**—Another monster bloom, yet free from coarseness. 7s. 6d.

**MRS. BRISCOE-IRONSIDE.**—I have purchased a portion of the stock of this from Mr. R. I. A lovely variety undoubtedly. 6s.

**MR. W. LAYCOCK.**—Large blooms; clear straw colour. Much admired by all who have seen it.

These do not by any means exhaust my LIST of STERLING NOVELTIES for 1896. All are fully described, together with the best from all other raisers, independent of source, in

THE MOST RELIABLE CATALOGUE  
PUBLISHED, POST FREE.

W. J. GODFREY,  
EXMOUTH, DEVON.

**PLANTING SEASON.**  
HARDILY-GROWN  
**Forest, Fruit,  
& all other  
Trees & Plants  
Evergreens,  
Roses, &c.**  
Stocks quite Unequalled for  
"QUALITY," "VARIETY," & "EXTENT."  
Priced Catalogues Post Free.  
DICKSONS Nurseries CHESTER.  
(450 Acres)

# RHODODENDRONS.

The finest named hardy varieties, bushy, and full of buds, from £7 10s. per 100, upwards.

CONIFERS, HARDY EVERGREENS,  
DECIDUOUS TREES, &c., in large quantities.  
CATALOGUES on application.

JOHN WATERER & SONS  
(LIMITED),  
AMERICAN NURSERY, BAGSHOT, SURREY.

# FERNS!—FERNS!!

In 2½-in. pots, a large quantity of PTERIS TREMULA, and other sorts, at 9s. per 100.  
In 48's, PTERIS NOBILIS, and MAJOR, at 4s. 6d. per doz.

Above Prices are for Cash with Order only.  
PACKING FREE.

B. PRIMROSE,  
BLACKHEATH NURSERIES,  
ST. JOHN'S PARK, BLACKHEATH, S.E.

# BEST LATE APPLE.

WE CAN STRONGLY RECOMMEND OUR NEW APPLE  
"NEWTON WONDER,"

as the best late Apple in cultivation; fruit keeps till June; large, well coloured, perfect form, splendid cooking quality; tree a vigorous grower, free from canker, and very productive.

PRICE—Same as Ordinary Varieties.  
AWARDED FIRST-CLASS CERTIFICATE, R.H.S., DEC., 1887. NOW WIDELY KNOWN.

Descriptive Catalogue of Fruits, with full direction for Planting; also an Article upon Pruning and Insect Pests, on application.

J. R. PEARSON & SONS,  
CIBLWELL NURSERIES, NOTTS.

*Wells' Book, tells every thing about the culture of Chrysanthemums, for every purpose, post free 1/3. from M. Wells, Earlswood Nurseries, Redhill. Wells' special list of Mining gives all the best new sorts, now ready, post free, from M. Wells, Earlswood, Surrey.*

# WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of  
**VEGETABLE & FLOWER SEEDS**

Containing also the best NOVELTIES of the SEASON, all the recent Improved varieties of Sweet Peas (80 in number) arranged in distinct shades of colour, and LIST of over 150 varieties of choice Fern spores. MAY BE HAD ON APPLICATION. Any of our customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,  
SEED MERCHANTS,  
EXETER ST., STRAND, LONDON, W.C.  
Seed and Trial Grounds—Feltham & Twickenham, Middlesex.

# DANIELS BROS. NOVELTIES FOR 1896.

**POTATO, MAJOR NEVE.**  
A fine new white round variety. A heavy cropper, and of splendid cooking quality. First-class Certificate Royal Horticultural Society. Price, per 7 lb., 2/-; 14 lb., 3/6; 56 lb., 12/6.

**POTATO, EARLY QUEEN.**  
A grand early dwarf-growing Kidney; tubers pinkish-white, enormously productive, and of first-class cooking quality.  
Price, per 7 lb., 2/6; 14 lb., 4/6; 56 lb., 16/-.

**ONION, ALLAN'S RELIANCE.**  
Magnificent variety, of large size, splendid form, and a first-rate keeper. The highest and best type of a White Spanish Onion.  
Per Packet, 1/6 and 2/6.

**DANIELS' NEW GODETIAS, MARCHIONESS OF SALISBURY.**

A charming new variety, growing only 1 foot high; flowers large, crimson, edged with delicate rose. Award of Merit Royal Horticultural Society, July 9, 1895. Per Packet, 2/6.

**CARMINEA AUREA (CRIMSON AND GOLD).**  
Flowers crimson, edged with pale yellow or gold colour; very distinct and beautiful. Per Packet, 2/6.

For the best List of Choice Kitchen Garden and Flower Seed, Seed Potatoes, Roses, Fruit Trees, Clematises, Begonias, Lilies, Gladioli, Hardy Flowering Plants, and the Best Novelties of the Season, see our beautifully illustrated GUIDE FOR AMATEUR GARDENERS, 140 pages, with three fine Coloured Plates. Free to all Customers of 5/- and upwards.

DANIELS BROS.,  
SEED GROWERS & NURSERYMEN,  
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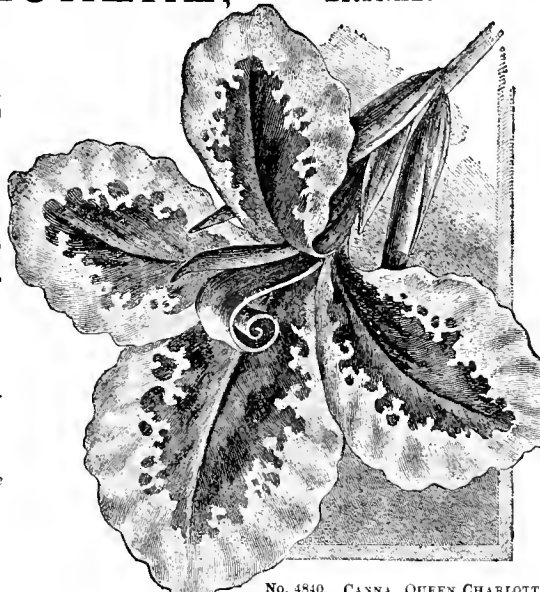
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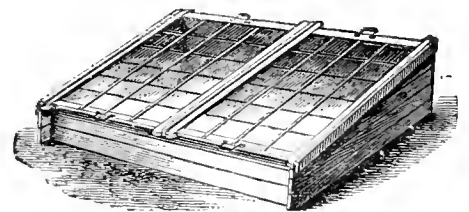
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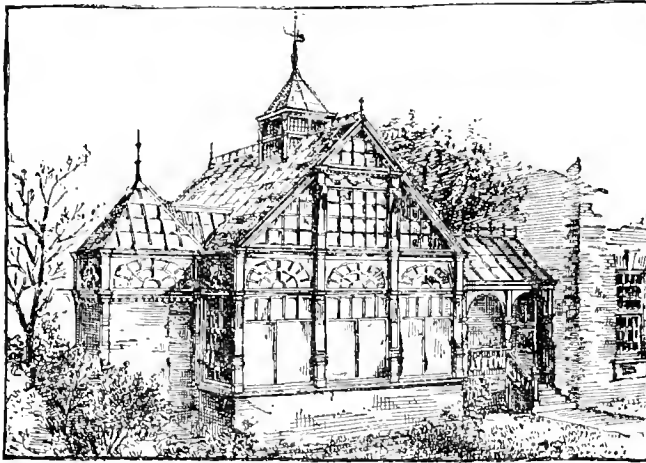


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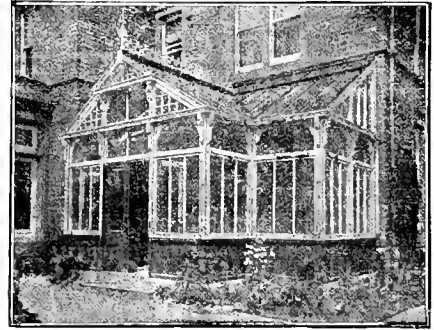
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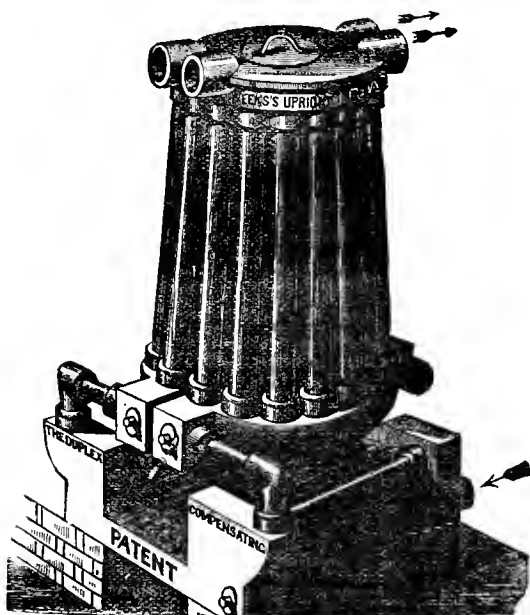
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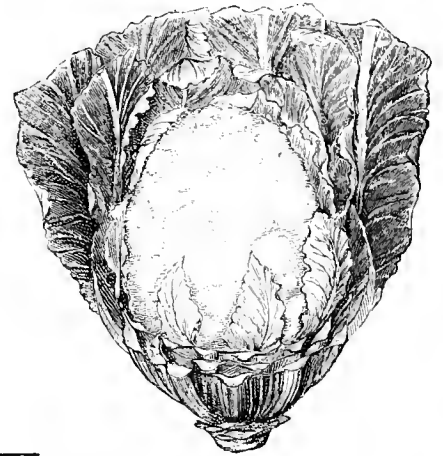
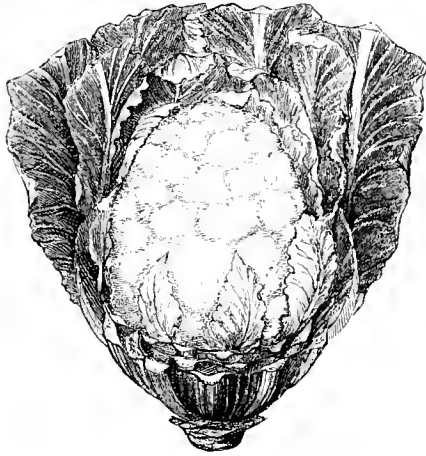


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The Horticultural Press for 1895 has unanimously expressed its opinion of the great advance in both richness of colour and in the size and form of flower of the many new and magnificent varieties.

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'ENTERPRISE.'

A new and valuable variety, growing to the convenient height of from 2½ to 3 feet. Its dark green pods are produced abundantly, and contain from 8 to 9 large peas of the finest quality when cooked.

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3s. per pint, post-free.

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NEW

GIANT PRIMULAS.

PRIMULA SINENSIS FIMBRIATA  
"Magnum Bonum," Red (Sterling Novelty for 1896).

We have every confidence in placing this Novelty before our Customers, feeling confident that it will become very popular. The plants are very sturdy and compact in habit; the flower stem is strong, and rises well above the strong, robust foliage. The blooms are produced in great profusion, are of a gigantic size, beautifully fringed, and the colour is a very beautiful shade of a rich deep red. Per packet, 5s.

PRIMULA SINENSIS FIMBRIATA  
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Is, without exception, the finest White Primula in cultivation, and we feel confident that it cannot fail to give satisfaction wherever it may be grown. It is more vigorous in growth than the old varieties, the foliage being remarkably strong. The flower-stem is very sturdy, rises well above the foliage, and bears a profusion of massive flowers of a pure white colour of great substance. The individual blooms measure 2½ inches in diameter, and are exquisitely fringed. Per packet, 5s.

From the Rev. H. C. LITTLEWOOD, Hurston Rectory:—"The Primula Seed I had of you last spring has produced some splendid flowers."

Illustrated Seed Catalogue for 1896 is now ready, and will be forwarded gratis and post-free to all applicants.

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13,000 ORCHIDS  
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THE BEST HARDY PLANT OF THE CENTURY,  
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BURMESE DENDROBES,  
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flowered in Europe. Immense variety, and splendid plants, in  
large and small Lots, to suit all Buyers.

THE BURMESE  
CYP. INSIGNE & C. CHARLESWORTHII,  
Both from New District, and found growing together.  
NEW Yellow and Black-Spotted Bouquet-Flowered ONCID.

A NEW PHAIUS?—Titanic old flower stems.  
ONCIDUM No. 2.—Probably the magnificent  
O. LILIFLORUM. The only plant in cultivation is in  
the DELL COLLECTION.

NEW CYMBIDIUM from BURMA  
Spikes and Growths appear identical with C. Traceyaum.  
Cypripedium Charlesworthii, found growing with  
C. insigne.

300 ORCHIDS IN FLOWER AND BUD.  
11 CATTLEYAS, magnificent kinds, described by Collector,  
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Have much pleasure in introducing  
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Season, a superb

NEW TOMATO

"ALL THE YEAR ROUND."

First class Certificate, Royal Horticultural Society,  
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A very superior variety raised by Mr. Farr, gardener to  
A. Pears, Esq., Spring Grove House, Isleworth. The fruit  
is rather below the average size, bright red, and of a Plum  
shape, very solid, and of high quality. It is abundantly  
prolific, producing clusters at every joint. Ripe fruit can  
be obtained all through the year by making two sowings,  
one in February, and again in August. The plant is of  
good constitution, with strong vigorous growth, and is  
remarkable for its continuous bearing, both under glass  
and in the open ground.

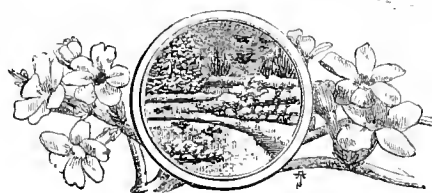
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THE  
Gardeners' Chronicle.

SATURDAY, FEBRUARY 8, 1896.

A SCOTT.

(See Illustration, p. 173.)

ASCOTT, the residence of Leopold de Rothschild, Esq., is almost instinctively associated in the minds of gardeners with the growth of the Malmaison and other Carnations, which have been so successfully cultivated there for many years past. It is not by any means, however, in this one particular branch of gardening only that Ascott deserves notice, for every department of the garden is most efficiently maintained, both from the point of pleasure and productiveness. Carnations at the time of my visit were not flowering, but finer or more promising plants could not be desired. Malmaisons in variety are grown in thousands, and the older plants of these represented a picture of health, whilst the younger stock from last year's layers by their sturdy appearance give every promise. Mrs. Leopold de Rothschild Carnation, a variety that has now fully established its character as one of the very best pot kinds, was just coming into bloom. It is more tree-like in growth than Miss Joliffe (which is undoubtedly one of its parents), with a deeper tint of colour in its fragrant blossoms. A number of other approved kinds are grown, and Mr. Jennings is always alert for any fresh kind of merit. One span-roof house was entirely occupied with two kinds of Begonias; Gloire de Sceaux and Gloire de Lorraine; the former kind is now in very vigorous growth, and has foliage of unusual substance. With the deep metallic lustre suffusing the leaves, the bright coral pink of the blossoms form a most pleasing combination, more particularly as these colours are seen under artificial light, hence it makes a choice vase plant. Gloire de Lorraine is quite distinct from the preceding in every respect, having small bright green foliage, with a dwarf habit and small trusses of bright rose-coloured flowers, which are produced in such profusion as to militate against the proper growth of the plants if they are not constantly picked off until the plants are well established. Zonal Pelargoniums are largely grown for winter flowering, one house being filled with dwarf sturdy plants of the best kinds, "Raspail Improved" being one of the favourites. Poinsettias occupy another house, the stock of this invaluable winter plant being dwarf and hardy-looking. Cyclamen persicum are also noticed in quantity; and another house is well filled with Eucharis, and others with mixed decorative plants, in one of which there is a fine stock of Maidenhair Fern.

Roses under glass are largely grown, chiefly on the roofs of two span-roof houses, whilst a long corridor-like structure has recently been planted a-fresh with this popular flower, of which pot-plants are also grown in large numbers, many as standards.

Upon directing one's attention to the pleasure grounds, it is a difficult point to decide which part to admire most, so endless and diversified

are the features in these charming grounds. The chief object in the formation of any garden, be it large or small, should be the presentation of fresh and diversified attractions at every turn, these being so blended as to form one harmonious whole, yet each being complete in itself. This is the great feature at Ascott, for fresh surprises await one constantly, whilst there is not the slightest attempt at repetition, or of balancing one part with another. We need less of the formal and stiff style of gardening so prevalent in the earlier part of this century. The entire design of the Ascott gardens is unique in its way, reflecting the best possible evidence of the good taste of its owner, who acted himself as landscape gardener.

The mansion is so situated as to command extensive views of the surrounding vale and the hills in the distance. Towards the east the Bedfordshire hills are seen to advantage, whilst to the south is obtained a fine view of the Chilterns; then, again, away to the west there is a longer distance view in the direction of Aylesbury. The square towers of Mentmore are plainly visible also. The configuration of the ground is such as to place Mentmore on the spur of one hill, with an incline towards the south-west, whilst Ascott occupies a somewhat similar position upon another. The walls of the mansion (as, in fact, are those of nearly all the buildings around) are well covered with climbers, both evergreen and deciduous, the windows alone in many parts being visible by reason of the luxuriant growth. Amongst other choice climbers, the rare *Wistaria multijuga* is a fine feature, with its racemes of great length; the best of the *Ceanothus* genus are also represented. Shrubs clipped to various forms meet one frequently, but chiefly near the house, or within view of it. This style of gardening is in accord with the Elizabethan style of architecture adopted. During the summer months, many of the flower-beds are filled with tuberous Begonias; these are followed by spring-blooming plants. Borders, both narrow and broad, are filled with plants of a mixed character, chiefly hardy, amongst which Roses are noticeable in large quantities. The newest addition to the garden is a fountain of rare and singular beauty (fig. 24), representing a fairy water scene. It is well placed, with appropriate surroundings.

Another recent addition also is an alpine garden with a rockery, designed with taste, and planted with the best suited alpine plants and bulbs. Pools of water and aquatic plants are features of interest in other parts, so also is the dripping-well. One characteristic of these gardens is the hedges and specimens of the Golden Yew and other plants of similar character, as *Thuia Vervaeiana* and the Golden Queen Holly; all of these add to the picturesque effect of the garden, and make it bright at all seasons of the year. Rhododendrons, of which several clumps have been planted, are already growing into large masses. A sunken walk of considerable length affords, by reason of a wall on the one side, another opportunity of planting climbers, and this has been taken full advantage of.

Another garden, and that a most important one, is devoted to the most useful hardy plants and bulbs for cutting purposes during a long season, and each in its turn. Violets are grown here in great luxuriance. Climbers in this garden are grown upon wire arches and supports; climbing Roses, chiefly the Tea-scented and Turner's Crimson Rambler, are here very prominent.

For years past it has been the custom to

import large trees such as Horse-Chestnuts and others, both evergreen and deciduous. The earlier planted of these are now greatly adding to the effect, most of the surrounding ground having been formerly destitute of good arboricultural specimens. Some very healthy specimens of *Abies pinsapo*, are a noteworthy instance of this towards one of the lodges. The stables stand upon ground which, a few years ago, was under tillage. Now they are quite surrounded with trees and shrubs. The kitchen and fruit gardens are well kept; the utmost cleanliness prevailing, winter crops in the former look well. There has been an admirable fruit-store added recently, and there is no difficulty to well stock it.

For the recreation of those employed on the estate, as well as for others, a well-prepared cricket-ground has been laid down. During the winter evenings, classes are held for carving in wood, &c., thus affording occupation for all who in any way desire or seek self-improvement. The bothy is a model of what such erections should be, being well appointed inside, and having a picturesque exterior also.

In conclusion, the practical and painstaking work of Mr. Jennings, who for so many years has had charge of the garden, needs remark. Nor should another most pleasing fact be overlooked, viz., the provision for each of Mr. Leopold de Rothschild's sons of a separate span-roof greenhouse, the plants in which are carefully attended personally by them during residence at Ascott.

H. G.

## FRUIT SUPPLY OF COVENT GARDEN MARKET.

HORTICULTURISTS, and the public in general, are under great obligations to Mr. George Monro for his most informing and exhaustive treatment of this subject at the Crystal Palace, the Horticultural Club, and in your columns lately (p. 116). His lucid exposition of facts, difficulties, and remedies left little more to be said or desired. His latest statistics in your columns, showing a clear saving of 5*d.* per bushel on non-returnable boxes, should settle once for all the greatest source of worry and delay in the transmission of fruit and flower produce by rail or road. No one can write with greater authority on these and kindred subjects, as no living man passes more fruit through his business than Mr. George Monro. His protest against empties and bushel-baskets are therefore the natural outcome of his experience; and it corresponds with that of most growers who have had constant experience in the transport of garden-stuff by road, rail, river, or sea. With exceptionally careful packing the consignments have reached their destination in a fairly presentable state. But the empties, waited for through weary days, or even weeks, have often arrived at last as unrecognisable bundles of Willows and splinters, only fit for firewood. I confess that nothing in my practical experience of forty or more years has proved such a fertile source of trouble and trial as "returned empties"—a very large percentage of them never returned, and fully a fourth part returned smashed beyond using, but charged for all the same. Mr. George Monro and the Great Eastern Railway Company have earned the gratitude of home-growers in garden and field for their efforts, which must speedily prove successful, to command more safety and speed of conveyance at less cost, through the abolition of returned empties.

For supplying the public as the Great Eastern has already done with boxes at a cheap rate, it has conferred a boon on growers of garden produce and farm stuff. When largely extended, however, the railways will share the benefit with the public, and may, in fact, prove the predominant partners in the distribution of the profit. For once the abolition of empties for small consignments becomes general, each packet will be handed once by our carriers instead of twice as many times as now.

As I was lecturing at High Barnet lately, in connection with the University Extension Scheme, I obtained and exhibited a nest of the Great Eastern boxes, with a list of prices and charges for conveyance. These excited much interest and I enclose the lists for your use. No doubt other lines will follow the lead of the Great Eastern.

"In order that the public may save the expense of conveyance of small returned empties, light and inexpensive boxes for use once only will be on sale at all stations on and after December 1, 1895, on the following terms:—

No. 1 ...	SIZE.			Price Each.
	Ins. (Length)	Ins. (Breadth)	Ins. (Depth)	
.. 2 ...	10 $\frac{1}{2}$	7 $\frac{1}{2}$	3	1 $\frac{1}{2}$ <i>d.</i>
.. 3 ...	13	9	4 $\frac{1}{2}$	2 <i>d.</i>
.. 4 ...	15 $\frac{1}{2}$	10 $\frac{1}{2}$	5	2 $\frac{1}{2}$ <i>d.</i>
.. 5 ...	16 $\frac{1}{2}$	11 $\frac{1}{2}$	5 $\frac{1}{2}$	3 <i>d.</i>
.. 6 ...	18 $\frac{1}{2}$	13	6	4 <i>d.</i>
.. 7 ...	21 $\frac{1}{2}$	14	7	5 <i>d.</i>

"Commencing on December 1, 1895, as an experiment, farm and market garden produce will be conveyed to consumers by passenger-train from numerous stations specified:—To London and stations in the Great Eastern suburban district, at a reduced charge of 4*d.* for 20 lb., and 1*d.* additional for every 5 lb., or part thereof, up to 60 lb., including delivery within the usual limits. These rates will only apply subject to the following conditions:—1. That the produce shall be packed in the boxes on sale at the different stations, or similar ones. 2. That the boxes shall be secured by nails, and not by rope or cord. 3. That the produce shall be conveyed at owner's risk, and the carriage prepaid; the prepayment being made by parcels stamps on sale at the stations. 4. That no box shall be of a greater weight than 60 lb."

You will see by the enclosed list how far this company has already gone in these directions, and doubtless the other main lines will speedily follow the lead—mayhap, better the example of the Great Eastern.

Another point of great practical and pocket importance is again briefly touched upon by Mr. Monro. "Apples carefully papered and packed in non-chargeable boxes in this way will make from ten to twenty-five per cent. more than in bushel baskets, with the result that every fruit reaches the consumer's table in perfect condition, instead of there being a considerable proportion too much damaged to ever reach the consumer at all." I think there is little more to be said. That little, however, is said with great force in the figure 2*d.*—the price charged for tissue-paper to wrap each Apple of a bushel in separately. But the labour—well, that abounds in rural homes, and few occupations would afford more pleasure or a more profitable technical education to the children than the careful handling and packing of choice fruits, such as Apples. But the grand feature of the new tariff is that distance does not count nor tell. All parcels of the same size and weight pay the same charges over the wide areas included in the new tariff of the Great Eastern, and this will probably be so generally adopted and extended as to give us a uniform rate throughout Great Britain and Ireland. The latter, with sweeping reductions and extensions in our parcel-post—sufficient, at least, to raise the latter to the level of the service rendered by the Governments of France and Germany—might do a great deal to revive our drooping agriculture, and give a useful filip to our advancing horticulture.

The Chancellor of the Exchequer might do far worse with the handsome surplus left him by his predecessor than pay the post-office pensioners off with it, and reserve the revenue thus saved to the reduction of the charges and increasing the efficiency of the parcel-post to the public at large. And thus the post-office and the railways, with co-operative collections as well as production and distribution, might bring growers and consumers into as speedy and cheap communication as possible. D. T. F.

A GROUP OF IRIS XIPHIODES.

THIS handsome bulbous plant has long been popular in our gardens, being of easy culture, and very hardy. A native of the French and Spanish Pyrenees, it has been in several varieties in cultivation in England for nearly 300 years. The plant has an ovoid bulb, glaucous linear leaves, the lower 1 foot in length; spathe two to three-flowered; pedicel shorter than the spathe; the limb 2 to 3 inches long, violet purple in the type; the falls have an orbicular blade 1½ inches broad, generally yellow-coloured in the middle; standards oblong, more than 1 inch high. There are many varieties differing more or less in their colouring. *I. xiphioides*, or English bulbous Iris, flowers in July in this country, that is, after the less variable *Iris xiphium*, or

does very much the same as before, and is heard to remark that no good comes of meddling with Providence. In a similar way the forester receives much advice regarding the right species to plant, and at periodical intervals the discovery of some arboreal novelty in some out-of-the-way or distant part of the world (usually Japan) is announced, which in the opinion of experts, will prove a valuable substitute for the one or other of our native timber trees. Considering that the latter are easily propagated and grown, are comparatively safe from climatic vicissitudes, and are appreciated by timber buyers, it will be readily understood that the discovery of these distinguished foreigners is hailed with the greatest satisfaction by economic tree planters, and after they have withstood fifteen or twenty degrees of frost without being killed outright, are confidently recom-

situation. When this species was first introduced, and extensively planted by the Duke of Atholl, and its good qualities brought to the notice of British planters, many thought it utter nonsense to plant anything else, and thousands of acres were planted with it alone in every conceivable soil and situation, so that it probably occupies more recently-planted ground at the present day than all other species put together. What the result has been, most people know. In suitable localities it has fulfilled all reasonable expectations, and in such is still regarded with the highest favour. In other districts it will scarcely grow into poles, and hardly repays the cost of planting. Its failure in these districts is almost universally attributed to the Larch disease, and foresters are eagerly looking either for a remedy for the disease, or for a disease-

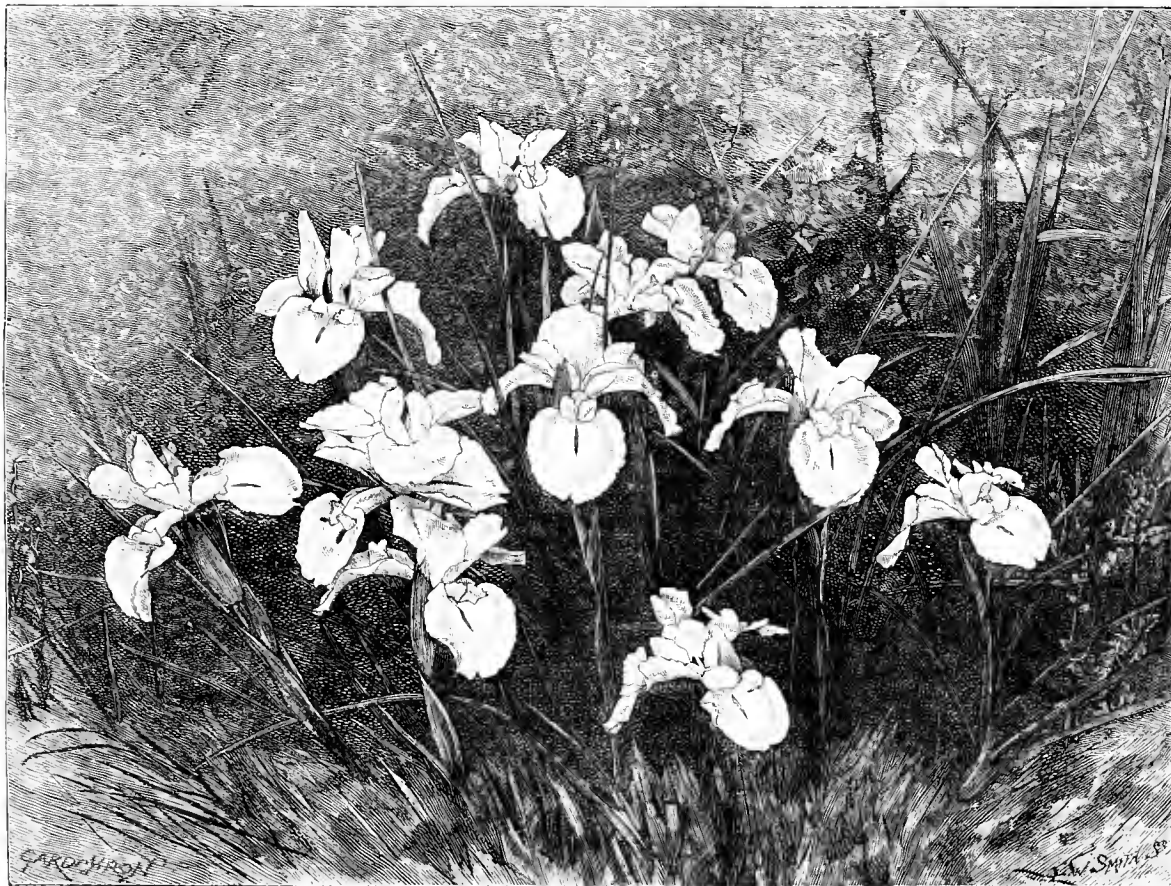


FIG. 23.—GROUP OF SPANISH IRIS, AT THE YEW, CAMBRIDGE.

Spanish Iris of gardens, is past. It is an admirable border plant, doing well in moist, deep, sandy soils, and where these conditions exist in the neighbourhood of water, it is a capital subject for forming groups. It may also be employed in positions that entail annual removal if the bulbs can be left in the ground till the foliage matures. The subject of our illustration (fig. 23) consists of a group of a white variety growing in Mr. H. M. Tighe's garden at The Yews, Cambridge.

FORESTRY.

OUR TIMBER TREES.

EVERY now and then the distressed agriculturist is solemnly assured that his salvation from ruin hangs upon the cultivation of a particular crop, or the adoption of a particular system of farming. In spite of these valuable hints, however, the farmer still

mended for re-foresteing Ireland and the highlands of Scotland, or the Welsh hills. An old Scotch saying runs, "There's nae folk like oor ain folk." We believe this expression is regarded in a complimentary light, and if so, we might apply a similar compliment to our trees when the question of planting a profitable crop of timber is under consideration, although few planters appear to share the same opinion. Introductions of gigantic dimensions are pointed to as undoubted evidence of their suitability for our climate, and their rate of growth is compared with that of indigenous trees, to the detraction of the latter. But granting that certain species can grow as quick again as Oak, Elm, or Scots Pine, what better off are we unless the net value of the timber of the former is higher than that of our native trees. So far as Larch is concerned, no one doubts its superiority as regards rapidity of growth and quality of timber over most of our common plantation trees, so long as it finds a congenial soil and

resisting Larch. It would be as near to the mark to blame the judgment of the planter for its non-success as the Larch disease; but as the latter does not appear to mind it, this is of no great consequence. The disease, *per se*, is no more harmful than dozens of other parasitic diseases which we rarely hear mentioned, though common enough. There is probably scarcely a single plantation of Larch in the United Kingdom which does not also contain *Peziza Wilkommii*, the only difference being that where the conditions are favourable to the healthy growth of the trees the disease keeps in the background; where the conditions are unfavourable, the disease spreads rapidly, and gets the upper hand. We have been informed that the disease is unknown in Ireland. Why so, we cannot say. In St. Patrick's time neither Larch nor disease was there, so it could not have been banished with the toads and snakes; and as he probably never heard of its existence elsewhere, he could scarcely have left instructions re-



garding its subsequent dismissal. We should imagine that something in the soil or climate encouraged the growth of the tree to such a high degree that the disease was unable to gain a footing, as it seems scarcely credible that affected plants or spores of the disease have never been introduced. With a little more care and judgment in choice of sites, the Larch may still be grown successfully in this country, but we might as well expect a Zulu or Hottentot to thrive in a cold climate merely attired in his native costume, as expect an Alpine tree to succeed in our peculiar climate when unfavourably situated and in bad or unsuitable soil. *A. C. Forbes.*

#### FORESTRY INSTRUCTION IN SCOTLAND.

A Scotch correspondent writes:—"The report made by Mr. Munro Ferguson, of Novar, M.P. for the Leith Burghs, to the Royal Scottish Arboricultural Society, deals with an important question. The suggestion that Government be asked to establish in Scotland a state forestry school is not a novel one, but the fact that Mr. Munro Ferguson's report, backed as it is by the unanimous support of Scottish arboriculturists, has got the length of being now under the consideration of the Board of Agriculture, is most satisfactory, and a point gained. Another matter that should be kept in view is that, were the State to grant a subsidy for the purpose of teaching forestry in Scotland, their doing so would not form a precedent. It may be remembered that a sum of £45,000 was given by Government to a company formed by the late Mr. Parnell for emigration and afforestation purposes in Ireland in 1884. The money, unfortunately, was entirely lost, as the scheme was not gone about as it might have been. There is more hope for the Scotch scheme, and Scotland has a very good claim for aid from Government for forestry education. Another favourable aspect of the case is the large breadth of land suitable for afforestation, but meantime waste, abounding in the Highlands of Scotland. The experiment of starting a forestry school would not cost a great sum; indeed, the estimate is made that for about £300 or £400 of an annual outlay, a very efficient school could be run. We have only to look at the success which has attended the experiments of our continental neighbours in this respect to lead us to take a leaf out of their book. Mr. Munro Ferguson's scheme will cost about £30,000 or £40,000, but the rental of the land is expected to cover the interest upon capital expenditure. The area of land to be acquired must have a certain proportion under timber. This will make the instruction given in the forestry school of real utility, so that the teaching of the manufacture of timber will be carried out along with teaching in planting, and in the care of young plantations. Great expectations are entertained among Scottish arboriculturists of the assistance likely to be given the movement by the Highland and Agricultural Society of Scotland. This society's co-operation in the scheme is to be asked, and will no doubt be cordially given. All that is now required is a favourable consideration of the scheme by Government, and then Scotland will have a long felt want supplied. *A Correspondent.*

#### RULES FOR JUDGING.

HAVING dealt in a former article with this subject on general principles (see p. 140), we may now proceed to discuss it in detail and from the point of view of Exhibitors and Judges.

In the preface, on p. 4, the paragraph commencing "Too great stress, &c." contains in a condensed form the whole pith of the matter; the accompaniment in the way of suggestions to societies being the best part of the whole. Following on come the "general rules," which are pretty much the same as those adopted by all well-managed societies. Too much emphasis cannot be laid on Rules 7, 14, 15, 16, and 17, which (see Rule 12, which bears on the Royal Horticultural Society acting as referee in cases of dispute) will not always work satisfactorily, for it must be a patent fact that

to settle such disputes one needs to be on the spot in order to arrive at a just and equitable decision. Rule 3, which pertains to "kind" and "variety," fails to cover every case. The better way is to drop one or the other, and let the common-sense view obtain. For instance, say "Class —. Collection of vegetables, distinct kinds," and there let the matter rest, adding the number of dishes, of course. We do not see that any useful purpose is served by any farther addition, unless, as we have suggested, before that the word "sort" be used to indicate minor variations. Old exhibitors and judges, however, know full well that duplicate dishes of Potatoes, &c., do not add points.

Suggestions to schedule-makers form the next section, and it begins with about the best advice that can be given, viz., "State clearly at what hour exhibitors can begin and must finish staging." This rule is more honoured in the breach than in the observance, and it results in enquiries being made of the judges as to how much longer their work will last when the subscribers and others are waiting to inspect the exhibits. The suggestions as to the allocation of the prizes is also to the point. The 22nd paragraph suggests at its conclusion that "judging will be conducted under the Royal Horticultural Society's 1896 Code of Rules," but it should be distinctly stated where that Code is to apply. It might be better to put it thus: "The judges to use their own discretion in making the awards, the 1896 Code of Rules being at their disposal for the settlement of doubtful points."

At 28, examples are given, as we have already mentioned, of how collections of fruit and vegetables should be stated in the schedule. The first is that of a "collection of twelve dishes of ripe fruit, not less [fewer] than six kinds, nor more than two varieties of a kind." This could be considerably and more clearly condensed to "collection of twelve dishes of ripe fruit, distinct kinds (black and white Grapes admitted)." "Not less [fewer] than six kinds" is not essential; it would be impossible to have fewer than that number when "two varieties of a kind" is the limit. The third is that of a "collection of six distinct kinds of vegetables; only one of the Cabbage tribe [genus] may be included." We cannot conceive why an exhibitor should not be allowed to stage two such high-class vegetables as Cauliflowers and Brussels Sprouts in a collection of six dishes. One is a white vegetable, and the other a green one, but as both are bracketed under 73 under the head of Cabbage family [], between which and "Cabbage tribe," as quoted above, there is no difference. We assume what is really meant is, that Brussels Sprouts and Cabbages could be staged, but the other view is decidedly conveyed. (In collections of vegetables it should be made compulsory to stage each dish intact, not divided into two, as some exhibitors stage in order to make the entire exhibit of uniform appearance). Examples of what to avoid call for no comment; such as those quoted would rarely occur, save from gardens of limited capacity.

Suggestions to judges: Paragraphs 29 to 33 may be dismissed in a few words. Some of the hints therein given seem to indicate that the judges know little or nothing about their business. Where such advice is essential the men employed must be positive greenhorns at their work. Paragraph 33 says, "Judges should not disqualify without a substantial reason," quoting in support paragraphs 3, 7, and 8, to one only of which we will allude—Would five Peaches be a substantial reason for disqualification when six were intended, or forty-nine Cherries when fifty were required? If paragraph 7 be interpreted absolutely, the missing Cherry must cause a disqualification when the judging is performed (?) under the 1896 Code. Paragraph 33 is certainly suggestive, it should never be made compulsory to interpret "dish" in its strict meaning. The numbers of fruits to each dish is good (see paragraph 41), save in large collections of Apples or Pears, as in the case of say 100 dishes, five fruits then are sufficient (the Royal Horticultural Society adopt this number themselves). In every schedule

the number or the weight of fruits of a dish should be stated.

Passing on to paragraphs 45 and 46, we note some more good suggestions as regards quality and colour. The example given of "Alexandra Noble Peach" as a case in point, where colour does not count, is a good one, but judges who know fruits do not need to be told this bit of information; nor do they require to be told at par. 48 that "malformed fruit, spots, insect marks, bruises, decay, and want of stalks or eyes, are defects."

At 50 the pointing of fruit is dealt with, the numbers of points allocated to each kind on the whole being good, but a few alterations might certainly be made; for instance, Muscat Hamburg and Madresfield Court Grapes are worth quite as much in pointing as Muscat of Alexandria; whilst, on the other hand, such as Gros Maroc, should never receive so many points as Black Hamburg. Flavour as found in the latter should outweigh the larger berries, denser bloom, and oftentimes larger bunches of the former. Flavour should most certainly carry weight in the case of Grapes, but it does not always obtain. For this reason some exhibitors grow such as Gros Maroc to come in early, simply from the point of appearance.

Why Apples are to receive 7 marks as the maximum, and Cherries only 5, requires some explanation. Gooseberries instead of having 5 would have been well provided for with 3 marks. The time of the show should also have an important bearing on the number of points, e.g., Cherries, Figs, Plums, and Strawberries, early in the season should point relatively higher than when shown later on. From 52 to 66 the hints are decidedly more applicable to the exhibitors than the judges, otherwise they are to the point, but contain nothing new. The restriction as to the size of Melons is taken too low, 21 inches in circumference would be better as the maximum—this will not then allow of quite 7 inches diameter.

During the season of flower shows, it will happen that one important meeting follows quickly on the preceding one. Grapes are thus made to do duty twice, but the experienced eye will soon detect the shrivelling stalks; of this fact, no notice is taken.

#### JUDGING VEGETABLES.

From paragraphs 67 to 108 vegetables are dealt with, the room occupied being in excess of what is needed, viz., over six pages. (Fruits only occupy four pages.) These have been grouped, as in the case of fruits, under one heading, and then a repetition of each kind, with the points to each. Given 74 to 106 inclusive, the exhibitors or the committee could do the work of judging themselves. There is a redundancy of adjectives used in these paragraphs; for instance, at "84, Cauliflower, of medium size, firm, solid, rounded, free from stain and frothiness." (?) A smaller number of marks would have sufficed for Jerusalem Artichokes, Beet, Beans (Broad and Longpod), Beans (Runner and Dwarf Kidney), Cabbages, and Vegetable-Marrows, as contrasted with Peas, Onions, Carrots, Asparagus, Mushrooms and Celery, i.e., five marks for Beet as against seven for Peas, five for Vegetable-Marrows to seven for Asparagus, and so on. At 68 it states "Quality, coupled with a size suitable for table use;" then at 106 it goes on to say, "Vegetable-Marrows of medium size, about 1 foot in length." For cottagers' produce even this is too much, to say nothing about gardeners' classes. Surely judges should know this without any code. And, moreover, there is a loss rather than a gain in mere individual size, the energies of the plant being misdirected in its attainment.

In this section, again, no note appears to have been made for additional marks for forced vegetables. It would also have been interesting to have had the circumference given against Onions, the monster examples of which, as shown by some exhibitors, are mainly intended for seeding purposes, and not for actual consumption.

From 109 to 121, specimen and other plants are treated on; the remarks on specimen plants and

Orchids are concise and to the point. As regards the latter we are glad to see that made-up plants are absolutely discouraged. Under the heading of Begonia it would have been as well to have added the word "tuberous," it was evidently intended.

Proceeding to table plants the old mistake is made of allowing 6 inches diameter as the maximum size of pot, whereas  $4\frac{1}{2}$  inches is quite sufficient.

"Table decorations" at 124 starts well by saying, "No hard-and-fast rule can be laid down, as table decoration is so entirely a matter of individual taste." It goes on to say, "When fruit has to be taken into account, six more points may be added." What for? Arrangement or quality?

Respecting hand-bouquets in the following paragraph, it says they "should not be so large as to be cumbersome," &c. No better advice could be given. The following remarks, too, are more for the exhibitor than the judges. This paragraph finishes with good advice also (exhibitors take note). "Ferns or other garniture placed on the table as an adjunct to epergnes, are to be removed by the judges prior to adjudicating," and quite right too; this refers to epergnes and vases.

Groups of plants follow, the advice being that in practice by the best known exhibitors. In the pointing for groups, "general finish" has four points, and "elegance and beauty of arrangement" six. Where the latter is complete, the former must of a necessity be so too. General finish being an essential of the other.

Roses are treated upon from 127 to 147, the rules being both concise and to the point. We note with pleasure that dressed blooms are discouraged, the reflexing of the petals (outer) of Teas and others of similar shape has of late years been practised by some exhibitors. Further on it gives the ideal of an exhibition pot Rose as "The plants should be pyramidal or round." Will our well-known exhibitors note this?

Chrysanthemums are treated upon from 149 to 159 (about four pages), under respective heads, the lines followed being those usually adopted, the whole being readily understood. The suggestion at the end being excellent as regards the addition of foliage plants to groups.

Hardy plants and flowers have a section to themselves, commencing with annuals. At 165 "Hardy Perennials" are described, shrubby plants being included therewith. To save any confusion here, the better way would have been to advise that the words "Hardy Perennials" be never employed in the drafting of schedules. Further on, "It is strongly recommended that in the framing of schedules the simple words, 'hardy flowers,' should be adopted," this meets the case. Three simple headings for hardy flowers would have been:—1st, Annuals and Biennials; 2nd, Herbaceous; and 3rd, Shrubby Plants (i.e., those with woody or permanent growth). Instead of "excluding Lilies and other bulbs, corms, and tubers," it would have been better to add them to hardy herbaceous plants, making it clearly understood that they might be included, otherwise Lilies, &c., might be shut out entirely, with no special provision for them.

We note that the "building up of bunches" is discountenanced, and rightly so. At 176, instead of saying "twelve bunches of hardy flowers, distinct kinds, or distinct varieties," why not say, not more than two of one genus? The number of points suggested should work out well.

Various flowers are treated upon from 178 onwards. These chiefly consist of florists' flowers, commencing with the Auricula. The definitions given are to the point with no superfluous descriptions. An opportunity was afforded to have made the suggestion under "Carnations" that paper collars be dispensed with, but it does not appear.

Where sectional judges are employed the application of Rules for Judging might be referred to, but in exhibitions where one set of judges do all the work, its application would involve more time than is usually allowed for the performance of the work.

## TREES AND SHRUBS.

### TREES AND THEIR GROWTH.

"ONCE more I send you my annual measurement of trees, girthed at 4 feet from the ground. As before, the tree which grows most rapidly is the great pollarded Spanish Chestnut; its growth of 2 inches a year is all but constant. It will be noticed that fourteen trees are measured, of these one-half grow 1 inch or more a year. The quickest growers are the two Spanish Chestnuts (both old trees), and the Cryptomeria and Wych-Elm (both young ones)."

Wm. Wickham.

"Binsted-Wyck, Jan. 17," in *Hampshire Herald*.

Names of Trees.	First Meas.	Measmt.	Growth in
	Jan. 1878.	Jan. 1896.	18 years.
	ft. in.	ft. in.	ft. in.
Sycamore in garden ...	7 0 $\frac{1}{2}$	7 11 $\frac{1}{2}$	0 11
Cut-leaved Alder in garden...	8 6	9 10	1 4
Oak in garden ...	10 0	11 1 $\frac{1}{2}$	1 1 $\frac{1}{2}$
Cryptomeria japonica in garden ...	2 3 $\frac{1}{2}$	5 3	2 11 $\frac{1}{2}$
Spanish Chestnut in garden (has been pollarded) ...	13 10	17 1	3 3
Spanish Chestnut in park ...	12 7	15 0	2 5
Another ditto ...	8 8	10 2 $\frac{1}{2}$	1 6 $\frac{1}{2}$
Old Larch in garden ...	6 2	6 6 $\frac{1}{2}$	0 4 $\frac{1}{2}$
Another Oak in garden ...	7 3	7 11	0 8
Paulownia imperialis in gar.	Jan. 1882 1 11 $\frac{1}{2}$	3 0	Growth in 16 years. 1 0 $\frac{1}{2}$
Young Wych-Elm in park ...	Jan. 1885 4 4 $\frac{1}{2}$	6 7 $\frac{1}{2}$	Growth in 13 years. 2 3
Large Oak in park ...	Jan. 1884 10 8 $\frac{1}{2}$	11 6 $\frac{1}{2}$	Growth in 12 years. 0 9 $\frac{1}{2}$
A little Oak in park ...	Jan. 1885 3 0	4 1	Growth in 11 years. 1 1
Beech in park ...	Jan. 1886 8 4 $\frac{1}{2}$	9 4	Growth in 10 years. 0 1 $\frac{1}{2}$

### THUJA ORIENTALIS ZUCCABINIANA.

Amongst small-growing, neat-habited, and bright-foliaged, shrubby, or rather pigmy Conifers, this is one of the best, and there are many purposes to which it may be applied, especially in grounds of limited extent. The branches are numerous and slender, forming a dense, globose mass, and thickly furnished with bright green foliage, which colour it retains throughout the year. It has the cheerful, pleasing shade of green for which the plant is justly remarkable; and this, coupled with the neat outline and ease of culture and propagation, should tend to its increased cultivation. A. D. Webster

## FOREIGN CORRESPONDENCE.

### DOMBEYA WALLICHII (LINDL), BENTH, AND HOOKER.

THIS beautiful flowering tree, synonymous with *Astrapæa Wallichii*, Lindl., is in blossom at the present time in the Palm-house at the Botanic Gardens, Zurich. The plant is some 18 to 20 years old, and this is the first occasion of its having flowered. It is accommodated in a tub. The leaves are cordate, of about 1 $\frac{1}{2}$  feet in length and breadth; the flowers appear in the axils of the leaves, and in stalked pendent umbels, and of a bright scarlet colour; the anthers of a golden-yellow colour add considerably to the beauty of the blossom. The umbels on this plant measure from 6 to 8 inches across. It is a plant well worthy of cultivation in large stoves, being of graceful habit, and not difficult of cultivation, thriving in a compost consisting of two-thirds good fibry loam and one-third peat. It requires abundance of water during the summer months; and in winter, although it does not need so much moisture, it must not be allowed to get very dry, else the leaves flag and drop. Propagation is by

means of cuttings put in sandy soil, or in good bottom-heat under a hand-light or bell-glass. *H. F.* [*Dombeya Wallichii* was introduced from Madagascar in 1820, and is figured in the *Botanical Magazine*, t. 2503, from a plant growing in the Horticultural Society's Gardens, Chiswick. It used to flower every year in the Botanic Garden, Oxford. Ed.]

## THE GREAT FROST OF 1895 AT KEW.

THE effects of a severe frost on a garden cannot be estimated immediately. Species which at first sight seem irretrievably injured recover in the most surprising manner, or at any rate send up a new growth from the roots. It is prudent, therefore, not to be hasty in either cutting-in or removing plants which seem to have been more or less killed. On the other hand, some which at first sight seem little injured subsequently succumb. Nor is it easy to predict beforehand how any given species will stand the ordeal. In a large collection a severe winter affords many subsequent surprises. Plants which ought to be tender prove unexpectedly hardy; others which ought to be hardy turn out very much the reverse. But the results of no one winter can be taken as absolute; they are largely dependent on the amount of heat which the plants have experienced in the preceding summer. Where the wood has been well ripened, they will stand an amount of cold which under other circumstances would be fatal.

At the end of the summer succeeding a severe winter it is possible to estimate the mischief which has occurred. This has now been done at Kew, and the following notes give the results. The labour of compiling a list showing the effects of the frost on individual species would have been greater than any useful result which could have been derived from it. A brief review has only, therefore, been attempted in general terms. The period of severe cold began on January 26, when the minimum temperature taken in the screen fell below freezing-point, and never rose above it till February 22. During this period a series of extremely low minimum temperatures on the grass was recorded. On January 23, 15°; January 29, 10°; February 7, 1°; February 8, 2°; February 9, 3°; February 12, 5°.

An extreme minimum seems usually to occur every winter between Christmas and the early part of February. The peculiarity of 1895 was its repeated occurrence during a period of nearly a month.

Before placing such remarkable temperatures on record, it seemed desirable to check the performance of the instruments used by comparison with the observations taken at the Kew Observatory (Richmond), which is situated in the Old Deer Park and to the south-west of the Royal Gardens.

Mr. Chree, the superintendent, was so good as to take out the lowest temperatures observed at the Kew Observatory from 1888, and in the following table these are compared with the temperatures recorded for the same dates at the Royal Gardens. It will be seen that the two series are fairly accordant, especially for the later years.

LOWEST READINGS FROM MINIMUM THERMOMETER ON GRASS.

Year.	Date.	Observatory.	Royal Gardens.
1888	February 2	° Fahr. 14.1	° Fahr. 10
1889	February 13	8.8	2
1890	December 23	7	4
1891	January 10	9	8
1892	December 27	9	9
			(Feb. 17, 6.5)
1893	January 5	7	7
1894	January 5	11	11
1895	February 8	0	2
			(Feb. 7, 1)

From the gardening point of view, the effect of the prolonged low temperature would operate in two ways. Trees, and woody plants generally, would be liable to be killed by the freezing of their stems and branches. But these, and herbaceous plants generally, would have also to encounter the effects of the prolonged freezing of the ground surrounding their roots. The sub-soil of Kew is for the most part a scarcely coherent sand, which retains little moisture. It was, however, frozen throughout to a depth, in one case under a gravel path, of 2 feet 10 inches; under grass the frost penetrated much less, probably only to an average of 20 inches. The fate of the immense and valuable collection of bulbs which had been planted out in the preceding autumn was a matter of the greatest anxiety. On the whole, though all must certainly have been frozen, the loss was less than might have been expected. The destruction of Alpine plants by cold at first sight seems paradoxical. But it must be remembered that in the Alps they are covered by a deep and warm investment of snow, which they rarely receive in England.

Besides the fate of the collections in the open air, the supply of water to those under glass, of which there are 2½ acres, was an even greater matter of anxiety. The Royal Gardens fortunately possess their own waterworks, which are supplied directly from the Thames. The use of this water for drinking purposes is, however, prohibited by law. The drinking fountains, official residences, and those belonging to the Crown, including Kew Palace, are therefore supplied by the Southwark and Vauxhall Company. On February 6 the supply from this source failed, and was not finally restored till April 30 following. For some days no drinking-water was obtainable in the whole parish. It is entirely due to the indefatigable exertions made by Mr. Justin Allen, the resident assistant clerk of the works, that a similar disaster did not befall the water service of the Royal Gardens. The mains, of which there are some miles, extend to the high level reservoir in Richmond Park. By the continuous use of steam power the water in these was kept in motion, and in no single case did it freeze. By the aid of the official fire brigade the cisterns of the residences were kept filled, the consumers being warned that the water must be boiled before being used for drinking purposes. *Kew Bulletin, January.*

(To be continued.)

## VEGETABLES.

### ON PREPARING LAND FOR ONIONS.

THE Onion is a gross feeder, and succeeds best in a rich, deep, heavy loam. For the main crop, land should be trenched in the autumn. If the bottom spit is unfit to make a satisfactory seed-bed, it is not desirable to bring it to the surface, and in such cases, bastard trenching should be adopted. During trenching, a heavy dressing of decayed farm-yard or stable-manure should be applied, and that from cow-sheds is best for light soils, while stable-manure answers better for tenacious land. The soil should be left rough on its surface, so that it may be the better pulverised by frost, and thus improved for the reception of seeds. Once the soil is sufficiently frozen to bear a barrow, a dressing of gas-lime of about one barrow-load to each perch of land may be given, for apart from any manurial properties, it is beneficial in checking injurious insects. During February, apply a coating of soot, which will assist the young plants to make a vigorous start, and also militate against many insects. It is said to be particularly helpful in preventing the ravages of the Onion-maggot. Here, however, we are singularly free from this destructive pest. Land prepared as above, and provided the weather is favourable, will be in good condition for sowing early in March. For seed sowing a dry day must be chosen. Roughly break the soil by driving it with rakes, and then draw off any rough stones, &c., and leave a fine even surface. If the ground has become

aked by heavy rains during winter, it is best to chop it over with hoes before driving it. The drills should be shallow, and about one foot asunder. The work may be done neatly by drawing, sowing, and covering each drill separately, and before another one is begun. By so doing there need be no treading upon the drills, and this is an advantage in the case of heavy soils, especially if at all wet. Very light soils may with benefit be made firm by treading before sowing, as this gives the plants a firm rooting medium, and also hinders rapid evaporation during dry seasons. Seeds sown upon very heavy land should be covered with finely-prepared soil, such as sifted refuse from the potting bench.

Good useful Onions can be produced from land which has been heavily manured for preceding crops of Peas or Celery, &c., and although the bulbs thus cultivated are not usually so large as are those that have heavy dressings of manure specially applied for the crop, they are invariably firmer, and keep better than large quickly-grown bulbs. We have, however, on heavy land, experienced some difficulty in getting Celery plots after in good tilth early enough for Onions, owing to it being trod, and the soil moved in all kinds of weather in winter, and we do not now attempt it. *T. Coomber.*

## THE WEEK'S WORK.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**PROPAGATION, ETC.**—The propagation of bedding plants should be proceeded with, and the growth of such stock plants as Verbenas, Cupheas, &c., encouraged by placing the plants in heat, so as to produce good cuttings. Half-hardy annuals that require to be raised in heat should now be sown. When the seeds have germinated, admit air freely on every favourable opportunity, but avoid damp and currents of cold air. Carnations and Pinks which have been wintered in cold frames should have the lights removed from them when possible, so that the plants will become thoroughly hardened, before they are planted out in their permanent quarters. The latter operation may be effected shortly if mild weather continues. Calceolarias, Pansies, Violas, Pentstemons, Antirrhinums, &c., require to have their points pinched out, so that a bushy, starchy habit may be induced. *Lohelia cardinalis* and its varieties, now in hoxes, may be divided and potted up, still giving them cool treatment. Do not over-pot the divisions, but at the same time allow sufficient root-room to produce a strong growth. White Everlasting Peas may be increased by dividing the roots which are now becoming active. As a border-plant, it is one of the best and most useful.

**HERBACEOUS PHLOXES.**—Although autumn is the proper time for the propagation of these useful plants, they may now be increased by dividing the old roots, which are starting into growth. If divided now, they will flower satisfactorily during the coming season. Or a few roots may be placed in heat, and when the growths are of sufficient length, take them off and root singly in thumb-pots in a hot-bed or warm house, and gradually harden off; but so treated, the plants are of little service for flowering until the second season. After planting Phloxes, give a good mulch of rotten manure, as being surface-rooting plants, they are much benefited by this, the roots being kept cool and moist, as well as stimulated.

**ACACIA LOPHANTHA**, a graceful plant for dotting in beds with an undergrowth of some dwarf bedding plant, may be used in various combinations, and generally with a pleasing effect. Seed of this species should now be sown in small pots, placing one or two seeds in each, having previously soaked the seeds, which are very hard, in water for twelve hours. Plunge the pots in bottom-heat, and the seeds will soon germinate; and when re-potting the plants, take care to disturb or injure the roots as little as possible. The seedlings may be kept in the warm frame in which they were raised, till re-established, and then come into a less warm place, and be kept growing freely, but not allowing them to become spindly or very long jointed, or much of their beauty will be lost. In May they may come into the greenhouse, and in early June into the open

air. *Grevillea robusta*, *G. rosmarinifolia*, *Eucalyptus globulus*, and *E. citriodora* require similar treatment.

**HUMULUS JAPONICUS** (Japanese Hop), is a useful plant for covering garden arches and arbours, and the seed of this plant may now be sown, or roots obtained and planted.

**MUSA ENSETE** AND **M. SUPERBA** are noble, showy-looking plants, of use in sub-tropical bedding and as isolated specimens in sheltered warm nooks. The plants are propagated by suckers and seeds raised in heat.

**HINTS ON MISCELLANEOUS OPERATIONS.**—The planting, transplantation, and pruning of deciduous trees and shrubs should now be completed as quickly as possible. The lawns, turfed verges, &c., should be kept tidy by the use of the besom and roller, when the surface is dry enough to permit their use, and all binding gravel walks should be rolled when the surface is not in a clinging condition. A mulching of leaf-mould or peat-moss litter may be afforded beds of hardy Azaleas, Kalmias, and other flowering shrubs, having previously lightly stirred the surface. Beds of the border Carnations may also be afforded a dressing of leaf-mould and wood-ashes, or burnt garden refuse, with a little soot and bone-meal added. This sort of dressing materials incorporated with the soil used for layering greatly facilitates the rooting of the layers. Carnation layers which may have been potted in the autumn of 1895 will have made plenty of roots, in some cases filling the pots, and preparations should be made for transplanting them into beds in the open towards the end of the present month, or in March. In preparing the ground for their reception, it should be dug to a good depth, dressed heavily with rotten manure, and, if possible, a good dressing of old mortar may be applied. [Salt is an excellent manure for Carnations, Pinks, &c. Ed.] Afford protection to Tea and other tender species of the Rose, should hard weather threaten, and for this purpose dry bracken or stable litter is excellent. It should be laid aside when the frost lifts.

### THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorset.

**ÆRIDES AND SACCOLABIUMS.**—The favour with which the *Odontoglossums*, *Cattleyas*, and *Dendrobiums* are regarded has been the means of consigning other species of merit, as *Ærides* and *Saccolabiums*, to a deserved neglect. These beautiful Orchids, when well grown, present finer racemes of beautiful fragrant flowers than the former. Some amateurs discard them on the plea that the plants do not make satisfactory growth, and to some extent this is true, but with a suitable house, and a suitable position in the house, they will in time be found to adapt themselves to the cultural method pursued. On this subject many useful hints may be learnt by visiting collections where *Ærides* and *Saccolabiums* are successfully grown, carefully noting the position the best-grown plants occupy. It is not necessary to have the plants in a division apart, as the temperature maintained in the East Indian-house is suitable for most of them. The chief things to guard against are irregularity of temperature whilst growth is being made, a draughty position, insufficient light, and letting the plants carry their flowers a long period of time. The following varieties may be grown in the East Indian-house, viz., *Ærides Houlletianum*, *A. Lobbi*, *A. suavisimum*, *A. Larpentei*, *A. odoratum*, *A. Savageanum*, *A. Fieldingii*, *A. virens*, *A. expansum*, *A. quinquevulnerum*, *A. crassifolium*, *A. Jansonii*, *A. Lawrencei*, and its variety *Sanderianum*. From the present time till the end of the month is a suitable season for examining the condition of the plants as regards the rooting medium, drainage, &c. The roots of the plants, whilst soft and growing, are easily injured, turning black at the tips on the least bruise. Each plant should at this examination be thoroughly cleaned, the operator being very watchful of scale, which is bad to eradicate when it gets established, and low down in the axils of the leaves. Handle the plants carefully so as not to split or break down the leaves, or a valuable specimen may be spoilt for years to come. Properly-cultivated *Ærides* do not require re-potting every year, but only when they require more rooting space, or when the plants are in poor condition through loss of the foliage. The exhausted materials should be carefully picked out, and clinging roots detached without bruising or breaking them. A plant which has lost its lower leaves, if there are plenty of roots coming

out up the stem, may have the base of the stem removed, so that when the plant is placed in the new pot, the lowest leaves will be raised just above or on to a level with the rim; then place the plant in the middle of the pot after putting a few large crocks at the bottom, place as many of the lower roots in the pot as can easily be got into it, being careful not to crack them, and work in an upright position amongst them crocks of a moderate size, which will have the effect of letting the water pass quickly away. The drainage should be brought nearly up to the rim of the pot, the whole being finished off with clean picked sphagnum-moss and small crocks in about equal proportions pressed down moderately firmly. To each growth, put a strong neat stick to support it. The plants so treated should then be protected from strong sunshine, one thorough watering afforded. The sphagnum-moss on the surface will probably soon show that it is dry, and may then be slightly sprinkled with water through a fine rose pot.

### THE KITCHEN GARDEN

By C. HERRIN, Gardener, Dropmore, Maidenhead.

**SHALLOTS, GARLIC, AND POTATO-ONIONS.**—These bulbs may be planted as soon as the surface of the ground is sufficiently dry and workable. Shallots being largely consumed in most establishments, should be planted in quantity, and as the large variety of Shallots is not generally liked in the kitchen, the old small form should be that cultivated, and some of the Giant varieties grown for exhibition only. Plant Shallots at 9 inches apart each way, pressing them firmly into the bottom of shallow drills, and covering them level to the neck with the soil. Garlic requires the same distance, and to be put 2 inches below the soil; and Potato-Onions a little deeper than Shallots.

**LETTUCE.**—Owing to the continued mild weather, autumn-sown plants are making rather free growth, and there will be no scarcity of salading this season. In view of the sharp frosts which usually occur during this month and next, some of the largest may be lifted with a good ball of soil attached to each, and stood close together, in a cold frame, and protected in some manner. The plants are now unusually tender, and liable to succumb to a few sharp frosts accompanied by cold winds.

**FORCING ASPARAGUS AND SEAKALE, ETC.**—Continue to put into heat roots in sufficient number to maintain a regular supply of heads, and as they force readily at this season, not so many as formerly will be needed to do this. In lack of a more convenient place for forcing Asparagus, a bed of well-sweetened stable-litter and tree leaves, about 2 feet in depth, may be introduced into any vinery started about a month ago. Cover the surface of the bed with 1 inch of leaf-mould, on which pack the roots closely together, and cover them with a small quantity of a light kind of soil, or with leaf-mould, packing it pretty firmly around and between them. A small supply can be kept up for a few weeks in this way. Seakale roots may be forced on a mild hot-bed in the Mushroom-house, made in a kind of cupboard or bin, as previously advised. A few roots of Chicory may be placed in the receptacle at the same time. If other materials should run short occasionally, a very fair salad may be made from the blanched leaves of Chicory and Mustard-and-Cress. Seeds of the last two plants should be sown at frequent intervals in small shallow boxes, and placed in a warm house. All tubers of the Jerusalem and Chinese Artichokes remaining in the ground at this date may be lifted and stored in a cool place, selecting the necessary number of sets from the medium-sized and best-shaped tubers. The white Jerusalem is an improvement on the old variety, for besides being better flavoured, there is less waste in its preparation for table, owing to its more even shape. If a fresh piece of ground cannot be spared for Artichokes, the land on which they grew should be deeply dug or trenched, after well dressing it with manure. The planting of the tubers need not take place for a few weeks, for, although quite hardy, I have always found that the plants, if good sets be used, will give large returns if planted early in the month of March.

**FRENCH BEANS.**—Where heated pits will shortly be available for French Bean culture, time may be saved by sowing at this date, in large-sized 60-pots, three or four seeds in a pot, and getting them on in readiness for planting in the pits two or three weeks hence. At Dropmore, one side of a low span-roofed house (used afterwards for Tomatoes) is utilised, and

the Beans planted out in a bed of soil. Previous sowings of Beans should be well syringed once a day at the least; and even in cloudy weather this should not be neglected; and if a full crop of pods has been obtained, weak liquid-manure should be employed at each alternate watering. A minimum temperature of about 65° should be maintained.

**OUT-OF-DOORS MUSHROOM-BEDS.**—The open weather has been favourable for Mushroom-culture, provided the beds have had sufficient internal warmth and the right kind of protection used for them. I find that beds and ridges produce excellent Mushrooms in the months of April and May, and I am commencing to collect stable manure for making into beds in about three weeks from this date. The longest straw is shaken out of it, and the fresh droppings are added to the straw obtained from that which was prepared earlier in the year, and the whole is mixed up together every morning, and made into a conical heap to ferment and sweeten.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

**THE HIPPEASTRUM (AMARYLLIS)** is one of our most gorgeous flowering bulbous plants, but is not so generally grown as it should be. Bulbs of the finer varieties are expensive, but cheap ordinary varieties are useful for cut flowers, &c., and well worth cultivating. A stock of these may be obtained by procuring each year a packet of seed from a good source. These will flower the third year, and if seedlings are thus annually raised, the best can be selected when in flower, and the rest discarded. In the course of six or eight years, by such means, a very choice collection can be acquired. If named varieties are purchased however, much time is saved, and there will be no disappointment in the quality of the flowers. Amaryllis should be partly shaken out of the old soil annually, and repotted in the same size pot, assuming they are flowering bulbs. The compost may consist of two parts good rich fibrous loam, one part cow-manure in a thoroughly dried state, one part leaf-soil, and a sprinkling of coarse Reigate sand. Potting should be done at once. A part of the collection may be retarded for succession. To start the first batch a gentle bottom-heat, if available, is best, but good results may be obtained in its absence. Give them a moist atmosphere at a temperature of 70° to 75°. The moisture in the house, together with a moderate spraying overhead with the syringe will suffice for some time after repotting, but as the plants make more roots, an increasing supply of water will be necessary. A liquid solution of cow or sheep-droppings is the best stimulant for Amaryllis.

**ALLAMANDAS.**—If one or more specimens are wanted early for exhibition purposes, and the plants are grown on balloons, select one or two that were rooted early, and remove them to the warmest part of the stove. Spray the plants overhead with the syringe twice a day, and afford water at the roots. As soon as there are signs of growth, cut the plants hard back, and repot or top-dress them, as the case may require. Allamandas flower more freely if not given too much root-room; limit, therefore, the size of the pot according to that of each plant. Specimens sufficiently large for show purposes can be well done in 16-inch to 18-inch pots. Should they, during the latter stages of growth, show signs of weakness, this can be overcome by frequent applications of liquid-manure. In potting, use good loam two parts, leaf-soil one part, and coarse Reigate sand one part. They may be given the driest position in the stove, as spider or thrip rarely attack the plant, and it will flower more freely if not grown in too moist a position.

**FUCHSIAS.**—Part of the stock of these which was dried off in autumn, should now be moved into a moist atmosphere of about 50° to 60°. As soon as the young shoots break, prune and re-pot the plants, and grow them rapidly for early use. From plants started a good batch of cuttings should be taken; and if these are struck, and grown on quickly, they will make nice half-specimens, which will flower well through the autumn. Specimens for exhibition in May and June should now be started also. Fuchsias delight in a rich light compost, such as two parts loam, two parts leaf-soil, one part spent Mushroom-manure, and one part good river-sand.

**THE FORCING-HOUSE.**—From a dozen to thirty plants of Azalea mollis should be moved into a warm house each fortnight. The stock of imported clumps of Spiræa should now be put in heat. A vinery or

Peach-house will suit them until shade becomes too dense. Lilacs, Staphyleas, and Deutzias, should be introduced into heat at intervals, also Hyacinths, Tulips, Narcissus, and other bulbs. It will be difficult to retard Hyacinths for exhibition purposes late in spring, as the weather has been unusually mild, but all possible means to such end should be used. Cold pits, having a north aspect, where the plants can be fully exposed when weather permits, both day and night, are suitable, for all from which it is necessary to exclude frost.

### FRUITS UNDER GLASS

By W. POPE, Gardener, Highclere Castle, Newbury.

**EARLY-RIPENING MELONS.**—The plants which have been raised since the beginning of the year, will be large enough to be placed in their fruiting-pots, or planted out on hillocks if they are to be grown in this way. It will be advisable to mix a small quantity of leaf-mould with the loam, which itself should not be of a very heavy kind. Before planting the Melons, make the soil as warm as that of the bed in which the plants are growing, or a serious check may be given. If the plants are to go into a Melon-house, it is well to plant them rather thickly, i.e., about 1 foot apart along the front when the length of rafter for training is about 8 feet; and each alternate plant should be stopped on reaching the trellis, and the others encouraged to grow half-way up the roof before stopping or allowing lateral growth to form. A longer succession of fruit is assured by this method, and the entire trellis is occupied by bine instead of, as is usual, the lower half. Afford the plants as little water as this stage as is consistent with healthy growth, especially being careful not to let much moisture touch the stems at the collar, or canker may result. The night temperature may range about 70°, and the bottom-heat 85°, a little air being afforded daily, according to the state of the weather, and on fine afternoons lightly syringe the plants with tepid water. Plants intended to run over the surface of the bed in pits or frames should be pinched at the second or third rough leaf, either before or after planting them. Put a wheelbarrow-load of soil in the middle of each light, to form a hillock on which to plant, making it firm and flat at the top. When the Melon-roots are seen at the outside of the hillock, more warmed soil should be added to it. Slugs must be watched for, and a ring of dry soot or lime placed round each plant as a safeguard. The frames should be shut up early in the afternoon with sun-heat, after damping the surface of the bed with tepid water through a fine rose water-can. Seeds may be sown for succession.

**CUCUMBERS** should also be put into their fruiting quarters as soon as large enough, and as they will require much the same kind of treatment as Melons, little need be said except that the soil may be lighter and richer, the base of it being fibry loam, to which some old mortar and charcoal may be added. Manure is best applied in the form of liquid later on.

**STRAWBERRIES IN POTS.**—Where the earliest crop is set, the temperature may be raised to 65° at night; and water applied as often as it is required, with occasionally some weak liquid-manure. Thin the fruits to ten or twelve of the largest and best formed, or a smaller number if they are wanted extra large in size. Plants which have not set their fruit should be kept at 50° to 55° at night during cold weather when much artificial heat is required, or they will fail to set their flowers satisfactorily. On the first appearance of aphides the pit or house should be fumigated, and always before the flowers open a fumigation should take place. Fresh batches of plants should be put into warmth at intervals of two or three weeks, according to requirements. A slight top-dressing of Thomson's Vine-manure stirred lightly into the surface is very beneficial to the plants when they begin to throw up their flower trusses.

**TRANSLATIONS.**—These are, as we all know, rather dangerous things, and it behoves those who live in glasshouses, as we do, to avoid throwing stones. It is with no such mischievous object, however, that we note the following, taken from a French book on the culture of the Vine. Gros Colman, we are there told, is very subject to a terrible disease, the "Shan King," of the English. It was some time before we recognised that shankiog was meant!



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETINGS.

SATURDAY,	FEB. 8—	Royal Botanic Society meet.
SUNDAY,	FEB. 9—	Brussels Orchidéeenne meet.
TUESDAY,	FEB. 11	Royal Horticultural Society's Committee, Show, and Annual General Meeting.

## SALES.

MONDAY,	FEB. 10	Azaleas, Palms, Gladioli, Carnations, &c., at Protheroe & Morris' Rooms.
TUESDAY,	FEB. 11	Carnations, Hollyhocks, Tigridias, Iris, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	FEB. 12	Lilies, Tuberoses, Spireas, Paeonies, Begonias, &c., at Protheroe & Morris' Rooms.
THURSDAY,	FEB. 13	Roses, Palms, Greenhouse Plants, Lilies, &c., at Protheroe & Morris' Rooms.
FRIDAY,	FEB. 14	Hardy Perennials, Pansies, Clematis, Pinks, Roses, &c., at Protheroe & Morris' Rooms. Great sale of Imported Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39° 1'.

The Royal Horticultural Society.

BEFORE our next number is issued the annual meeting of the Royal Horticultural Society will have been held. Special interest attaches to it by reason of some recent actions on the part of the Council which, though doubtless prompted by excellent motives, were so maladroitly carried out that they are likely to excite animated controversy.

The Report of the Council has been published and circulated for some weeks (see p. 89), so that the Fellows will have had an opportunity of perusing it. On the face of it, it is a very clever and innocent-looking document. Whether some other complexion may not be put upon some portions of it will be seen on the 11th.

The Report opens with an allusion to the recently-issued Code of rules for judges. This is a work for which the Society deserves and will receive the warm thanks of those concerned, in spite of errors and inconsistencies inevitable in such publications, and which, moreover, can readily be corrected in future issues.

Of Mr. BARNON'S retirement we may say that the memory of his unrivalled services, and of his splendid faithfulness and loyalty during the dark ages of the Society, will not soon be forgotten by the gardening community. The Council does no more than justice to Mr. BARNON in the few sentences devoted to him. It did very much less than justice, even supposing that such retirement was desirable, in the manner in which it effected

his "retirement," but a handsome pension and a life Fellowship show at least that no personal indignity was really intended.

Of the Committee appointed by the Council to visit and report on Chiswick surreptitiously, not a word is said in the Report; let us hope because the Council feels that it did collectively what individually it would have scouted.

Mr. S. T. WRIGHT, the new Superintendent, comes to Chiswick with an excellent record, and we earnestly hope the Council will in all practical matters allow him, as they say they will, "a perfectly free hand." The alleged plan for the future conduct of Chiswick is, as everyone expected, still *in nubibus*. What Chiswick is, and what it should be, are points often discussed in our columns. We allude to the subject now with a feeling of dread that the recent proceedings on the part of the Council may be but a prelude to the eventual abandonment of Chiswick, on the ground that it is too unproductive, and expensive to keep up. It may be so. It must have been so during the last few years, when almost the entire series of glasshouses and pits, including the big vinery, have been put into such substantial repair, that only two old houses, whose doom has, we believe, often been pronounced by the Chiswick Board, but never carried out by the Council, now remain.

To judge Chiswick solely from the financial standard is utterly to misapprehend the functions of such an institution, and of the proper work of the Society. Whether more effective work might not be done there for the same expenditure is altogether another matter, and one we have often alluded to; but, at present, the Council has, they tell us, no ambitious programme, and has simply replaced one excellent gardener by another excellent gardener.

The abolition of the Chiswick Board is not an event to be regretted. To call gentlemen, many of whom were also members of Council, from many miles in the country to recommend the expenditure of so many shillings on brooms or flower-pots was a waste of power, more particularly when, as we believe often happened, the Council ignored the recommendations of the Board.

The endeavour to encourage individual research and importation is a new feature, and one which we hope may lead to good results, though we should have been better pleased had the Society itself taken up this work at Chiswick. As it is, not a single meeting is to be held at Chiswick this year, in spite of the fact that the Chiswick Conferences have been decidedly among the most valuable work done by the Society.

Only a sum of £120 has been received for the Lindley Library Catalogue Fund—a sum quite inadequate for the purpose, and which, we fear, is likely to cause further delay.

Nothing is said about the generally expressed opinion that the Society should take a much more active part in the provinces than it has done lately. The failure of some of the provincial shows need not deter the Society from taking steps to weld the local societies into one great federation, with the Royal at the head. There are divers other ways in which the Society could keep in touch with provincial horticulturists, to which we may refer later on.

The only other point to which we would call attention at present is the election of new members of Council. The Fellows have really this matter in their own hands, and if they do not exercise their rights, it is no wonder the Council does so for them. We would urge upon the Council the desirability each year, *en temps utile*, as the French say, of reminding the Fellows of their duties and privileges, and of the

proper time of exercising them. As things now are, when the Fellows rouse from their usual apathy, it is to find that they are too late.

Gardeners will lament the retirement from the Council of their representative, Mr. OWEN THOMAS, and still more the circumstance that no representative gardener is to fill his place. Mr. McLACHLAN ought, from his long experience of societies, to be very serviceable, and as a representative of the Scientific Committee will command the respect due to his attainments and character.

That amateurs, especially those who occupy themselves with valuable original research, should be admitted to the Council is most desirable. It is also desirable that the term "amateur" should be rigorously defined, and that the commercial element and the amateur element, both of the highest importance to the Society, should be kept separate and not confused.

It is impossible to forecast the result of the meeting. So far as we know, there is no organised opposition to the council's proposals, but we have unfortunately reason for knowing that there is in some quarters, especially in the provinces, a revival of a feeling of distrust, and in some cases of bitterness, which has been in abeyance since the migration from South Kensington. As the welfare of the society is the common bond which unites all sections and heals all wounds, we trust that all secondary, and especially all personal matters will be set on one side, and every effort made to increase the usefulness and influence of the Society.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held on Tuesday, February 11, in the Drill Hall, James Street, Westminster. It is expected that a new system of glazing will be brought before the committee by a gentleman from Jersey. At 3 o'clock, the annual general meeting of the Society will be held in the Lindley Library, 117, Victoria Street, S.W.

ROSE SHOW FIXTURES IN 1896.—The following list of Rose shows for the current year is kindly furnished by Mr. EN. MAWLEY, Rosebank, Great Berkhamstead, and will be added to as occasion requires: "June 17 (Wednesday), York (three days); 18 (Thursday), Colchester; 24 (Wednesday), Reading (N.R.S.); 27 (Saturday), Windsor; 30 (Tuesday), Sutton; July 1 (Wednesday), Croydon and Ealing; 2 (Thursday), Eltham, Gloucester, and Norwich; 4 (Saturday), Crystal Palace (N.R.S.); 8 (Wednesday), Redhill (Reigate); 9 (Thursday), Helensburgh; 15 (Wednesday), Uiverston (N.R.S.); 21 (Tuesday), Tibshelf; August 5 (Wednesday), Chesterfield. The above are the only dates definitely fixed that have as yet reached me. I shall be glad to receive others as soon as arranged, for insertion in my next list."

ROYAL INSTITUTION.—Professor H. MARSHALL WARD, F.R.S., Professor of Botany in the University of Cambridge, will begin a course of three lectures on "Some Aspects of Modern Botany," at the Royal Institution, on Thursday next, February 13.

BOTANICAL MAGAZINE.—The plants figured in the February number are:—

*Begonia unbrauculifera*, Hooker, f. t. 7457.—A Brazilian species of tall stature, leaves stalked, reniform, destitute of scales; flower-panicles stalked, forked, much branched; flowers about 1 inch in diameter, whitish. Sir JOSEPH HOOKER remarks that this species and *B. frigida* are the only ones that produce occasionally structurally hermaphrodite flowers, but the development of such flowers in the cultivated tuberous *Begonias* is now common.

*Scutellaria formosana*, t. 7458.—A Formosan plant, with stalked ovate leaves, and terminal racemes of purple flowers, described by Mr. N. E. BROWN in *Gard. Chron.*, 1894, ii., p. 212.

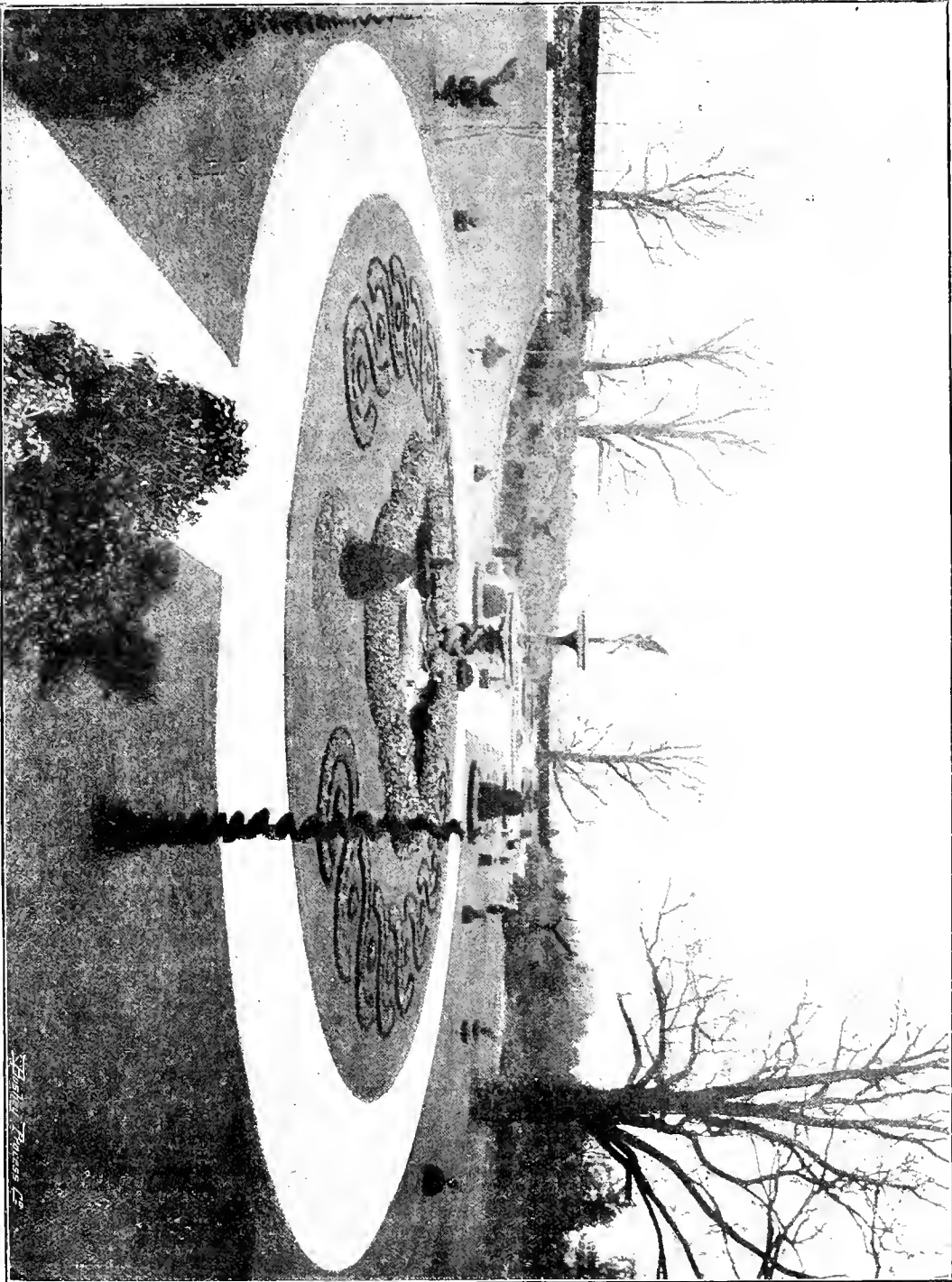


FIG. 21.—FLOWER PARTERRE, WITH CLIPPED SHRUBS, ASCOTT, LEIGHTON BEZZARD. (SEE P. 106.)

W. H. R. B. 1896

*Sternbergia macrantha*, J. Gay, t. 7459.—The finest of all the *Sternbergias*, differing from *S. lutea* in its larger size, longer perianth tube, whilst the leaves are produced in spring instead of with the flowers in autumn.

*Hechtia argentea*, Hort., t. 7460.—A very striking Bromeliad, with numerous densely-tufted, long, narrow, spine-margined, silvery leaves, and terminal leafless flower-spikes, with small tufts of white flowers at intervals near the end of the spike.

*Bifrenaria tyrianthina*, Reichenbach, f., pseudo-bulbs ovate, three-sided, pitted, with a single leaf; flowers 3 inches across, sepals oblong, obovate, lilac; petals similar, smaller, paler; lip spurred, convolute, front lobe projecting, velvety, purple, hairy.

**KEYNSHAM DISTRICT HORTICULTURAL ASSOCIATION.**—The annual general meeting, as we learn from the *Bristol Mercury*, of the Keynsham and District Horticultural Association, was held on Tuesday evening, Jan. 28, at the Baptist School-room, Mr. R. FRICKLIN (president) presiding. The report gave evidence that last year's show was a marked success in every way. The entries numbered 1003, as against 921 the previous year, and there was a balance of £2 7s. 4d., as against a withdrawal of £9 4s. 8d. from the reserve fund in 1884. The president, who is about to leave the neighbourhood, tendered his resignation, and the election of officers then took place. Mr. T. T. MITCHELL being elected president.

**"DICTIONNAIRE PRATIQUE D'HORTICULTURE ET DE JARDINAGE."**—The forty-fifth *livraison* of this valuable work has now appeared, the editors having arrived at the letters Oro—. As the entire Dictionary will consist of eighty parts more than half of it has now been published. The publisher is M. OCTAVE DOIN, 8, Place de l'Odéon, Paris.

**THE ROYAL GARDENERS' ORPHAN FUND.**—The usual monthly meeting of the committee took place at the Horticultural Club on the 31st ult., Mr. W. MARSHALL in the chair, there being a large attendance of members. The minutes of the last ordinary and a special meeting having been read, the chairman called attention to the great loss the fund had sustained by the death of the president, Sir Julian Goldsmid, Bart., M.P., and moved the following resolution, which was carried unanimously: "The Committee of the Royal Gardeners' Orphan Fund desire to express to Miss Goldsmid and the other members of the family of the late Sir Julian Goldsmid, Bart., M.P., the President of the Fund, their deep sense of the great loss sustained by the Committee and supporters of the Institution through his lamented death. They desire to record their highest appreciation of the eminent services rendered to the Fund by Sir Julian Goldsmid during the period of his presidency, and tender to the family of the late president their respectful sympathy and condolence." The following special donations were announced: Mr. J. H. Wallace, sale of flowers at the Bristol Chrysanthemum show, £5 5s.; Reigate Chrysanthemum Society, per Mr. R. E. West, £5; Leeds Paxton Society, per Mr. R. E. Edwards, £2 18s. 6d.; Tonbridge Gardeners' Society, per Mr. G. Fennell, £3 2s. 6d.; and a sum of £9 15s. 10d. from other sources. A draft report and financial statement of a satisfactory character was submitted by the secretary and adopted for presentation at the annual meeting. A very hearty vote of thanks was passed to the chairman for his services to the Fund during the past year, and suitably acknowledged by Mr. Marshall.

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—If the contributors to these pages who find fault with the working of the charity will give it a thought, they will see that even those men who have paid their guinea a year for fifteen or twenty years, take out, if they should chance to become necessitous and come on the charity, as much in the first year as pensions as the total amount they have paid in. Hence, then, come the funds to pay the pensions of succeeding

years, if they do not come out of the pockets of the charitable supporters of the institution—the monied ladies and gentlemen, not all of them connected with horticultural pursuits—who have combined to help the gardeners who will not or cannot contribute to its funds in sufficient numbers to make it a strong, rich body? If the gardeners would join in large numbers, the funds would be so greatly increased that the necessitous members would be admitted to its benefits on application after the necessary investigation of their claims for consideration had been made. Until that day arrives it must comport itself as a benevolent institution, with all the usual safeguards which its limited funds demand.

**NATIONAL CHRYSANTHEMUM SOCIETY.**—To the special prizes offered for collections of vegetables at the Jubilee Exhibition of the above Society, to be held in November next, given by Messrs. JAS. CARTER & Co, Messrs. E. WEAB & SONS, Messrs. DOBBIE & Co, Messrs. W. W. JOHNSON & SON, and Messrs. T. HARRISON & SONS, all of which appear in the preliminary schedule of prizes lately issued, can now be added the following from Messrs. SUTTON & SONS—fifteen distinct varieties of Potatoes; and for two dishes, one each of Sutton's Supreme and one of Windsor Castle, in each of which valuable money prizes are offered. This promises to be one of the most extensive and interesting exhibitions of vegetables held in London in recent years.

**THE EALING GARDENERS' ASSOCIATION** held their usual weekly meeting on the 28th ult. Mr. J. HUDSON, Gunnersbury House Gardens, spoke upon "Conservatories: their Design and Arrangement." It was rightly suggested that owners of gardens should consult their gardeners in respect to the erection of structures for the growing of plants as a means of avoiding common but disastrous mistakes. Conservatories were occasionally erected on unsuitable sites, being between two dwelling-houses with blank walls around them, lofty, and with no means of ventilating the sides. A lantern roof was recommended as the best to employ. A conservatory should be as fully adapted to the growing of plants as were ordinary plant-houses. Other valuable hints were given upon the importance of using good glass, and upon the best methods of heating, and a remark made that conservatories were sometimes badly heated because dependent upon the apparatus connected with the mansion. The construction of the floors, doors, and other particulars were dealt with, and afterwards Mr. HUDSON gave descriptions of the best methods of arranging the plants in the structure, of the use of rockwork in suitable places, and other matters.

**SHEFFIELD CHRYSANTHEMUM SOCIETY.**—The annual dinner was held on Saturday evening, at the Masonic Hall, Surrey Street. The President (Mr. C. E. JEFFCOCK) was in the chair, who stated that the society was in a flourishing condition, that the membership was increasing, and that the shows were improving.

**FEMALE GARDENERS.**—When Parliament opens, the list of questions that the responsible ministers will have to face is quite appalling. Questions relating to Armenia, Venezuela, Transvaal and Siam naturally take first rank, but one question which is to be put by one of the representatives of an agricultural district is sure to cause some amusement. It appears that the "New Woman" has invaded another sphere hitherto reserved to the so-called sterner sex, i.e., gardeners, and that Mr. TRISELTON DYER, of Kew Gardens, has engaged two ladies, who have passed examinations qualifying them for competency in this field of labour, on condition that they adopt masculine attire at the magnificent remuneration of 10s. per week. It is reported that hundreds of ladies have applied for appointments, but their applications are held in abeyance in order to see how the appointments turn out. The question to be asked is:—If it is against the law for men to adopt female attire, why is it legal for women to adopt male attire? [The ladies are technically "boys."] *Southampton Echo*.

**ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.**—A special meeting of the acting directors of this society was held on Friday evening, the 31st ult., in the office of the Secretary, Mr. A. M. BYRES, C. A., to consider a proposal that the society should hold a Chrysanthemum show. The meeting, in view of the possibility of a financial loss resulting from such an undertaking, decided that the proposal should not be entertained.

**CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—At a meeting of this society on the 30th ult., Mr. JOHN WRIGHT, F.R.H.S., delivered a lecture on "Grapes and Apples." Commencing with the last-named, Mr. WRIGHT made the usual protest against so much fruit being sent to England from other countries when it ought to be grown at home. In the case of large growers, only a few sorts should be planted, but these in large number. In the case of the cottager or amateur, he should suggest planting a larger number of varieties, but few of each. Planting was then described and illustrated. In regard to manuring, one of the most essential points was a knowledge of the trees' requirements, so as to apply to the soil only that which is deficient. After describing standard, bush, and cordon trees, the lecturer showed by diagrams the proper and improper methods of pruning, with their respective results. In enumerating a select list of the best varieties to cultivate, Mr. WRIGHT gave, for cooking purposes Manx Codlin, Stirling Castle, Lane's Prince Albert, Bismarck (these are compact growers, and suitable for small gardens), Lord Groevener, Lord Suffield, New Hawthornden, Potts' Seedling, Newtown Wonder, Warner's King, Bramley's Seedling, Peasgood's Nonsuch, and The Queen. For dessert, by far the best is Cox's Orange Pippin, a few others being Worcester Pearmain, Lady Sudeley, King of the Pippins, and Blenheim Orange. All the varieties enumerated were illustrated by beautifully-coloured drawings.

**EPHING FOREST.**—The Epping Forest Committee of the City of London Corporation on Saturday issued a report of their year's work. After referring to the reports of the experts appointed by the Corporation to inspect the work of the committee, as a further vindication of their policy and action, they state that they propose to thin, to a moderate extent, over a somewhat large area, an arrangement in accordance with the views of the experts in regard to the portions visited by them. They have also resolved to plant one or two strips in the neighbourhood of Bucknare Hill and Loughton. Work has been found in the forest for the unemployed, the roads and drainage in portions of it having been greatly improved. A museum has been established in Queen Elizabeth's Lodge by the Essex Field Club, for the purpose of illustrating the natural history and archaeology of the forest parishes. The exhibition includes geological specimens, stone, and bronze implements, Romano-British pottery, fungi, forest mosses, flowering plants, insects, mollusca, snakes, lizards, and amphibia, and a complete collection of the eggs of birds known to have nested in the forest, with a series of wood-cuts of all the species. There are also maps, views of the forest, geological sections and plans, and the whole forms a very interesting collection. The forest continues to be extremely popular as a place for the recreation and enjoyment of the public. *Times*.

**WINCHESTER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—A meeting was held on the 28th ult., in Great Minster Street. Before the usual business was commenced, the chairman, Mr. MAYO, said he had a very pleasant duty to perform; it was to show the appreciation of the members to the honorary secretaries, Mr. LOWNS and Mr. BROOMER, by the presentation to each of a marble timepiece, voluntarily subscribed for by the members of the association. Mr. FOULKE, B.Sc., M.R.A.S., then delivered a lecture (under the auspices of the Hants County Council) on "Insects injurious to plants," which was illustrated by lantern slides, showing the different

stages of insect life. Mr. FOULKES, wishing it to be more of an introductory lecture, dealt with the formation of insects, their weak points, mode of breathing, and ways of attacking trees and plants—in some cases sucking the juices, in others eating the foliage—and the rapid manner of reproduction, especially the green and black aphids. Mr. FOULKES also described the parasitic way in which one insect killed another, showing that what might at first appear to be an enemy, was in reality a friend. In the next lecture, Mr. FOULKES will treat on "Insecticides and Washes."

**SUNDERLAND GARDENERS' SOCIETY.**—A meeting of the members of this Society was held on January 30, at the Café, Fawcett Street, the chairman (Mr. J. T. RICHARDSON), presiding. Mr. JAMES WATSON (Sea View) read an excellent paper on the culture of hard-wooded and soft-wooded Ericas, dealing with their propagation by seeds and cuttings, the best time for striking both varieties, soils, peat, and manure for their proper culture, the treatment of young plants, careful watering and drainage so as to secure success, and their treatment in general, and gave names of the best eighteen hard-wooded and seven soft-wooded varieties. Mr. USHER (Somerton) will read at the next meeting a paper on the culture of the *Azalea indica*.

**DINNER OF THE BRADFORD PAXTON SOCIETY.**—The annual dinner of the members took place at the Market Tavern Hotel on Thursday, the 30th ult. The president (Mr. J. SPENCER) was in the chair, and there were about ninety guests. The secretary (Mr. W. WILKINSON) read the report for the past year, showing that the membership continued steadily to increase, the present number being eighty-four. Commenting on the papers read and lectures given during the past year, it was stated that they had embraced many instructive and interesting subjects. Several excursions to gardens in the neighborhood had also been made during the summer months; the annual excursion being to Harewood House. The statement of accounts showed a small balance in hand.

**HYBRIDS.**—As showing how hybrids are ousting pure-breds, we may mention that on a recent visit to the Orchid-house at Kew for the purpose of comparing some species of *Cypripedium*, we found that although there was a fair quantity of hybrids still in bloom, the pure species were relatively very few, this is unfortunate for many reasons, and now that crossed *Cypripediums* have become as common as florists' flowers, it is to be hoped our botanic gardens will make a point of continuing to grow the original species.

**SNOWDROPS** form one of the special features at Kew just now. They are to be found in thousands, mostly of the larger kinds, such as *G. Elwesii* and others. When seen in such large quantities they have a milky appearance, which renders the name *Galanthus*, Milk-flower, specially appropriate.

**OVERHEARD IN THE PLEASURE GROUNDS AT KEW.**—"Lor! I don't think much of this; it's just like our cemetery!"

**SARDA MELONS.**—The December issue of the *Kew Bulletin* contains a note upon this fruit, ripe specimens of which were forwarded to Kew from Kabal by Dr. AITCHISON. The seeds were distributed to several public and private gardens, and from the Royal Gardens, Frogmore, a fruit raised from one of them was forwarded to Kew by Mr. O. THOMAS, who wrote: "I send a small fruit of the Sarda Melon for you to taste. The flavour, I think, sweet, and very refreshing. I shall certainly grow this Melon again, and use it to cross with other varieties." The fruit, it is added, measured 10 inches long and 7 inches in diameter; the skin was yellowish-green and netted, the wall of flesh 2 inches thick, and rich in flavour, as well as sweet and juicy. Dr. AITCHISON pointed out, in a note published in the *Kew Bulletin*, that the Sarda Melon does not develop its full flavour until it has been exposed to a low temperature, and then kept for a time.

**PINUS LARICIO VAR. SALZMANNI.**—This variety has hitherto only been found in France in two localities in the Cevennes; but recently M. FABRE has lighted upon a small wood of 70 to 80 hectares, where P. L. Salzmanni grows in a wild state at altitudes of 400 to 500 metres on coarse sandstone soil. The largest trees are 70 to 80 years old, and about 10 metres in height. The young trees also have a flat top, indicative of a struggle to adapt themselves to the condition in which they are placed. The variety cannot hold its own against the Pinaster introduced about 1840. It appears to be a survivor of the old pliocene flora of Lanquedoc, and is gradually dying out.

**THE SLUG WITH A SHELL.**—Occasionally we meet these creatures in our gardens, and he, or one of them, has been often figured in our columns. It appears there are three nearly allied species, the differences between which are clearly set forth and illustrated by Mr. W. M. WEBB, in the December number of the *Journal of Malacology*. The journal may be unknown to some of our readers, on which account it may be permitted us to allude to the careful way in which it is edited, and to the excellent manner in which it is got up.

**NOTICE TO CYCLAMEN GROWERS.**—Our Berlin correspondent informs us of his intention to send to us for exhibition at the Drill Hall on February 11, a box of cut flowers of *Cyclamen*, grown by Mr. TURBENTHAL, of Berlin. The season for *Cyclamens* in Berlin is from October till Christmas, so that the specimens sent will be from plants that have been for a long time in flower, and they will, moreover, have had a long journey, facts that will have to be allowed for in assessing the merits of *Cyclamens* "made in Germany," and alleged to be superior to the British race.

**SINGLETON.**—A fire broke out on Tuesday at Singleton Abbey, Swansea, and was not extinguished until the west wing of the house had been completely gutted.

**THE GARDEN IN RELATION TO THE HOUSE.**—A paper on this subject was read by Mr. F. INIGO THOMAS, at the Society of Arts, on Tuesday last. We shall have an opportunity of alluding to this later on.

**LEICESTER CHRYSANTHEMUM AND FRUIT SOCIETY.**—The annual meeting of this Society was held at the Victoria Coffee House, Leicester, on Friday, January 31, Sir THOMAS WEIGHT, the President, in the chair. The Hon. Secretary (Mr. R. G. LAWSON), read the committee's report, which stated that the series of monthly meetings which were commenced last year, had been continued, and some very interesting and instructive lectures were given. The annual exhibition was remarkable for the fine display of fruit. The Society was financially in a low condition, although they had reason to be gratified with the result of the past year's work.

**THE DOUGLAS SPRUCE SPAR AT KEW.**—The great flagstaff at Kew, which for the last thirty-five years has been one of the conspicuous landmarks of the Royal Gardens, has, during the past fortnight, been undergoing a thorough overhauling, and upon careful examination it was found to need substantial repair. The base was very much decayed, so that it was necessary to cut off several feet, and splice a new piece on of the same length. For this purpose the spar had to be taken down. The splice was successfully made and strengthened by five iron bands, and the staff again erected on Tuesday last. For the benefit of our readers who are not acquainted with this magnificent spar, the following description of it, taken from the official *Guide to the Royal Gardens*, will be of interest. This spar which is of Douglas Spruce (*Pseudotsuga Douglasii*), is believed to be the finest spar in Europe. It was presented to the Royal Gardens in 1861 by EDWARD STAMP, Esq., and was cut in the forests of British Columbia. Its total height is 159 feet, of which 12 feet are sunk in a ventilated bricked pit.

The age of the tree was about 250 years, and its total height 180 feet. A section cut from the base of the spar before its erection in 1861 is contained in the museum, and shows the closeness of the grain of the wood, having eleven annual rings to the inch.

**BIRMINGHAM AND DISTRICT AMATEUR GARDENERS' ASSOCIATION.**—This Association commences the new year under very auspicious circumstances. They have moved their place of meeting to a much larger and more suitable room at the Municipal Technical School, Suffolk Street. They have a larger balance in hand than any previous year, and their Hon. Treasurer (Mr. R. F. REES), and Hon. Secretary (Mr. W. B. GRIFFIN), have both been re-elected for the fourth time. If only they are supported by the amateurs in the district, the year 1896 will be far ahead of any of the three previous ones. At the annual meeting held recently, Mr. Alderman WM. WHITE, J.P., was re-elected president for the fourth year, and Mr. JNO. OLIVER was added to the list of vice-presidents. The secretary is Mr. W. B. GRIFFIN, Wychbary, Alcester Road, Moseley, Birmingham.

**BURRS ON THE GINKGO.**—Mr. KENJURO FUJII has obligingly sent us a reprint from his paper in the *Tokyo Botanical Magazine*, in which he describes and figures some singular outgrowths from the trunk of the Maidenhair tree. These have the form and appearance of roots such as are formed from the branches of the Banyan or Pandanus. The structure and development of the "chichi," as the Japanese call them, indicate that these bodies are masses of adventitious buds, similar to those masses which the Germans call "maserkrof."

**PITCAIRNIA CORALLINA.**—A fine plant of this gorgeous Bromeliad is now in bloom in the Victoria-house at Kew. It has tufts of lanceolate, plicate leaves, greyish on the under-surface, and with fine black spines at intervals on the margins of the petioles. The flower-stalk is about 1 foot or 18 long, and deflexed, procumbent, and bears at its summit a spike of exceedingly brilliant crimson-scarlet flowers, each more or less cylindrical in form, 2 to 3 inches long, and with the oblong segments margined with white or pale yellow. Not only the flowers, but the flower-stalk and bracts also, are brilliantly coloured. It was introduced from New Granada by M. LINDEN in 1870, and was figured in the *Revue Horticole* (1875), p. 321; and in the *Botanical Magazine*, t. 6600 (1882). The figure does not do justice to the plant, whose flowers are considerably larger than those represented.

**PRINTERS' CORPORATION.**—We are informed that an effort is being made by the Council of this corporation to raise a sum of £10,000, with which to permanently endow the Printers' Almshouses. The latest addition to the almshouses, which are situate at Wood Green, Middlesex, was opened by Her Royal Highness the Duchess of Albany, and Her Majesty the Queen and His Royal Highness the Prince of Wales have become patrons of the institution. The buildings present a pleasing elevation, being quite an ornament to the locality in which they are situated, and have been constructed to afford every comfort and convenience to the inmates. We have much pleasure in recommending the cause of this excellent institution, which has now been in active operation for nearly seventy years; and we have been asked to notify that contributions are urgently solicited and will be publicly acknowledged, and gladly received by W. Clowes, Esq., treasurer, Duke Street, Stamford Street, S.E.; F. J. E. Young, Esq., Chairman of Council, New Street Square, E.C.; or by J. S. Hudson, F.R.S.L., secretary, Gray's Inn Chambers, 20, High Holborn, London, W.C.

## PLANT PORTRAITS.

**ARANTHUS GRANDIFLORA**, Lindley, *Orchid Album*, t. 514.  
**LYCASTE SMEERANA**, Rehb. l., in *Gard. Chron.*, 1883, xx., p. 198. Supposed to be a natural hybrid between *L. Skinneri* and *L. Dippe*.  
**ODONTOGLOSSUM SCHLEPERIANUM VAR. FLAVIDA**, *Orchid Album*, t. 515.



## HOME CORRESPONDENCE.

**EARLY FLOWERS IN CORNISH GARDEN.**—The exceptionally mild temperature of the past three months has made our Cornish gardens very gay. Some autumn blooms linger on, and some spring blooms anticipate their natural season. The enclosed list gives some of the plants now flowering in Falmouth gardens in the open air without any kind of protection. I do not remember having ever before seen such a show of flower on January 31 in England:—

Abutilon megapotamicum	Godelia
" Darwini tessellatum	Grevillea rosmarinifolia (luxuriant)
" Crusader, Prince of Wales, &c.	
Acacia dealbata, 20 feet high	Helleborus colchicus
" species from Wynberg	" fœtidus
South Africa	" orientalis
	" trifoliatus
	" niger
	" species and variety
Almond tree	Hepatica
Alyssum saxatile	Hyacinths
Anemones in variety	Hydrangea hortensis
Antirrhinum	Iberis gibraltarica
Arabis grandiflora	" pruri
Arbutus	" sempervireas
Aubrietia Hendersoni	Iris reticulata
Benthamia fragifera (laden with fruits)	" stylosa, since December
Berberis Bealii	Jasminum nudiflorum
" Darwini	Kerria japonica
" species	Leptospermum baccatum
Box tree	Leucopoium vernum
Borago	Limnanthes Douglasii
Camellia, double white and red, in variety	Lithospermum prostratum
Campanula carpatica	Magnolia exoniensis
Chimonanthus fragrans, since December	Marguerites, in variety
Chionodoxa Lucilæ	Mariakolds
Choisya ternata	Miscumbryanthemum, species
Chrysanthemums in variety	Mycossette
Cistus brantemii	Myricotis
" africanus	Myrtus Cheken
Citron Madras (in bud and fruit)	Narcissus nana
Clematis balearica	" polyanthus, in variety
Colletia horrida	Olearia Gunniana
Corcepsia, since June	Pausies
Coronilla glauca, in luxuriant flower all the year round	Phlomis frutescens
" viminalis	Pittosporum Tobira
Crocuses in variety	Polyaotbus, in variety
Cyclamen ibericum	Primula, in variety
" Coum	Pyrethrum
" persicum	Pyrus japonica, and variety
Daphne laureola	Rhododendron Nobleanum, since November
" Mezereum	" hybrids, since November
Datura sanguinea	Ribes fuchsoides
Desfontainia spinosa, 6 ft. high	Roses, in variety
Diplopappus chrysophyllus	Silvia involucrata Bethelli
Doronicum austriacum (Harper Crewe's variety)	Saponaria, species
Edwardsia microphylla, flower-buds just bursting, 15 feet high	Saxifraga crassifolia, luxuriant
Eranthis byemalis	Schizostylis coccinea
Erica carnea	Scilla præcox
Eryugium pandanifolium	" sibirica
Escallonia in variety	Senecio Petasites
Eupatorium Weinmannianum, 7 feet high	Silene pendula
Euphorbia	Snowdrops since December
Ferula communis	Spirea, sp. double flowering species
Forsythia suspensa	Stocks
Fragaria indica, in fruit and flower	Tussilago fragrans
Fuchsias in variety	Veronica anomala
Genistas in variety	" Colensoi
Genitiana acaulis	" ligustifolia
Geranium phœnum	" Lyalli
	" salicifolia
	" hybrids and varieties
	" elliptica
	Viburnum Tinus
	Vines in variety
	Wallflowers

Howard Fox, Roschill, Falmouth.

**THE ROYAL HORTICULTURAL SOCIETY.**—It is much to be regretted that, so far, the sole response to my former communication (see p. 115) is the autobiographical lecture on p. 144 of last week's *Gardeners' Chronicle*, by the reverend nominee of the Council, under the usual "header," firstly, secondly, thirdly, and so on, the value of which will be duly appraised by the Fellows of the society. He chooses to construe my remarks in a personal spirit, as if the cap fitted; but nothing was further from my intention, and if the remarks are calmly read, no reasonable person will impute that fault to them. The preposterous assumption that "amateurs" are not fully—aye, over-fully!—represented on the Council will not bear a moment's scrutiny by any one who can read the list. The Council is composed of fifteen members, ten of whom are "amateur horticulturists," and five "practical horticulturists," the latter being men who follow the profession, and live by it. At the forthcoming election the Council propose to "retire"—one "amateur" and two "practical" horticulturists; and to substitute three amateurs! Is this what the Council of the Society, in its wisdom, considers to be fair play to practical horticulture? We appreciate amateurs (which may include every person outside of the profession) in their own part, which is a

secondary one in horticulture, as it is in divinity; but the Council of the Royal Horticultural Society appear to be inclined to give us a surfeit of them on the Council, whether professional horticulturists like it or not! We want men who are known and trusted in the horticultural world, and it is a mere matter of convenience and expense to themselves where they reside, in London, or at the farthest corner of the United Kingdom, if they regularly attend the meetings, and are willing to afford the costs. The blowing of one's own trumpet is a somewhat undignified performance, and however strong the temptation may be to retaliate, we can afford to pass by the uncomplimentary remarks about practical horticulturists. *Ne sutor ultra crepidam!* And let the Fellows of the Royal Horticultural Society see to it that too much of the amateur element is not infused into the council at the forthcoming election. We are still in ignorance of the purpose to be served in the issuing the "Balloting List for Council" to the Fellows of the society; but a policy of reticence is not calculated to advance the interests of the society. We therefore trust that the Fellows will attend the meeting on the 11th inst., and give their support to what is right and fair in the interests of horticulture and the future prosperity of the Royal Horticultural Society. *Horticultural Fellow of the R. H. S., Feb. 3, 1896.*

—As an old Fellow of the Royal Horticultural Society, I have noticed that of late years the Council has been of a somewhat composite character. Messrs. Douglas and Thomas represent the gardeners, Mr. Henry Williams the nurserymen, Mr. H. J. Pearson the hot-house builders. What we want on the Council are men with business capacities, and men above the suspicion of making capital out of their position; therefore, it matters little whether they are clericals or laymen, so long as they honestly forward the interests of the Royal Horticultural Society as a national institution. *Cultivator.*

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—I certainly uphold Mr. Bruce Findlay's opinions as stated by him on p. 116 of the *Gardeners' Chronicle*, that none but subscribers should be nominated as pensioners. I may mention that on several occasions I have asked my foreman and journeymen to join the Gardeners' Royal Benevolent, and the answer is, "What is the use of it? Members get nominated who have never paid one penny to its funds, and nothing but influence will get you elected." [This is not correct. En] Now, if the funds were sufficient to assist non-subscribers, the thing would be all right; but as the annual voting papers show there are more subscribers than can be elected, then why allow any non-subscribers to be elected? I believe in helping those that help themselves. Every gardener in the British Isles who is worthy of the name ought to be an annual subscriber of one guinea for fifteen years, and then every aged gardener in want could be taken as a pensioner without the anxiety and expense attendant on an election. *A Life Member.*

**ORIENTAL LILIES.**—In reply to the contribution of Mr. J. Mayne on p. 145 of the *Gardeners' Chronicle*, I write to say that the bulb of *Lilium giganteum* invariably exhausts itself in the production of its immense flowering stem. On the other hand, in accordance with what may be called the instinct of perpetuation, which in Lilies of every description is highly developed, it throws out offsets, of which even the largest takes from two to three years to build up a bulb equal in dimensions to that of their parent. *L. giganteum*, therefore, can only be expected to flower after an interval of growth and development such as I have indicated in my previous observations. But there is this consolation for the patient cultivator—that only under those conditions that the bulb has been growing steadily in the same situation for several years, does it ever reach its adequate height. If a flowering bulb of this unique Indian Lily, however imposing in aspect, is purchased from any of the great commercial horticulturists and planted in November, it may flower splendidly in the end of July, as it has done in my garden, but it will never reach a height of more than 6 feet. Probably the reason why your correspondent's *Lilium giganteum* survived the exacting ordeal of liquid-manure was, that it was applied at a comparatively early stage of its growth; when, as he confesses, it was only 3 feet high. Had he ventured to apply it at a considerably later period, when the flower-buds were forming, he would probably have found, like myself, that the element of ammonia which is powerful in

most applications of this nature, is disastrous in its effects. I am therefore strongly of opinion that if applied at all, it should be at a very early stage. This is also the opinion of one of the greatest of living authorities on the culture of the plants of Eastern climes—I refer to Mr. Harry J. Veitch, Eastern Lillier, as a rule, do not appreciate strong stimulants, which I have found fatal even to such vigorous varieties as *Lilium speciosum*, and several of my friends have discovered to be destructive of *Lilium candidum*; but I feel certain that much depends upon the special period of growth at which these are applied. Lilies, obviously, can never be regarded as dormant, so long at least as they are in the soil. They are, on the contrary, constantly engaged in the work of root-creation, and that of re-production; and I cannot but infer, from the fact of my own experience, that their bulbs are most entirely in correspondence with their immediate environments, when they are deeply imbedded in fibrous mould, strongly incorporated with innocuous peat and sand. *David R. Williamson.*

**A BOTANIC FICTION.**—In the current number of the *Quarterly Review*, p. 242, occurs the following statement: " . . . Sometimes, however, names were not entirely given out of compliment, and Linnæus himself set a bad example. He was so pleased with the humble behaviour of his friend, John Broll, that he named a plant *Browallia demissa*, and on Broll's elevation to the episcopate, he named a second species, *B. exaltata*. This did not please Broll, and he showed his wrath in so marked a manner, that when Linnæus discovered a third species, he named it *B. alienata*, and then the alienation was complete and lasting." Without exacting too high a standard from a *Quarterly Reviewer*, the public has a right to demand that the writer should have taken some amount of trouble to see that his statements were true. The article in question deals with several books on plant-names, and the first book on the list is the *Index Kewensis*. Had the reviewer opened the volume at the genus in question, he would have found that the three species in dispute were issued on the same page of the same book (*Syst. Nat.*, ed. x., p. 1118) in 1759, and that, therefore, this pretty little story is utterly baseless. A further trifling error of the reviewer is citing *B. elata* as "*exaltata*." The quarrel between Linnæus and Broll arose many years before these names were issued. *B. Daydon Jackson.*

**A TRADE GARDENER'S REQUIREMENTS.**—The letter that appeared in your issue for the 25th ult., under this heading, contained no queries but any practical man would ask when engaging a man. He requires a reliable person, and seeks full value for the return he will give. Now, I can say with some truth, there is many a master-man now struggling in this trade, who is doing more than the advertiser asks. Some of our leading men have been delighted in spare moments to do a bit of brickwork, or fashion a few so as to economise his heat more than a highly-paid bricklayer would do. In these tight times of cutting prices, trade-growers must economise or they cannot live. For instance, on the 28th ult., good English Safrano Roses at 1s. to 2s. a dozen; also Pink Roses, 1s. 6d. to 2s. do.; Lily of the Valley, medium, 3s. per dozen bunches; Tulips, white, 6d.; pink, 5d.; red, 4d., and other cut flowers equally cheap in a bad market. Such bad days at times run into weeks, and then all feel it, retailers included. As a close observer, I often think that many of our growers have to thank the street buyer for his existence, when one can see them spending their pounds against a struggling shopkeeper's shillings. Choice flowers, Orchids included, I have seen far better in Cheapside on sale than you would find in half-a-dozen City shops, excepting one establishment. *W. R.*

**TIMBER v. GAME.**—In reply to "S.," I repeat emphatically that competent keepers do not buy eggs. The fact of these and pheasants being advertised for sale, by no means proves that they are purchased by all or the majority of managers of game preserves. No doubt some owners and agents of estates still adhere to the old-time idea that little or no skill is required for the successful performance of a gamekeeper's duties. They appoint incompetent men to govern men equally unversed in the work, and then condemn keepers as a class, whereas the fault has been their own. Up-to-date employers know that "the square peg in the square hole" is the qualified man (and there are many such) at the head of this important department. "S.'s" statement, that egg-poaching is a lucrative busi-

ness, is a still further contradiction to his former assertion that game is scarce. Neither large numbers of early eggs could be gathered yearly by keepers, nor egg-stealing carried on to any extent, where game did not abound. Where it does abound, he is a clever poacher who can evade the vigilant watch kept upon the coverts and ground during nesting-time, so the business can only be termed lucrative in comparison to one extremely poor. I do not speak from theory, but from years of actual knowledge of facts. I know the present-day methods in detail, and can furnish records of the number of game reared and shot upon the extensive game preserves which would bear out my former statements, and would perhaps convince "S." that more is done by keepers than is dreamed of in his philosophy. *Game.*

**THE SWEET PEA CUPID.**—We have been much interested with the notice on "The Synchronism of Variation," on p. 83. It may be interesting to you to know that this same sport with a dwarf white Sweet Pea, appeared in a variety we had grown for us this season. We have saved the seed, and are testing it by the side of Cupid, received from Messrs. Atlee, Burpee & Co., for this purpose. The plant has been preserved, although somewhat damaged, and if you would like to see it, we should be pleased to send same to you. You are doubtless aware of the fact that Mr. Ernst Benary, of Erfurt, advertises in his catalogue this year the appearance of an identical sport. *Cooper, Taber & Co., Ltd.*

**EUCHARIS GRANDIFLORA AT GARNONS.**—May I inform your correspondent ("W. E.") p. 144, that the luxuriance of *Eucharis* at Garnons is no new circumstance. I remember, during my stay there ten years ago, how exceedingly well they did, and I have often been tempted to quote them on occasions when noting other's experience of the plants in the *Gardeners' Chronicle*. Your correspondent said they are quite free from mite and bug, and I think he might have gone further, and said there is not a bug on the place. At least, this was the case during the two and a half years I was there; and much of the credit is due to the head gardener at that time (Mr. Rowtree), who spared no pains to eradicate the pest. To this I attribute in large measure the excellence of the *Eucharis*. There is no need of the everlasting sponging and attendant breaking and bruising of the leaves, which is necessary where bug abounds, to say nothing of the injury caused by the pest. At the time I speak of, the plants were on the back stage of a three-quarter span-house, the front of which was used chiefly for East Indian Orchids, consequently a warm spot. They appear to be having about the same treatment as they received at that time; the only difference I notice is that peat was added in the compost, and this is an advantage, I think, although not a necessity. I believe the foliage assumes a much deeper green, and the soil is not so liable to clog when peat is added. They grew and flowered abundantly, seven and eight flowers on a spike, and I have seen nine. With regard to the mite, I have noticed it there, on plants which were put in a cold house, but all we did was to shake the bulbs out, and wash them in a solution of Fir-tree oil. They were afterwards repotted, and in a very short time they outgrew all signs of the attack. Advice is sometimes given to inquire to throw their plants away when badly infested, and buy clean bulbs, but I have never been able to see the advisability of this, because most probably the new ones would have to follow suit in less than a year if they received the same treatment. My advice to such would be, shake out the bulbs, wash and repot, keep warm, but do not plunge; be careful in watering until fresh roots are made. And above all, keep them clean. *W. Griffiths.*

— How often do we read short glowing accounts of well-grown collections of *Eucharis grandiflora* in the columns of the *Gardeners' Chronicle*, but very few practical hints as to how such success is attained. Various methods are adopted for the extermination of the mite, and they are more or less successful for a time, but owing to the mite penetrating into the bulb, insecticides recommended for their destruction fail to reach all of them. The following method I have proved to be very successful if attended to during the present month: Shake out and examine any that fail to perfect the leaves, or dwindle away as soon as they are produced. Cut off any remaining leaves and roots, and peel them as you would an Onion. Cut away the bulb till no signs of discoloration are left, and if cut almost to the centre, no harm will ensue—but on no account must the base of the

bulb be cut off, or new roots will not readily push. Any that are attacked very badly must be burned, and as the mite would eventually destroy the others, nothing would be lost if this method proved a failure, so that an attempt to renovate them by such drastic measures as hacking away the bulb with a knife has something to recommend it. The bulbs having been prepared in the foregoing manner, wash them in diluted Fir-tree oil, or preferably Lemon oil, and allow it to dry on by spreading them out on a shelf in the stove for a day or two. Afterwards crowd the bulbs into shallow boxes filled with clean, coarse silver sand, about half burying them, and elevate the box over the hot-water pipes in the stove, taking care the sand does not become dry. Here they must remain till one or two new leaves are made, and by that time there will be a mass of roots. Separate these as carefully as possible, and put as many bulbs as is convenient into thoroughly well-drained 6-inch pots. It will be convenient to keep the largest together. I have found them do well in about equal parts turfy loam, leaf-soil, coarse sand, and charcoal. Plunge the pots in a gentle hot-bed of dung and leaves made up in a pit heated with hot water, shade carefully from the sun, and by the end of August transfer them to the stove, but do not plunge them in strong bottom-heat. In the following spring most of the plants will be ready for a shift into larger pots, but avoid disturbing the roots, for the less the roots of *Encharis* are disturbed the better; always give water when they require it, but not before. Some plants are flowering with me now that underwent this treatment last year. *W. H. Sharpe, Highwood.*

**DAFFODILS GOING "BLIND."**—There is a notion that Daffodils when forced into flower will sometimes go "blind." I am opposed to this view and to so-

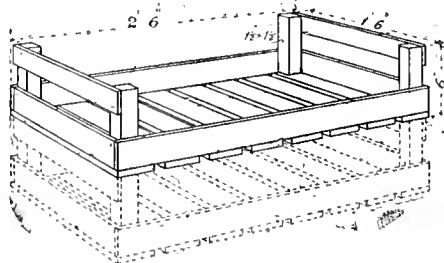


FIG. 25.—POTATO TRAY.

called blindness, and have repeatedly stated that if a bulb contained a flower at all, it would put it forth in some form or other, even should no roots be made. The bulb I now send for your inspection illustrates this fully. While in the final stages of the so-called "basal rot," and without emitting a single root, this poor-looking bulb has put forth the flower it contained, the germ of which was formed six or eight months ago. Had this bulb its complement of roots, a flower-stem 15 inches high would have resulted, instead of the weak stem and pug-nosed bloom before us, which is also deficient in colour. This shows that no matter what the treatment is or the condition of the bulb, the flower will come forth with the ensuing growth if the foundation of a flower exists; and those bulbs which produce no flowers never contained one. A year ago I found a bulb of a double Daffodil on a path, where it had lain fully exposed to the severe frosts of that time. It was a flowering bulb, and not only proved that it could endure 32° of frost without injury, but when the frost departed, pushed its flowers some 3 inches from the bulb, and produced foliage of much the same length. *J.*

**FARMERS AND FRUIT CULTURE.**—It is very evident that "W. P. R." and I set out to discuss this matter of fruit culture for farmers on very diverse lines. I could hardly read without a shudder his suggestions as to interposing with fruit trees, Celery culture. Just imagine the effect on trees already become gross, of root-pruning them by cutting Celery trenches near the roots to prune the roots, then putting in a heavy dressing of manure for the Celery! What would the newly-pruned roots be doing while the Celery was growing but be feeding grossly on the manure, and making growth worse than ever? Modern fruit culture, with the object of securing not only the best samples but

large supplies, must be on very different lines from that. My rows of promising fruit trees have been rendered worthless by the system of intercropping and wholesale destruction of surface-roots which "W. P. R." advocates. The best form of hardy fruit culture is found in individualising each kind, in planting young bush or pyramid trees closely for a few years, thus utilising all the space, then lifting and transplanting with care, so as to give to every tree needful space for the next ten or twelve years, the lifting constituting not only the most efficacious of root-pruning, but also preventative of deep rooting, of canker, and other evils; of keeping the surface free from other crops, forking it lightly, and top-dressing with manure during the fruiting season; that is the way to obtain the finest and most marketable crops. I shall be glad to learn of something better, but it must be on other than the Preston lines. *A. D.*

### AN IMPROVED POTATO-TRAY.

Those who have to plant many sprouted tubers of early varieties of Potatoes know how important it is not to knock off or bruise the one or two tender sprouts each tuber possesses. To obviate the doing so, single trays or the shallow boxes in which the tubers have been placed to form sprouts and some roots, have to be carried to the garden on hand-barrows and other contrivances, so as to ensure the tubers being transferred from the bed of leaf-mould into which they have thrust their roots with no more exposure to the air than is unavoidable. The tray consists of two tiers (fig. 25), that enable twice as many tubers to be removed at one time on a hand-barrow as would be possible with single trays or ordinary shallow boxes; and in this way it is found by Messrs. W. W. Johnson & Son, Potato growers, of Boston, that there is both a saving of time in the removal of the tubers to the garden or field, and a freedom from injury to the latter by using them.

### NURSERY NOTES.

#### MESSRS. SUTTON AND SONS' PRIMULAS AND CYCLAMENS.

The first-named form the great floral attraction of the glass-houses belonging to this great seed-producing and selling firm, its attractiveness mainly consisting in signs of progressiveness from the types of but yesterday, and the greater number of the shades of colour observable. We do not think that any greater size in bloom is to be noted in the plants taken as a whole, although it is undeniable that greater substance has been imparted to the flowers of whole strains of the plant, whilst in others there has been no advance, neither deterioration in this direction. The varieties are, without an exception, sports or seedling variations of *Primula sinensis* (*sinensis* of Lindley), found in the gorges of Y-Tchang and Hu-Pe by the Abbé Delavay. The wild plant bears but little resemblance to the *Primula sinensis fimbriata* of our gardens in its flowers, and is more slender in all its parts.

The leaf variations of *P. sinensis* var. *fimbriata* afford trade cultivators a fortunate and ready means of subdividing *Primulas* into classes apart from the varying colours of the flowers; thus we have the broad divisions of Fernand Palm leaf; and these again are subdivided into light and dark shades of green, and all sections into single and double-flowered. Buyers of *Primula* plants or seeds are thus enabled to get the particular variety or varieties which meet their fancy; and nurserymen to group their plants the better to exhibit their characteristics, and for purposes of comparison.

#### THE DOUBLE-FLOWERED VARIETIES.

Taking the double-flowered varieties first, we have one with pink flowers, marked in the list as Double Pink, a very free bloomer, and early too, which always comes true from seed—one, then, that may be regarded as having its characteristics "fixed," as gardeners express it. But these "fixed" creations of the florists are not to be depended upon for all time, there usually coming a time, sooner or

later, when the florists' trammels are cast aside, and a metamorphosis takes place for the better or the worse, and our variety refuses to be fixed any longer. The Double Pink possesses a palmate leaf. Another double flower is Reading Scarlet, or, more correctly, crimson; it is the counterpart of the first-named, excepting in colour, and possesses a fine large truss of bloom—a showy, telling variety. Carnation-flaked is a variety with flowers that open white, and become flaked with carmine and pink as they age; and the later the plants are got into flower, the more flaking, until, in some instances, it takes the form of a suffusion of pink over the entire flower excepting the eye, which in this, as in all, remains of an orange colour. Some double rose-coloured varieties were remarked, which were flaked, and these were under treatment, not being as yet considered quite fixed in their peculiarities.

The moss-curl variety *alba magnifica* comes true from seed, but is offered only in mixture, the type being at present fleeting, like the previously-named variety. It is a pretty strain. A moss-curl leaved variety, with lilac-coloured flowers, which deepen in tint as the season advances; has a good flower and habit. This variety is, we believe, sold as seed at present only in mixture with other varieties. There are very nice white and pink varieties, with moss-curl foliage. Double Carmine Improved is an excellent flower, of much brilliancy when seen under artificial light; the habit of the plant is good, and the foliage is of the Palm type. A double white of the Fern-leaf race is a most commendable variety, free, with rich green foliage.

A good type was noted in Double Crimson, whose trusses show well above the foliage, in this respect it being one of the best; in Double Heliotrope, a promising novelty as regards its shade of colour, and the blossoms are large and thick of substance, the stalk of good length, and foliage palmate. As a continuous bloomer, the old Double White variety of Messrs. Sutton's type is as good as any.

The so-called Double Blue, after all, not quite a blue, but it is quite near that colour—in perhaps as near as we may be able to get—formed an admirable group of colour of a very desirable shade, excellent for toning down, and rendering cool to the vision masses of glowing scarlet and yellow, such as one finds in spring in forced Dutch bulbs, Iodan Azaleas, Narcissus, &c. It has palmate foliage, and so far, it is the best of these shades of colour.

#### THE SINGLE-FLOWERED PRIMULAS

Are a more numerous tribe; they have longer engaged the attention of the florist, and are the type of which the double forms are merely sports which have occurred from time to time, and been "fixed." We have in Sutton's Blue (Fern-leaved) one month earlier in coming into bloom than the Palm-leaved variety of the same shade of colour as that, and particularly free in flowering. Roxy Queen is also a Fern-leaved variety, with a good habit, as free to flower as the last named, and constant as regards its characteristics. Reading Pink has capital foliage; the colour of the flowers is light pink, their size large, and the foliage palmate. Reading Scarlet is an early variety, brilliant-coloured when seen at a distance, reminding one rather of some blood-red Wallflower than a Primula; it is very free. A variety of a lavender tint having white margins to the petals was remarked. It is a flower that will find many admirers among the ladies. Reading Blue has much depth of colour, a stout stalk, and well-elevated truss of fine, large flowers—a wonderfully true stock, the plants and flowers showing no variations whatever. Brilliant Ruby, not to be confused with Ruby King, has a short flower-shaft, but its flowers are produced in two and three tiers as the plant acquires age. The stock was particularly true, and but a very small proportion showed pale-coloured blooms.

A distinct-looking Primula was remarked in the Fern-leaved White, whose truss and blossoms are of great excellence, pure white on opening, but becoming flaked with age. The foliage is of a dark tint of green. We should not omit mention of Snowdrift,

a profuse-flowering variety, whose lack of rigidity in the flower-stalks allows the flowers to fall about in a graceful manner, unlike those of any other *Primula sinensis*; it has Fern-like leaves, and flowers of the palest white.

#### THE GIANT VARIETIES.

In the so-called Giant varieties we have single-flowered forms with relatively enormous blossoms of colours resembling those we have already touched upon in this notice. Mention should be made of Giant Crimson, which has flowers of the identical colour of those of *Primula japonica*, which are of a very large size, becoming of a finer tint as they age; it has palmate leaves, and is a poor seeder, like so many others of much excellence. Giant White has likewise palmate leaves, very large flowers, borne well above the foliage, and a compact habit, which is due to the shortness of its leaf-stalks. There is a Fern-leaved Giant White, which is less well liked. Giant Crimson is a companion to Giant White, with palmate leaves and equally fine flowers and trusses, and the same substantiality in them. Giant White, with bronzy-green palmate foliage and leaf-stalks, and fine flowers with great substance in them was remarked. There are strong-growing forms with cerise-coloured flowers of differing shades, but seeds of these are not offered by Messrs. Sutton in separate packets, still they come as do several others in packets of mixed seed. An extra good strain is Giant Pink, a free and early bloomer, excellent for flowering at this part of the season, as well as later. It possesses palmate foliage. An equally good variety with the foregoing is Brilliant Rose, an old market type of Primula, the colour of the flowers improving as they age.

#### CYCLAMENS.

The selected varieties of *Cyclamen persicum*, grouped under the rather misleading name of *C. grandiflorum*, form at the present date quite a feature of the Reading establishment, vieing in floriferousness and colour-effects with the Chinese Primulas, and like those classified, in a minor degree, perhaps, by their differences of leaf-colouring, into marbled, zoned, Begonia, and green-leaved varieties. The marbling of grey on the leaves appears to be due to a partial detachment of the epidermis from the substance of the leaf, and is not constant, as it disappears to a greater or lesser degree as the leaf ages.

A variety with fine large flowers of a deep crimson colour is Vulcan, of which the firm possesses a larger batch of plants than in any previous year. This, like others, is a break from a white-flowered variety. The very large spreading flowers of Butterfly rivet the attention at once, by reason of their size, peculiar twisted shape, and pure whiteness. We doubt if a larger or finer white variety exists in Europe. Crimson and White, Giant Purple, and Rose Purple, were remarked, the last-named possessing a spreading habit of flowering that is very distinct, fitting the plants admirably for filling baskets or edging shelves in the greenhouse situated above the level of the eye. A so-called Salmon Queen is of a lovely shade of colour, borne well above the foliage; decided and distinct, and coming very true from seed. Of this type a variety exists with blooms of a deeper shade of pink, and also larger.

Cyclamens in other colours were remarked, whose excellent habit of growth, freedom to bloom, pleasing colours, and large flowers differed little from those we have mentioned. In one of the houses some plants of *C. repandum*, *C. Conm*, *C. ibericum*, and its variety *C. i. Atkinsii*, were remarked, pretty enough in their way, but, as garden plants, greatly inferior to the present race of *C. persicum*. Moreover, few of them are sufficiently hardy to withstand our winters, whereas the species *C. Neapolitanum* and *C. europæum* are hardy in the milder parts of Britain.

#### THE PROPAGATION OF THE DAHLIA AT MR. CHAS. TURNER'S.

On calling at the Royal Nursery, Slough, recently, I found that the propagation of the Dahlia by means of cuttings had already commenced. The house employed for the purpose is a low, lean-to,

35 feet in length, by 7 feet in width; and this is wholly devoted to the production of cuttings. A bed, 4 feet in width, occupies the front of the house, and being breast-high, is near the glass. In a hollow chamber below are the hot-water pipes; the bottom of the bed is formed of stout slates. On this is placed a bed of compost consisting of two-thirds good loam, and one-third of well-decayed manure and sand, and in this the store-roots, which were lifted from the open ground last autumn, are about half buried. Here they remain for about a fortnight, and they are then sprinkled overhead with warm water, sparingly at first; meanwhile, the tubers put out roots which soon begin to run freely in the soil. At the back of the house the width of the passage along it admits of two long narrow boxes being placed against the wall, one nearly breast high, the one above the other; these boxes are 9 inches deep and wide, have slate bottoms, and they are filled with compost; and here the pot-roots are placed of each varieties as are not represented by ground roots. The pot-roots are in lines of three or four from back to front; each sort is isolated from its neighbour, and correctly named. Two return pipes pass along the wall just beneath the boxes, and so supply the necessary bottom-heat. The house is thus planted entirely with Dahlia-roots for propagating purposes, leaving just room for the propagator to pass along.

Mr. Uphill, the propagator at Slough, stated that a good "ground" root will produce from forty to fifty cuttings, beyond which number it is undesirable to go, as the succeeding cuttings are weakly. A "pot" root gives about a dozen good cuttings. The number of roots planted for the production of cuttings depends upon the popularity of the variety and its productiveness. Some Dahlias are so attractive and so constant as to be in larger demand than others; of show varieties these are Mr. Gladstone and Maud Fellows, two charming light varieties; Glowworm, John Walker, Colonel, and R. T. Rawlings; of fancy varieties, Mrs. Saunders, Fanny Sturt, Duchess of Albany, Mrs. J. Downie, Rebecca, and Peacock.

Pompon varieties always sell well, as they are now greatly esteemed for cutting and border purposes. No single varieties are now grown at Slough; they as a section appear to be a vanishing race.

The first shoots arising from the roots are vigorous, stout but hollow; and they are rejected. The next and succeeding batches are more suitable, being solid and wiry; they are taken off just below the lowest joint, but not sufficiently low to injure the eyes round the base of the cuttings, from which other cuttings soon appear. Eight or nine of the cuttings are placed in a small 60-sized pot containing a fine sandy compost, which is pressed rather firmly about them, and the pots of cuttings are then placed in a frame where there is a gentle bottom-heat, but a rather dry atmosphere at the top. Not a great deal of heat is required to induce them to root; in January and part of February they will root in five weeks or so; later on, in three or four. When the cuttings have rooted, they are potted singly into large thumb-pots, returned to the warm frames, and as soon as the warm spring weather admits of it being done, the plants are taken to a cold frame, kept close for two or three days, and then gradually hardened off for sale. Previous to the preparation of orders, the plants require to be sorted into their several varieties, for readiness of selection when orders are made up. This is done on some mild early morning, the plants returned to the frame, sprinkled overhead, kept close, and shaded for a few hours, and then exposed to a free circulation of air. The dispatch of young growing plants commences at the end of April, and goes on through May. R. D.

CASSELL'S "HISTORY OF ENGLAND."—A people's edition of CASSELL'S *History of England from the Earliest Period to the Present Time* (CASSELL & Co., London, Paris, and Melbourne). is being issued at a low price in fifty-two weekly parts. It contains plentiful illustrations, and, as regards the letter-press, the name of the publishers is of itself a sufficient guarantee of its reliability and general excellence.

## SOME EASILY-GROWN ORCHIDS.

ALTHOUGH comparatively few proprietors of gardens, or professional gardeners, are in a position to enjoy the pleasures to be derived from possessing or cultivating a large collection of Orchids, still it is within the reach of many who do not attempt it, to grow a small collection of the more useful species and varieties. These will generally prove of easy cultivation in an ordinary stove and greenhouse, together with the ordinary inmates of such glasshouses. It is said that the mere word Orchid is a stumbling-block to many gardeners, and that those who can grow well such difficult plants as Dipladenias, Læcheanantias, and greenhouse Ericas, hesitate about undertaking to cultivate an Orchid. However this may be, I am sure that some of the more useful Orchids are of easy cultivation, and no intelligent gardener with the proper means at hand, need fail with them. Considering how cheap are many of the species, and how invaluable for decorative purposes, the blossoms of some of them lasting for weeks in good condition when separated from the plants, they should be grown by every one who is an admirer of beautiful and curious flowers.

Orchids, like some other plants, are more effective when each species is seen grouped together in some quantity, and this applies equally to the plants when in flower and to the flowers themselves when cut from the plants. Moreover, when several plants of a certain species are cultivated altogether, their cultural requirements are more readily met than is the case when the plants are mixed together. It is, therefore, prudent for those who necessarily have a limited collection, to grow those only which succeed under identical treatment—at least, so far as regards temperature, ventilation, and the amount of shading found needful.

At the top of my list I will place the *Calanthe*, viz., *C. Veitchii* and *C. vestita*, old favourites, which blossom during the winter, and whose graceful flower-spikes are invaluable for cutting, lasting several weeks in good condition. Many improved varieties have been raised of late years, and I myself have raised, amongst others, a very pretty white form of *C. vestita* from seed. *Cologne cristata* is another well-known favourite, of which there are several varieties, all of which are good. This is remarkably free in flowering, easily increased by division, and it is, without doubt, one of the most prized of Orchids. A variety named *C. c. maxima* is valuable on account of flowering later than the type. There is also the *Chatsworth* variety, which is likewise a late bloomer.

*Cypripedium insigne* is another plant long introduced into our gardens, whose flowers appear freely during the winter season, and last a long time in good condition. This is a plant the value of which is sometimes underrated because it is old. There are many beautiful forms of it, some of them quite recently introduced; but their cultivation presents no difficulties. *Cypripedium Leeanum*, *C. L. superbum*, and *C. Spicerianum*, are all of them free winter-flowering varieties, and, like the foregoing, easily cultivated, and the blossoms particularly suitable for cutting. *C. caucanthum* and *C. c. superbum* are also free in flowering and good doers, but their flowering season is during the summer.

*Cattleya Bowringiana*, although I cultivate but a few plants of it, is in every way so satisfactory, that I do not hesitate in classing it amongst the useful, easily-cultivated species; also *Thunia Marshalliana*, which is one of the best of this beautiful genus, flowering freely in June, very easily cultivated and increased.

*Dendrobium nobile* is so old an inhabitant of our gardens that there is no need for me to sing its praises. There are several varieties, all of which are as free-flowering as the old form. Its season of flowering may be much prolonged by introducing rested plants at intervals into a house with good warmth. *D. Phalænopsis Schroderianum* is a grand acquisition very beautiful and free-flowering, and owing to the length of its flower-spikes, it is much

appreciated for cutting purposes. My experience with it is more limited than with the others named.

Many equally good Orchids might be mentioned—as, for instance, *Cattleya Mossia*, *Lælia anceps*, *Lycate Skinneri*, *Odontoglossum Alexandræ*, &c. I omit cultural details because they are always seasonably given in the Orchid Calendars of this journal. *T. Coomber*, *The Hendre*, *Monmouth*.

## NOTICES OF BOOKS.

TEN NEW ENGLAND BLOSSOMS. By Clarence Moores Weed. (Boston and New York: Houghton, Mifflin & Co., Riverside Press, Cambridge.)

Ten plants are here treated of by the author, who considers the subject of the inter-relation of plants and insects. The Willow (*Salix discolor*), Trillium, Orchis, Polygala, Lily, and Thistle are among the types selected, their diverse methods of pollination and fertilisation being clearly explained. Use is, of course, made of the researches of Sprengel, Darwin, Asa Gray, and other botanists, whose works prove invaluable to the writers of less original books. In the case before us, the author has personally tested many of the experiments detailed, and the result of these and of the study of the works of reference consulted is clearly set forth. *Ten New England Blossoms* is a handy and an elegant book, which we recommend both to those who desire to learn a few of the main facts already discovered as to the relations between insects and plants; and to those who, purposing afterwards to go more deeply into so important a study, are desirous of an elementary text-book to aid them when beginning. The illustrations are not all new, but are all sufficiently good and clear, and many particularly so. The whole book is both a change from, and an advance upon, many others of its class, being up-to-date both in spirit and matter. The difference between botany of the past and of the present is recognised, and that the mere collection of specimens and inspection of their outward characteristics is no longer considered sufficient; "the botanist of to-day is as likely to collect his specimens in a pill-box or on the point of a needle as in a vasculum. His collecting fields are as likely to be the test-tubes of the laboratory, the aquaria of the class-room, or the benches of the conservatory, as the outdoor world. Instead of being a recluse, he himself is likely to be a man among men, actively interested in the world's affairs. Botany to him, rather than a sequel of murder, is often a witness of new births, and his ancient prototype's chronicle of the dead becomes with him a chronicle of life."

OUR EDIBLE TOADSTOOLS AND MUSHROOMS, AND HOW TO DISTINGUISH THEM. By W. Hamilton Gibson, with thirty coloured plates, and fifty-seven other illustrations by the author. (New York: Harper & Brothers.)

The full title of this beautiful book indicates that it contains a selection of thirty native food-varieties, easily recognisable by their marked individualities, with simple rules for the identification of poisonous species. As most of the species mentioned are "native" also to Britain, we need offer no excuse for calling the attention of our readers to this elegant and useful volume. The author discusses at great length the characteristics by which the edible species may be distinguished from the poisonous ones, and rightly disregards as untrustworthy or worthless all the popular tests. The only safety consists in an accurate botanical knowledge of the species. The acquisition of this knowledge must necessarily always be a slow process, and not always possible of attainment. The author therefore submits certain "rules for the venturesome." These rules may be thus summarised:—Avoid every Mushroom having a "volva" cup at the base. This excludes the highly dangerous species of the *Amanita* section.

2. Exclude those having an unpleasant odour or taste, or a tough consistence. This latter criterion would cause the exclusion of the *Champignon*.

3. Exclude those infested with worms, or which are in a state of decay or age.

Allowing the correctness of the author's diagnosis of the *Amanita*, he would do well to add to his rules this one:—Take care not to eat fungi unless you have seen a perfect specimen, for it might well happen that a specimen might be gathered leaving the cup in the ground, so that that test would not be always available. Should the experimenter unfortunately partake of *Amanita*, the effects of which do not show themselves—according to the author—before eight to twelve hours after eating it, the treatment recommended is the hypodermic injection of atropin, in doses of one-sixtieth of a grain, repeated every half-hour till one-twentieth of a grain has been given. This sounds very like setting a thief to catch a thief, and in any case is a procedure which should be left to the duly-qualified medical man. The cases cited are, indeed, very interesting from a medical point of view, though they are not such as usually find place in a popular treatise.

After having eliminated the poisonous *Amanitas*, the author goes on to describe and figure several of the better-known edible species, such as *Agaricus campestris*, *arvensis*, *procera*, *Morramia oreades*, *Coprinus Lentarius*, *Fietulina hepatica*, and others.

The coloured illustrations are, for the most part, excellent and characteristic, that of the beef-steak fungus, we should say, least so; but these plants are so variable, that the American forms may be very different from our own. The woodcuts deserve high commendation for their beauty and accuracy.

Of *Polyporus sulphureus*, we are told that it possesses marked luminous properties. These are so marked, that on one occasion Hawthorne is recorded to have made use of this "fox-fire" as a flambeau which lighted his path for several miles through the otherwise impassable woods. Other chapters are devoted to the making of spore-fruits, and to the publication of receipts for cooking the toothsome morsels.

The author fully acknowledges his obligations to his predecessors and contemporaries (we think, by the way, that Dr. Cooke would disdain being called "Rev.") and has produced a really delightful volume. Printer and publisher have also done their work well.

BRITISH FUNGUS FLORA. By George Massee; vol. iv. (George Bell & Sons.)

Mr. Massee's work progresses steadily. This fourth volume, which is cast in the same mould as the others, is devoted to the *Ascomycæ*. A general account of the conformation of the plants of this group is given, followed by some useful hints on collecting, and on preparing the plants for useful comparative study. The illustrative figures are useful in spite of their being sometimes small and crowded. Good drawings to a uniform scale are the more valuable as evidence, inasmuch as "type specimens" such as are made use of as vouchers by workers in other groups of plants are often non-existent, and still more often they could not be satisfactorily preserved.

## SOCIETY.

## READING HORTICULTURAL.

The Thirty-ninth annual meeting of the Reading Horticultural Society was held at the Abbey Hall recently. The Mayor (Mr. Owen Ridley) presided; and there were also present Messrs. F. J. Ferguson, J. T. Strange, R. Webb (Beenham), G. W. Webb, J. Woolford, T. Neve, T. Bowie, C. Burton, and W. L. Walker (secretary).

The secretary read the annual report and balance-sheet which were as follows:—

It is with satisfaction your committee present the Thirty-ninth report and balance-sheet, which, although showing a reduction in balance carried forward, compares very favourably with the preceding year, £80 additional being awarded in prizes, while the reduction in balance is £30. The bulb show held in March was extremely disappointing, the receipts being under £35 against an expenditure of £140. The summer show proved satisfactory in every way, the attendance being larger, competition keener, and entries more numerous than at any exhibition of late years, showing the efforts



of the committee to popularise the shows are thoroughly appreciated. With regard to the coming season, it is not thought advisable to have a spring show, but the National Rose Society will hold its annual provincial exhibition in connection with our society on June 24 next.

ENQUIRY.

"He that questioneth much shall learn much."—BAOON.

JAPANESE BAMBOOS.—Can you assist me to the botanical equivalents of the following Japanese names for Bamboos:—Taisan-chiku, Kanzan-chiku, Koku-chiku, Hotei-chiku, Kikko-chiku, Shiho-chiku, Kinmei-chiku, Moso-chiku or Mosodake, Madake, and Ya-dake? R. O. [Mr. Mitford obligingly answers as follows:—]

Taisan chiku is a tropical Bamboo acclimatised in a stunted form in Japan; not hardy in this country. Probably=Bambusa vulgaris.

Kanzan-chiku = Arundinaria Hindsii, Munro, Bambusa erecta, Hort., Marlic, &c.

Koku-chiku, a new name to me, I cannot, therefore, identify it.

Hotei-chiku, also new to me. Can it be a mistake for Hōrai-chiku=Phyllostachys aurea?

Kikko-chiku = Bambusa heterocycla, described by Mr. Bean in Gardeners' Chronicle, 1894, and by myself in the Garden, 1895.

Shiho-chiku = Bambusa quadrangularis. Kinmei-chiku = B. castillonis, Hort.

Moso chiku, Moso-dake = Phyllostachys mitis. Madake, I believe = Bambusa or Phyllostachys sulphurea, but am not certain.

Ya-dake.—The Japanese make this a synonym of Phyllostachys bambusoides; but the Japanese nursery gardeners, when asked for Yadaké or P. bambusoides, invariably send what has proved to be nothing but Métaké—mutato nomine. Yadaké signifies the Arrow Bamboo, which would imply a tough, fairly solid stem, fit for arrows, which P. bambusoides does possess, and Métaké does not. I may add that I cannot find either Koku-chiku or Hotei-chiku in such Japanese authorities as I have. Shiho-chiku is = B. quadrangularis, Shiho-chiku = B. marliacea; so your correspondent must be careful as to the one letter.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (Above 42° or below 42° the Mean for the week ending February 1, 1896), ACCUMULATED (Above 42° for the Week, Below 42° for the Week, etc.), RAINFALL (No. of Rainy Days since Dec. 29, 1895, Total Fall since Jan. 1, 1896, etc.), and BRIGHT SUN (Percentage of possible Duration for the Week, etc.).

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S. Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending February 1, is furnished from the Meteorological Office:—

The weather was fine and dry over the kingdom generally until the latter part of the period, when the conditions became dull and gloomy. Local fogs and mists, however, prevailed at times in different parts of the country, while in the extreme north and north-west rain was not infrequent.

The temperature was above the mean in all districts, the excess ranging from 1° over the east, south, and south-west of England, to as much as 4° to 5° in Scotland. The highest of the maxima were recorded during the early days of the week, when they ranged from 56° in 'Scotland, E.,' 'England, S.W.,' and 'Ireland, S.,' to 49° in 'England, E.' The lowest of the minima occurred during the latter half of the period, and ranged from 24° in 'England, S.W.,' and 25° in 'England, S. and N.E.,' to 33° in 'Scotland, W.,' 34° in the 'Channel Islands,' and 35° in 'England, N.W.'

The rainfall was a little in excess of the mean in 'Scotland, N.,' but deficient in all other districts; over England the fall was very slight.

The bright sunshine was less than the normal in 'Ireland, S.,' and 'Scotland, N.,' and just equalled it in 'Scotland, W.,' and 'Ireland, N.,' in all other districts, however, there was an excess, that in the north-eastern parts of Great Britain being large. The percentage of the possible duration ranged from 41 in the 'Channel Islands' and 40 in 'England, N.E.,' to 33 in 'Scotland, N.,' 11 in 'England, N.W.,' and 9 in 'Scotland, N.'

MARKETS.

COVENT GARDEN, FEBRUARY 6.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing plants in pots with average wholesale prices. Columns include plant name, quantity, and price.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing cut flowers with average wholesale prices. Columns include flower name, quantity, and price.

ORCHID-BLOOM IN VARIETY.

Table listing orchid bloom in variety with average wholesale prices. Columns include variety name, quantity, and price.

OLD POTATOS.

Market quiet, with no movement in prices since last report.

NEW POTATOS.

Supplies during the past week have not been quite so heavy. Prices, as per last report, are firm. J. B. Thomas.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing fruit with average wholesale prices. Columns include fruit name, quantity, and price.

SEEDS.

LONDON: Feb. 5.—Messrs. John Shaw & Sons, Seed Merchants, of Great Mark Pond, Borough, London, S.E., report to-day's market thinly attended, with only a small inquiry for Clover and grass seeds; meantime, supplies all round continue abundant, and prices moderate. Full rates are asked for Canadian Alsike. White Clover seed is slightly easier. For spring Tares there is an improved sale. Winter Vetches are inquired for. In Rape seed the tendency continues upward. There is this week no change in Mustard. The new Wisconsin Green Peas, being cheap, handsome, and excellent boilers, are much appreciated. For Haricot Beans the sale is slow. Bird seeds show no fresh feature.

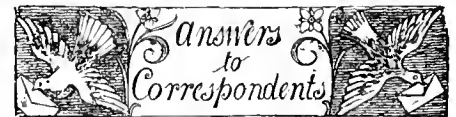
FRUITS AND VEGETABLES.

BOROUGH: Feb. 4.—Quotations:—Savoys, 3s. 6d. to 5s. per tally; Onions, 2s. 9d. to 3s. 6d. per bag; Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 1s. 9d. to 2s. do.; Sprouts, 9d. to 1s. 3d. per half-sieve; Apples, 4s. to 6s. per bushel.

SPITALFIELDS, Feb. 4.—Quotations:—Savoys, 2s. to 3s. per tally; Curly Kale, 9d. to 1s. per bushel; Seakale, 10d. to 1s. per bundle; Brussels Sprouts, 1s. to 1s. 3d. per half-bushel; 2s. to 2s. 6d. per bushel; Beet-root, 1s. to 1s. 3d. do.; Carrots, 22s. to 25s. per ton; Turnips, 25s. to 30s. do.; Onions, 3s. to 4s. per cwt.; Rhubarb, 1s. to 1s. 3d. per dozen bundles; Parsnips, 5d. to 7d. per score; Bunch Greens, 1s. 3d. to 1s. 6d. per dozen bunches; Parsley, 1s. 6d. to 2s. do.; Celery, 12s. to 15s. per dozen rounds; Apples, dessert, 4s. 6d. to 5s. 6d. per bushel; do., cooking, 3s. 6d. to 5s. do.

STRATFORD: Feb. 4.—The open weather continues to cause a drag in the Potato and root trade. Vegetables are in plentiful supply, therefore at rather low rates. Celery is short, and in fair demand. Quotations:—Collards, 1s. to 2s. per tally; Savoys, 1s. 6d. to 4s. do.; Greens, 9d. to 1s. per bag; do., 1s. to 1s. 3d. per dozen bunches; Cauliflowers, 1s. 3d. to 1s. 6d. per dozen; do., 5s. to 7s. 6d. per tally; Scotch Kale, 3d. to 6d. per sieve; Beetroot, 4d. to 6d. per dozen; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; Rhubarb, forced, 1s. to 1s. 3d. per dozen bunches; Celery, 8s. to 12s. do.; White Turnips, 1s. 6d. to 2s. per bag; Horseradish, 1s. 3d. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 3d. per dozen bunches; Carrots (household), 24s. to 30s. per ton; do., cattle feeding, 20s. to 24s.; Parsnips, 4d. to 6d. per score; Mangels, 11s. to 15s. per ton; Swedes, 12s. to 16s. do.; Onions, English, 4s. 6d. to 5s. per cwt.; do., Dutch, 3s. to 3s. 3d. per bag; do., Bordeaux port, 5s. to 5s. 6d. per case; Apples, English cookers, 2s. 6d. to 4s. 6d. per bushel; do., dessert, 2s. 6d. to 4s. do.

FARRINGTON: Feb. 6.—Quotations:—Savoys, 4s. per tally; bunch Greens, 1s. 6d. per dozen; Sprouts, 1s. 3d. per half-bushel; Turnips, 2s. per dozen bunches; Carrots, 2s. do.; Celery, 1s. 3d. per bundle; Leeks, 1s. 6d. per dozen; Rhubarb, 1s. per dozen bunches; Parsnips, 2s. per bag; Artichokes, 1s. 6d. per half-bushel; Horse-radish, 1s. 2d. per bundle; Curly Kale, 1s. per bushel; Seakale, 1s. per packet; Apples, Greenings, 15s. per barrel; Baldwins, 18s. do.; Pearmain, 20s. do.; Northern Spy, 18s. do.; Newtown Pippins, 16s. do.; Russets, 20s. do.; Tomatos, 2s. 6d. per tray; Grapes, 1s. 6d. per pound.



ANTS: L. Place carbolic acid about the house, and in their haunts and runs.

BOOKS: A Subscriber, Ancrley. The Illustrations of the British Flora, by W. H. Fitch and W. G. Smith; published by L. Reeve & Co., Henrietta Street, Covent Garden, W.C. This should be used in conjunction with Bentham & Hooker's Handbook of the British Flora. Alpine Plants, by A. W. Bennett, M.A., and illustrations by J. Sebth; published by Swan, Sonnenschein & Co., Paternoster Square.—P. B. A. Stove and Greenhouse Plants, by T. Baines. It is published by John Murray, Albemarle Street, Piccadilly.

CAMELLIA LEAVES BROWNED ON THE UPPER SURFACE: G. W. The appearance indicates over-fumigation or sulphuring.

CLEODYNE CRISTATA, DISFIGURED PSEUDO-BULBS: W. K. The discoloration is caused by insect punctures in the first instance, then fungi follow, G. M.

**CORRECTION.**—Under the heading, 'Highgate Chrysanthemum Society,' in our issue of February 1, p. 142, for Mr. J. W. Kerahan read J. McKerchar.

**CUCUMBERS DESTROYED:** *Puzzled.* Eelworms at the roots. Clear out soil and plants, disinfect, white-wash, and wash out the pit and start anew with soil from some other source, and if possible plants from some distant garden. Char everything taken out of the Cucumber-bed.

**CYCLAMEN:** *W. W.* Fasciated flowers of Cyclamen are by no means uncommon. In your case, the appearance is due to the union of two flower-stalks.

**DENDROBIUM DALHOUSIANUM:** *J. Talmage.* Growth of the dimensions you give denote extraordinary vigour, and much beyond the average in number also.

**GARDENERS' ROYAL BENEVOLENT:** *Sans Peur.* We have sent your letter to the secretary.

**HYNIDS:** *J. A.* The name of the female parent should come first, with the sign ♀, followed by a ×; and then the name of the male parent, ♂. But this rule, like the code of nomenclature, is as much honoured in the breach as in the observance.

**MUSHROOMS:** *Constant Reader.* We are sorry we cannot tell you the cause. We should procure spores from another source, although there is no blame to be attributed to the dealer.

**NAMES OF PLANTS:** *J. S.* 1, *Chimonanthus præcox*; 2, *Arbutus Unedo*.—*P. W.* *Mormodes buccinator*, one of the most variable in colour of any Orchid. —*A. J. N.* *Cypripedium × polystigmaticum* (*Spicerianum × venustum*).—*M. D.* 1, may be a seedling *Passiflora*; 2, *Carex variegata*; 3, *Panicum gramineus*; 4, *Coccoloba platyclada*.—*M. C.* Please send again when in flower.—*S. P. D.* 1, *Davallia bullata*; 2, *Adiantum macrophyllum*; 3, *Adiantum gracillimum*; 4, *Adiantum Williamsii*; 5, *Pteris serrulata cristata*; 6, *Pteris critica cristata*; 7, *Pteris serrulata*.—*J. M., Chelmsford.* *Cypripedium villosum*.—*J. G.* 1, *Amaryllis reticulata*; 2, *Cypripedium igneum*; 3, *Frittonia argyrea*; 4, *Anthericum lineare variegatum*; 5, may be *Gardenia florida*; 6, *Eucharis species*; 7, send in flower, none of the things sent is a fair specimen; 8, *Plumbago capensis*, if a blue flower.—*R. C.* A very pretty, but not extraordinary variety of *Dendrobium nobile*.—*D. T.* 1, *Begonia hydrocotylifolia*; 2, *Salvia fulgens*.

**NEWLY DUG-UP CLAY SUBSOIL:** *Margaret.* Not poisonous to plants, but infertile; that is, it is deficient in plant-food. When pulverised by frost, wind, and rain, and mixed with the staple, grass will grow on it, and not readily get browned in hot weather.

**SIX VARIETIES OF MARKET ROSES, H.P.'S, AS DWARFS:** *Roses.* Flesh-coloured, Captain Christy; pink do., La France; Rose do., Paul Neyron; dark crimson do., Fisher Holmes and A. K. Williams; light crimson do., Etienne Levet.

**VINE BORDER, 4 FEET WIDE AND 3 FEET HIGH:** *A New Subscriber.*—You should not plant any deep-rooting plant; in fact, it would be better if the border were kept for the Vine roots only. A line of *Saxifraga muscoides*, *Sedum Ewersii*, or the annual *Mesembryanthemum crystallinum* (Ice plant), *Portulacca*, or the like.

**VINES:** *A New Subscriber.* Let the roots alone for this season; that is, until you have ascertained the kind of fruit and growth the Vines will produce. You might ascertain if the drainage is in order, then write again.

**VINE WASH:** *A New Subscriber.* Get some soft-soap, and put 4 oz. into a gallon of hot water—say, at 130°; and after having removed the loose bark, wash the rods, using a stiff brush, and being careful of the buds. Having done this, give them a dressing of Gieharst-soap, at the rate of 2½ to 3 oz. to the gallon of water, thoroughly dissolving it. Very hot water alone will remove and kill scale.

**COMMUNICATIONS RECEIVED.**—W. J. Rolover, late for publication.—A. C. F.—*Nottingham Guardian*.—J. Wells.—P. B.—T. B.—H. C. Geneva.—U. D. Berlin.—J. C.—W. W.—M. D.—*Giornale di Agricoltura*.—H. W.—E. P. Obent.—L.—C. L.—G. B. N.—F. W. B.—G. R. Brussels.—M. F. (next week).—W. H. B.—G. Woodgate.—G. S. J. Demerara.—J. Hebben.—J. Hudson.—W. K.—H. H. R.—R. D.—W. E.—R. M.—A. D.—B. Wadds.—W. Rushton.—Major J. C. M.P.—W. S. Hurlstone, fruits received, many thanks.—Webb & Sons.—R. Smith & Co.—E. J.—R. O. B.—X. Y. Z.—*Pelargonium* leaves next week.—J. D.

**PHOTOGRAPHS RECEIVED WITH THANKS.**—G. McM. (shortly).

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Q. STONARD, Gardener to Sir A. T. Watson, Reigate:—"I have used your Guano for five years, and can bear testimony to its great value for fruit growing." C. ROUSE, Nazeing Park Gardens, Waltham Cross:—Used for Tomatos, Cucumbers, Chrysanthemums, and Roses. Results: "A marked improvement wherever used. A good and cheap manure."  
Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where pamphlets of testimonials, &c., may be obtained. AGENTS WANTED.

## KIRK'S VINE and PLANT FOOD

*The production of Mr. A. Kirk the well-known Scottish Grape Grower.*  
London: J. D. KIRK. Edinburgh: TILLIE & TURNER, 74, Wigmore Street, W. 12, Melbourne Place.

## THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.  
The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.  
Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.  
Sole Makers:—WM. THOMSON and SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.  
Analysis sent with orders of ½-cwt. and upwards.  
SOLD BY ALL SEEDSMEN.

## BENTLEY'S Prize Medal INSECTICIDE.

USED BY THE LEADING GARDENERS.  
1 pint, 2s.; 1 quart, 3s. 6d.; ½ gallon, 5s.; 1 gallon, 9s. 3 gallons, 24s.

JOSEPH BENTLEY,  
CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

## LETHORION (Vapour Cone) PATENT.



The total destruction of Insect Pests in Greenhouses is thoroughly secured without the slightest possible injury to Flowers or Plants of the tenderest kind. IT CANNOT fail where the houses are secure. Red Spider, Scale, and Mealy Bug can be easily eradicated by doubling the Cone power.

PRICES: For frames, &c., of 50 to 100 ft., 6d.; 500 to 700 ft., 9d.; 1000 to 1500 ft., 1s.; 4000 ft., 3s. 6d.

The public are cautioned against imitations in various forms at less cost, as they have in most instances proved to be worthless articles, totally unequal to Lethorion in strength and effect.

MANUFACTURERS— F.F.S. & I.

## GORRY & CO., LTD., LONDON.

To be obtained from all Seedsmen and Florists.

## EPPS'S A1 PEAT

(SELECTED specially for ORCHIDS),  
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).  
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities  
EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

# WILLIAM COOPER, Ltd.,

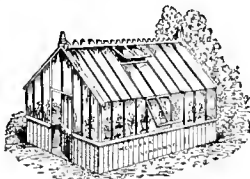
755, OLD KENT ROAD, LONDON, S.E.

## TO CLEAR! TO CLEAR! SALE BY TENDER.

To facilitate Important Developments in their Works, W. COOPER, Ltd., have decided to clear at once the remaining portion of last year's Stock. The following Conditions of Sale will be strictly adhered to:—

1. All Tenders are to be sent in by February 12, in sealed envelopes, marked "TENDER."
2. The highest offer will be accepted, and the tenderer will at once be informed.
3. All lots are to be paid for within three days of acceptance of Tender, when the goods will be at once carefully packed on rail.

### "AMATEUR" SPAN-ROOF & LEAN-TO GREENHOUSES.



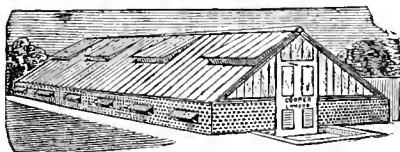
TENANT'S FIXTURES. EVERYTHING COMPLETE.

LOT.	Span-roof.	Wide.	Usual Price.
1 to 5	7ft. ... 5ft.	...	£2 16 0
6 to 8	8ft. ... 5ft.	...	3 10 0
9 to 10	9ft. ... 6ft.	...	4 0 0
11 to 14	10ft. ... 7ft.	...	5 0 0
15 to 25	12ft. ... 8ft.	...	6 0 0
26 to 32	15ft. ... 10ft.	...	8 10 0
33 to 36	20ft. ... 10ft.	...	12 0 0
37 to 42	25ft. ... 10ft.	...	17 0 0
43 to 45	30ft. ... 10ft.	...	20 0 0
46 to 49	10ft. ... 10ft.	...	59 0 0
50 to 56	30ft. ... 10ft.	...	20 0 0

LOT.	Lean-to.	Wide.	Usual Price.
56 to 64	7ft. ... 5ft.	...	2 8 0
65 to 87	9ft. ... 6ft.	...	3 10 0
88 to 76	12ft. ... 8ft.	...	5 10 0
77 to 81	15ft. ... 10ft.	...	8 0 0
82 to 86	20ft. ... 10ft.	...	11 10 0
87 to 91	25ft. ... 10ft.	...	16 10 0
92 to 95	50ft. ... 10ft.	...	28 0 0

### SPAN-ROOF FORCING HOUSE.



LOT.	Span-roof.	Usual Price.
96 to 101	20 by 9	£9 0 0
102 to 105	20 by 12	11 0 0
106 to 114	20 by 14	14 10 0
115 to 117	40 by 9	17 0 0
118 to 123	40 by 12	21 0 0
124 to 128	40 by 14	25 0 0
129 to 134	100 by 9	40 0 0
135 to 137	100 by 12	48 0 0
138 to 142	100 by 14	55 0 0

LOT.	Lean-to.	Usual Price.
143 to 145	20 by 9	7 10 0
146 to 147	20 by 12	9 10 0
148 to 150	20 by 14	12 10 0
151 to 152	40 by 9	14 0 0
153 to 154	40 by 12	18 0 0
155 to 156	40 by 14	21 10 0
157 to 158	100 by 9	33 0 0
159	100 by 12	40 0 0
160	100 by 14	47 0 0

Ventilating boxes for Side Walls ... 0 4 9

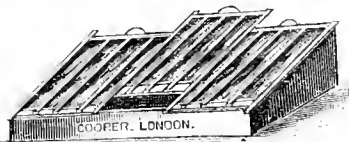
### COOPER'S HYGIENIC HEATER.

Burning Paraffin or Gas without smoke or smell. These Heaters are constructed as a means of Heating by Hot Air without the use of hot-water or fires.



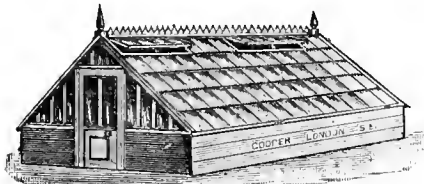
LOT.	No.	Usual Price.
222 to 231	0	£1 0 0
232 to 239	1	1 10 0
240 to 247	2	2 5 0
248 to 251	3	3 5 0
252 to 259	4	3 10 0
260 to 263	5	4 0 0

### MELON and CUCUMBER FRAMES.



LOT.	Usual Price.
356 to 371	1-Light Frame, 4ft. by 3ft. ... £9 18 0
372 to 385	2 " " " 6ft. by 4ft. ... 1 12 0
387 to 394	1 " " " 6ft. by 4ft. ... 1 10 0
395 to 397	2 " " " 8ft. by 6ft. ... 2 14 0
398 to 399	3 " " " 12ft. by 6ft. ... 3 15 0

### THE AMATEUR FORCING-HOUSE.

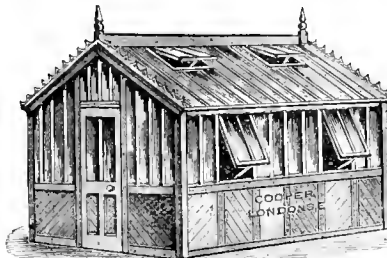


TENANT'S FIXTURE (SPAN-ROOF). EVERYTHING COMPLETE.

Packed and put on rail at following prices:—

LOT.	Length.	Width.	Usual Price.
264 to 265	7ft. ... 5ft.	...	£2 10 0
266 to 268	8ft. ... 5ft.	...	3 0 0
269 to 270	9ft. ... 6ft.	...	3 10 0
271 to 275	10ft. ... 7ft.	...	4 10 0
276 to 277	12ft. ... 8ft.	...	5 10 0
278 to 281	15ft. ... 10ft.	...	7 15 0
282 to 283	20ft. ... 10ft.	...	10 15 0
284 to 287	25ft. ... 10ft.	...	15 5 0
288 to 294	50ft. ... 10ft.	...	27 0 0
295 to 299	100ft. ... 10ft.	...	45 0 0

### SPAN-ROOF VILLA CONSERVATORIES.



LOT.	Long.	Wide.	Usual Price.
300 to 307	9ft. ... 8ft.	...	£7 10 0
308 to 317	12ft. ... 8ft.	...	10 0 0
318 to 324	15ft. ... 8ft.	...	12 0 0
325 to 328	20ft. ... 9ft.	...	16 16 0
329 to 334	25ft. ... 9ft.	...	21 0 0
335	50ft. ... 9ft.	...	49 0 0

21-oz. glass for roof 5 per cent. extra.

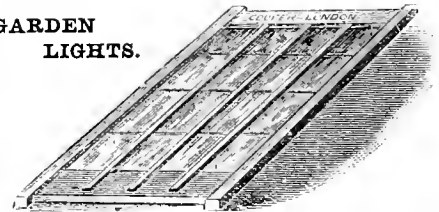
### THE RAPID PROPAGATOR.



The only perfect Propagator for raising plants from seeds, slips, or cuttings.

LOT.	Usual Price.
336 to 345	1 ft. 8 in. by 1 ft. 6 in. ... £1 5 0
346 to 349	2 ft. 6 in. by 1 ft. 10 in. ... 1 10 0
350 to 355	4 ft. by 2 ft. ... 3 0 0

### GARDEN LIGHTS.



Framework made of 2 in. by 2 in. stiles, and properly rabbeted for the glass, with good 2 in. sash-bars. The Glazed Lights are nailed and bedded in good oiled putty.

LOT.	Usual Price.
400 to 421	3 ft. by 2 ft., Painted and Glazed ... 5 0
422 to 433	4 ft. by 3 ft. " " with 21 oz. 7 6
434 to 499	6 ft. by 3 ft. 8 1/2 in. " " " " 10 6
500 to 517	6 ft. by 4 ft. " " " " 10 6
518 to 529	Good Sound Lights, 6 ft. by 3 ft. 9 in., Glazed 21 oz.; nearly new stiles, 2 1/2 in. by 1 1/2 in. 10 6
530	9 Unglazed Lights—4, 7 ft. by 4 ft.; 2, 8 ft. by 3 ft. 10 in.; 2, 4 ft. 10 in. by 2 ft. 10 in.; 1, 4 ft. 4 in. by 3 ft. 4 in. 45 0
	8 Glazed Lights—2, 4 ft. 4 in. by 3 ft. 4 in.; 1, 5 ft. 2 in. by 2 ft. 6 in.; 2, 5 ft. by 4 ft.; 3, 3 ft. by 2 ft. ... 60 0
531 to 537	Unglazed Lights, 6 ft. by 3 feet 8 1/2 in.; stiles, 2 in. by 2 in. ... 4 0

### GARDEN HAND FRAMES.

These Frames will be found to be very useful for protecting plants, seeds, slips, and cuttings, during the spring, which, if left uncovered, would probably fall victims to the extreme cold so prevalent in this country during that season.

Zinc open tops, with glass cut to sizes and zinc clips for glazing same.

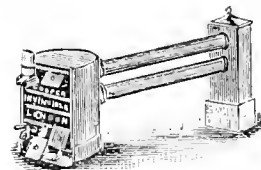
LOT.	Usual Price.
161 to 169	12 in. by 12 in. ... 7s. 6d. each.
170 to 175	14 in. by 14 in. ... 8s. 6d. "
176 to 181	16 in. by 16 in. ... 9s. 6d. "
182 to 191	18 in. by 18 in. ... 10s. 6d. "
192 to 203	20 in. by 20 in. ... 11s. 6d. "
204 to 215	22 in. by 22 in. ... 12s. 6d. "
216 to 221	24 in. by 24 in. ... 13s. 6d. "

### "INVINCIBLE"

### HOT-WATER APPARATUS.

MOST EFFICIENT AND CHEAPEST IN EXISTENCE.

Lot 538 to 552.



Requires no sunk-stoke-hole and no brick setting. Will last all night without attention. Will burn house cinders; therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed. No. 1 Boilers only, capable of heating 75 ft. 4-inch piping.

Usual price 55s.

Estimates for Complete Apparatus Free on Application.

### SPAN-ROOF POULTRY HOUSES.

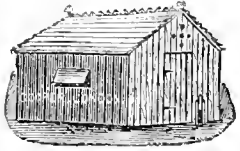
Made in sections, complete, with door inside and window at end, a flap at back for access to nest boxes, a raised floor about 2 feet from ground, so as to form a dry run underneath; nest, perch, ladder, &c.; painted one coat outside.



LOT.	Length.	Width.	Height of Ridge.	Usual Price.
553 to 559	4	4	6	£ 1 13 0
560 to 567	5	4	6	1 13 0
568 to 571	6	4	6	1 18 0
572 to 574	7	5	6 1/2	2 5 0
575 to 583	8	6	7	3 0 0

CONTINUED ON NEXT PAGE.

W. COOPER'S SALE BY TENDER—continued.

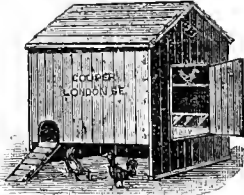


**MOVABLE POULTRY HOUSES.**  
(SPAN ROOF).

These houses are pretty in appearance. They are substantially constructed in sections.

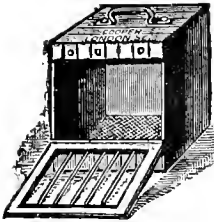
Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
584 to 587	5 ft.	4 ft.	6 ft.	3 ft. 6 in.	£1 5 0
588 to 593	6 ft.	4 ft.	6 ft.	3 ft. 9 in.	1 10 0
594 to 601	7 ft.	5 ft.	6 ft. 6 in.	4 ft.	1 16 0
602 to 611	9 ft.	6 ft.	7 ft.	4 ft. 3 in.	2 2 0

**SPAN-ROOF IMPROVED POULTRY-HOUSE.**



These Houses are very roomy and well ventilated, and specially constructed so that they may be easily taken to pieces or erected.

Lot.	Length.	Width.	Height.	To Eaves.	Usual Price.
612	5 ft.	4 ft.	8 ft.	5 ft. 6 in.	45s.
613	6 ft.	4 ft.	8 ft.	5 ft. 9 in.	50s.
614	7 ft.	5 ft.	8 ft. 6 in.	0 ft.	55s.
615	9 ft.	6 ft.	9 ft.	8 ft. 3 in.	83s.



**NEST BOXES.**

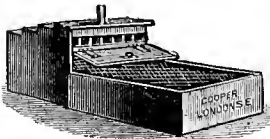
LOT 612 to 723.

This is the popular method of sitting hens, and should be universally adopted.

Usual Price, 4s. each.

**SAFETY CHICKEN COOP.**

These Coops are constructed upon the most improved principle, and are very neat in appearance.



Lot.	each.	Usual price
724 to 791	3 ft. movable wire runs	£0 5 8
792 to 800	3 ft. movable wire runs	0 4 0

**ROOFING FELT.**

PATENT ASPHALTIC. Rolls 25 yards, 32 in. wide.

Lot.	Per Roll.	Usual price
801 to 857	...	£0 4 8
858 to 874	...	0 5 0



**GALVANIZED CORRUGATED IRON ROOFING.**

LOT 875.

Best Quality, Perfect Slabs, 27 in. wide.

Usual Price.
3 ft. long ... .. 1s. 1d.
4 ft. long ... .. 1s. 5d.
5 ft. long ... .. 1s. 8d.
6 ft. long ... .. 1s. 11d.
7 ft. long ... .. 2s. 2d.
8 ft. long ... .. 2s. 6d.
9 ft. long ... .. 2s. 11d.
10 ft. long ... .. 3s. 8d.

Special Quotations for 2 Ton lots.

**CHAPEL or MISSION HALL.**



A handsome building with organ chamber, vestry and porch complete; neat in design, and cheap. Ventilation is here supplied through the upper portion of Windows at sides, being made to open and shut; also ventilators in roof. A circular window hung to swing in each gable end creates a through circulation of air.

Everything complete. Ready for erecting, Match Lining, Felt, &c.

Lot.	Usual Price.
876 ... 40 by 20	£140 0 0
877 ... 60 ,, 30	275 0 0

Several Small Mission Halls and Iron Buildings. Specification on application.

**GALVANISED PEA GUARDS.**

Usual Price... Lot 898. Per dozen £9 4 0

**LOAM-SUREY.**

LOT 903—Splendid Quality, full of Yellow Fibre. Usual Price ... Per Sack £0 2 6

**GALVANISED WIRE ARCHES.**

Lot.	Usual Price.
899—7 ft. by 4 ft. by 1 ft.	£0 5 0
900—Ditto ditto	0 6 0
901—Ditto ditto	0 7 0
902—Ditto ditto	0 9 6

**WILLIAM COOPER'S GENERAL POTTING COMPOST.**

LOT 904—Specially Prepared. Usual Price ... Per Sack £0 2 6

**WILLIAM COOPER'S CELEBRATED CHRYSANTHEMUM COMPOST.**

LOT 905. Usual Price ... Per Bushel £0 3 0

**WILLIAM COOPER'S PREPARED COMPOST FOR POTTING FERNS.**

LOT 908—Specially Prepared. Usual Price ... Per Sack £0 2 6

**WILLIAM COOPER'S PREPARED COMPOST FOR POTTING BULBS.**

LOT 907—Specially Prepared. Usual Price ... Per Sack £0 2 6

**LEAF SOIL, BEECH AND OAK, WELL DECAYED.**

LOT 908—Usual Price ... Per Sack £0 2 6

**IRON BUILDINGS.**

Wooden Framework, covered with Corrugated Iron, suitable for store room or workshop. Made in sections.

Lot.	Usual Price.
878—10 ft. by 8 ft., Complete	£7 0 0
878a—14 ft. by 10 ft.	11 0 0
878b—18 ft. by 12 ft.	16 0 0
878c—22 ft. by 14 ft.	22 0 0

**CRICKET PAVILION.**

WOOD FRAMEWORK COVERED WITH CORRUGATED IRON.

Lot.	Usual Price.
878d—10 ft. by 8 ft.	£7 0 0
878e—14 ft. by 10 ft.	11 0 0
878f—18 ft. by 12 ft.	16 0 0
878g—14 ft. by 10 ft. Complete with Flooring Joists, Matching, Felt, &c.	16 0 0

**PORTABLE IRON STABLE, COACH-HOUSE, and HARNESS ROOM COMBINED.**

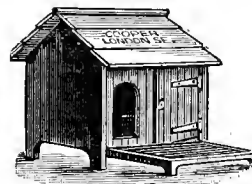
WOOD FRAMEWORK COVERED WITH CORRUGATED IRON.

Lot.	Usual Price.
878h—10 ft. by 8 ft.	£7 0 0
878i—18 ft. by 12 ft.	16 0 0
878j—22 ft. by 14 ft.	22 0 0
878k—40 ft. by 20 ft.	45 0 0
878l—Span Roof Corrugated Iron House, with Floor, Door, and Window, 12 ft. by 8 ft.	9 0 0

**PIGGERIES.**

Constructed of Galvanised Corrugated Iron, with timber uprights. Cheap, durable, and easily removed.

Size: 8ft. wide, 8ft. long, including 5ft. run. 878m— Usual price, £4 10s.



**PORTABLE DOG KENNEL. WITH PLATFORM.**

Securely packed and put on rail at the following respective prices:—

Lot. No.	Lgth.	Wth.	Hght.	Usual Price.
879a—1. Suitable for Terrier	2 5	1 8	2 5	16s.
879b—2. Collies, Retrievers, and Spaniels	3 6	2 3	3 4	26s.
879c—3. St. Bernards, Mastiffs, and Newfoundlands	4 6	2 6	4 2	36s.

**HANDSOME RUSTIC SUMMER-HOUSE.**

LOT 880—Made for Exhibition purposes, about 10 ft. square and 26 ft. high, complete, with Seats, Table, Curtains, &c. Erected in our Show Ground. Usual price £100.

**TIMBER DEPARTMENT.**

SPECIFICATION.

Materials required for Span-roof 100 feet by 12 feet Cucumber-house.

LOT 881 to 889—Best red deal, all planed, rabbetted, &c., ready for use. Door and Ventilators made.  
105 feet 1/2 by 8 Ridge.  
105 feet 1/2 by 4 Capping.  
230 feet 3 by 3 1/2 Plate.  
210 feet 3 by 3 Drip.  
4—8 feet 2 1/2 by 3 End Rafters.  
120—8 feet 1 1/2 by 3 Rars.  
15 Ventilators about 4 feet by 2 feet.  
15 Ventilators, Seats about 60 feet.  
1 Door and Frame, 6 ft. by 2 ft. 6 in.  
Packed free on rail. Usual price, £9 10s.

**ODD GREENHOUSES.**

ALL HOUSES ARE COMPLETE AS PER LIST.

LOT.	Usual Price.
890—Lean-to Greenhouse, 14 ft. by 9 ft., for Brick-work	£7 0 0
891—Span Roof (circular) Light Conservatory, 12 ft. by 8 ft.	12 10 0
892—Lean-to Greenhouse, 16 ft. by 10 ft., for Brick-work	8 5 0
893—Lean-to Greenhouse, 15 ft. by 8 ft., Door and 2 Ventilators in Front	15 10 0
894—Span Roof Greenhouse, 45 ft. by 10 ft., Portable Wood Bottom	28 0 0
895—Three-quarter Span Greenhouse, for Brick-work, 30 ft. by 10 ft.	23 0 0
896—Span Roof Greenhouse, 60 ft. by 10 ft., with 3 Partitions, making a Complete Range of Houses	50 0 0
897—5 Cucumber and Tomato Houses, 100 ft. long, 10 ft. wide, for 2 ft. Brickwork, Complete with centre Gutters, Top Ventilators, Doors, &c., &c., everything New and Complete, ready for erecting, good 21 oz. glass, nearly New, the lot	200 0 0

**THE ORIGINAL CELEBRATED ORCHID PEAT.**

ALL RICH BROWN PURE BRACKEN FIBRE. SELECTED TURVES, with Dust and Roots taken out. LOT 909—Usual Price ... 8s. per Sack.

**BEST BROWN FIBROUS PEAT.**

FOR HARDWOOD AND STOVE PLANTS. LOT 910—Usual Price ... 2s. 8d. per Sack. Special quotations for truck-loads, F.G.R.

**GOOD GENERAL PEAT.**

FOR FERNS, &c. LOT 911—Usual Price ... 2s. per Sack. Special quotations for truck loads, F.O.R.

**RHODODENDRON PEAT.**

LOT 912—Usual Price ... 2s. per Sack.

**SPECIAL OFFER OF**

**RICH BROWN LOOSE PEAT.**

Of the very best quality. All waste extracted. Ready for use.

LOT 913—Usual Price ... 2s. per Sack. Special quotations for truck loads, F.O.R.

**WILLIAM COOPER'S SUNSHADE.**

SUPERSEDES ALL OTHER PREPARATIONS OF THE KIND. LOT 914—Usual Price ... In Tins, 11lb., 1s.

**WILLIAM COOPER'S GENERAL FERTILISER.**

FOR FLORISTS, GARDENERS, AND AMATEURS. LOT 915—Usual Price, Tins, 4d.; 7 lb. Bags, 1s.; 14 lb. Bags, 2s.; 25 lb. 4s.

**SILVER SAND.**

(COARSE OR FINE.)

LOT 916—Usual Price, 2 cwt. Sacks, 3s. 3d.; 4 ton Truck on Rail, at Pit Loose, 27s.

**BEST COCOA-NUT FIBRE REFUSE.**

(Fresh and Clean.)

LOT 917—Usual Price, 1s. per Sack; in Truck, loose, free on Rail, over 2 tons, 30s.

**300 TAGANROG MATS.**

(Nearly New.)

LOT 918—Usual Price ... 2s. each.



**THE GARDENERS' CHRONICLE**

**PUBLISHER'S NOTICES.**

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

**ADVERTISEMENTS.**

**SCALE OF CHARGES FOR ADVERTISING**

HEAD LINE CHARGED AS TWO.			
4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.  
If set across two Columns, the lowest charge will be 20s.  
If set across three Columns the lowest charge will be 30s.  
Page, 2s; Half Page, 2s 10s.; Column, 2s.

**GARDENERS AND OTHERS WANTING SITUATIONS.**  
26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.  
Births, Deaths, and Marriages, 5s. each insertion.

**POSITION.**—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

**NOTICE TO ADVERTISERS.**—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.  
Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. A. STRATTON.

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Mr. Pascoe is now supplying his Celebrated  
**LARGE ANTHRACITE**  
**HORTICULTURAL COAL & 'COBBLES'**  
At Lowest Possible Prices for Cash.

ENQUIRIES SOLICITED.  
**T. T. PASCOE, COLLIERY OFFICE, Swansea.**



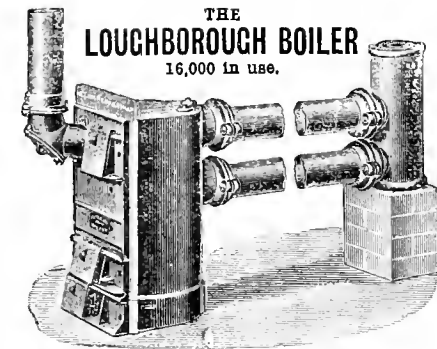
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21-oz. Foreign, of above sizes, in 200 feet boxes, 3rds and 4ths qualities.

English Glass, out to buyer's sizes at lowest prices, delivered free and sound in the country in quantity.

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**REDUCTION IN PRICES.**  
Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—  
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80 Gold and Silver Medals Awarded.  
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To be obtained of all Nurserymen and Florists.  
THE BEST AND CHEAPEST PROTECTION FOR GLASS AND PLANTS.

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(Trade supplied on best terms).

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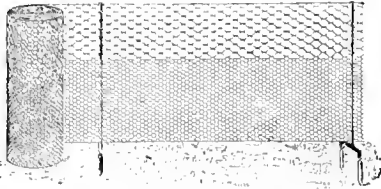
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Sample Bottle post-free for 9 Stamps.

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**The Best Present for a Gardener. VINES AND VINE CULTURE.**  
The most complete and exhaustive Treatise on Grapes and their Culture ever published.

Third Edition just out. Price 5s.; post free, 5s. 6d.  
A. F. BARRON, Royal Horticultural Society, Chiswick.

**GARDENING APPOINTMENTS.**

- MR. H. ELLIS, late Gardener to Sir W. BARTELD, Stopbam, Fulbore, as Gardener to W. STUBBS, Esq., The Laurels, Hastings.
- MR. F. G. MILLS, for the past three and a half years Gardener at Appleby Hall, Atherstone, as Gardener to the Right Hon. Lord HOWARD OF GLOSSOP, Derbyshire.
- MR. H. CHISHOLM, Junr., late Foreman at Oxen Hath Park, Tonbridge, as Gardener to Capt. HARCOURT ROSE, Beechlands, near Lewes, Sussex.

**CATALOGUES RECEIVED.**

- JNO. GREEN, 59, Norwich Street, Dereham, Norfolk—Plants, Seeds, and General Nursery Stock.
- JAS. YATES, 29, Little Underbank, Stockport—Seeds.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

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**PARTNERSHIP.**—Provincial Nurseryman, making extensions, seeks industrious practical Man, to take charge of Inside or Outside. Experience, capital, and particulars to HORTUS, Mr. Noble, Bookseller, Grimsby.

**WANTED, a Practical Nurseryman as PARTNER,** Inside and Out. Established business; capable of turning over a good profit. Applicants please state experience and capital at command.—R. F., 41, Wellington Street, Strand, W.C.

**TO FLORISTS.**—A well-known Dutch firm with numerous customers in Great Britain and Ireland, desire to APPOINT an AGENT who is an established Florist or Nurseryman to carry on the Bulb and Out Flower trade in London.—For further particulars apply to W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

**GARDENERS.**—WANTED, a WORKING FOREMAN, to take charge of Mushroom Houses 650 feet long, Hot-houses 250 feet long, Pits 300 feet long, and 2 acres of Nursery Ground for Evergreens, at Hanworth, near Richmond, Surrey. Must be sober, honest and industrious, with good references, and thoroughly up to the work. A good new cottage with small garden provided, but no other extras.—Apply by letter only, marked "Private," stating fully past experience, age, number in family, and salary required, to W. WHITELEY, Westbourne Grove, London.

**WANTED, February 21, a GARDENER (HEAD WORKING),** active and useful; no children; three under him; some Market work. Age 30 to 40; must be first-rate Vegetable Grower, and have excellent personal character. Wages 25s., coal, vegetables, and excellent cottage.—Full particulars to MISS JEKYLL, Munstead Wood, Godalming.

**GARDENER.**—WANTED, a thoroughly good experienced MAN as SECOND of four. One who understands glass; married, without children, preferred. To live in entrance lodge.—State wages and full particulars to JAMES WORRALL, Esq., The West Hall, High Leigh, Knutsford.

**FOREMAN, WANTED a good man.**—Must be a good Plantsman and Fruit-grower under Glass, and have a good knowledge of Orchids.—G. W. MARSH, Arle Court, Cheltenham.

**WANTED, Feb. 29, MAN and WIFE as working GARDENER and LAUNDRESS.** Gardener must be a good all-round man and able to grow Melons, Cucumbers, and Tomatoes successfully. Assistance given. Good character indispensable. Reply, stating wages, to—S. C. GALPIN, Mackerye End, Harpenden, Herts.

**WANTED, a thoroughly experienced young MAN,** who is well up in growing Cucumbers, Tomatoes, Mushrooms, and Chrysanthemums. Wages, 21s. per week. Situation lasting, and more wages paid, if to satisfaction.—Apply, and send references, to LIZZOW AND KROLOW, The Albert Nurseries, 256, Peckham Bye, S.E.

**WANTED, a young MARRIED MAN,** well up in Kneifing, Budding, Grafting, and General Outside Nursery Work, to act as Timekeeper and assist under Manager at Windesham Nurseries, Bagshot. Good house to live in.—State particulars and wages required, to W. FROMOW AND SONS, Sutton Court Nurseries, Chiswick, W.

**WANTED, MARRIED COUPLE,** to live in Lodge and attend to Gate. Man must have good knowledge of Pleasure-ground Work, and not under 35 years of age. Wages, 18s. per week, and 15s. quarterly allowance for fuel. Apply by letter, with copy of testimonials only (Churchman), to J. WOOD, Hedsor Park, Maidenhead.

**WANTED, a MARRIED MAN** without family as Gardener, to attend to Kitchen and Flower Garden, and two small Greenhouses in Cheshire. Wages about 24s., with House on the Premises.—Apply by letter to W. STEVENS, Waltho Grange Garden, Stone, Staffordshire.

**WANTED, TWO good CUCUMBER GROWERS.** Constant employment for competent men.—Apply to ASHWOOD, Chesswood Road, Worthing.

**WANTED, energetic JOURNEYMAN,** hard-working. Must be well up in Plants. Age about 25. Private place. Must be competent. Apply with reference, wages required, with bothy.—W. DENNING, Porters, Shenley, Herts.

**WANTED, TWO young MEN** for the Houses principally (Orchids and Fruit). Wages, 15s. per week. No bothy.—E. AYLING, The Gardens, Forty Hill, Enfield.

**WANTED, TWO MEN** accustomed to Market Nursery work. Must be quick at Potting and Tying. Wages 20s. per week.—Apply, stating age, with references, to WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

**WANTED, young MAN,** good General Plant Hand, used to Nursery Work, Tomatoes, Chrysanthemums, Bedding Plants, &c. Only those with good characters as to ability need apply.—DAPHNE, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

**YOUNG MAN REQUIRED** in Glass Department of Nursery; must have had good experience in growing Cucumbers, Tomatoes, Grapes, Plants, and Cut Flowers. Capable of taking charge in absence of Foreman. References and wages required to—ARABIN, Belmont Nurseries, Portwood, Southampton.

**WANTED, reliable experienced single MAN** for Orchids, Stove Plants, small Lawn, and Kitchen Garden. State wages, and send references to—Dr. SLATER, Lytham.

**WANTED, SINGLE MAN,** for Outdoors, and to assist in Houses as required, in small Nursery and Market Garden.—Apply, full particulars, wages required, Ashton Keynes Nursery, Park Lane, Tottenham, Middlesex.

**WANTED, a young MAN,** for Inside and Out, where Vines, Cucumbers, and Tomatoes are Grown.—Age and wage to S. G. RANDALL, The Nurseries, Skegness.

**WANTED, at once, a young MAN, married,** with a general knowledge of Nursery and Jobbing Work; also Cucumbers and Tomatoes.—Apply, giving particulars and wages expected, three rooms on the premises, to C. PADLEY, 104, Southbridge Road, Croydon.

**WANTED, NURSERY LABOURER,** for Nursery and Farm. Strong, active Man, accustomed to Planting and Growing Nursery Stock; married, and one who could do Copek Work preferred. Cottage on farm.—State age, references, &c., to EDWIN HILLIER, Nurseries, Winchester.

**WANTED, a strong, active YOUTH as APPRENTICE.**—Age not under 17, having had some knowledge of Gardening. Wages to start with, 12s. per week; bothy, milk, and vegetables. Premium required.—F. GIBSON, The Gardens, Lyme Park, Disley, Cheshire.

**A WELL-EDUCATED YOUTH** can be received as an APPRENTICE to the Nursery and Seed Trade. Board and residence. Premium.—D. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

**YOUNG LADY WANTED under Manager** in Florist's and Fruiterer's; must have good taste in making up, and knowledge of English Fruit Trade. Particulars to—ARABIN, Belmont Nursery, Portwood, Southampton.

**WANT PLACES.**

*Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.*

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

**Gardeners, Farm-Bailiffs, Foresters, &c.**

**DICKSONS, Royal Nurseries, Chester,** are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

**RICHARD SMITH AND CO.** wish to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**B. S. WILLIAMS AND SON** beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

**To Noblemen, Ladies, or Gentlemen.**

**ROBERT STANLEY,** for the last fourteen years HEAD GARDENER and FORESTER to General Pitt-Rivers, D.C.L., &c., at Rushmore, Salisbury, previously seven years at Syon House, Brentford, Middlesex, will be pleased to treat with either requiring the services of a thorough practical Man. Has had exceptional experience in everything belonging to a large estate, especially in Planting, Road-making, Lining-out Grounds, and the Superintendence of a large Staff of Men.—ROBERT STANLEY, Woodcutts, Salisbury.

**GARDENER (HEAD).**—Age 31; thoroughly experienced Fruit Grower. Stove, Greenhouse, Orchids, Chrysanthemums, good Flower and Kitchen Gardener. Excellent testimonials. Strongly recommended.—HIGNETT, Brough Road, Winshill, Burton.

**GARDENER (HEAD), or GARDENER and ESTATE BAILIFF.**—Age 40, married. Thoroughly experienced in all kinds of Estate Work, including Repairs, Forestry, &c., early and late Forcing, Landscaping, Flower and Kitchen Gardening. Good character. Eoergetic.—The Conservatory, Belsize Park Gardens, N.W.

**GARDENER (HEAD),** age 34.—A Gentleman very strongly recommends his Head Gardener to any Lady or Gentleman requiring the services of a thorough, practical and energetic Man.—A. SHEPPARD, Gardener, Forest Hill, Ongar.

**GARDENER (HEAD).**—Age 28; thoroughly practical in all branches. Leaving through place being sold. Five years' excellent character; ten previous; ab-stainer.—LAMPARD, Mosses Cottage, Broome Hall, Dorking.

**GARDENER (HEAD);** age 30.—CHAS. HORN seeks situation as above. Over three years General Foreman at Temple House Gardens; previously four years Foreman at Spye Park, Wilts. Excellent references. Strongly recommended by O. Groves (Head Gardener), Temple House Gardens, Great Marlow, Bucks.

**GARDENER (HEAD).—£3 to any Nurseryman or Gardener giving information leading to Advertiser securing a situation as above. England, west or south-west.—AWOOCK, Formosa, Cookham.**

**GARDENER (HEAD); age 37, no family.**—A Gentleman with confidence recommends his Gardener for seven years. Life experience in large places. Excels in Orchids, Roses, Fruit, Chrysanthemums, and is a good all-round man.—B., 3, Gardener's Cottages, Swain's Lane, Highgate.

**GARDENER (HEAD), age 30.—Mr. HOWK,** Gardener to Henry Tate, Esq., Park Hill, Streatham, wishes to recommend his General Foreman, Thomas Martin, who has been with him five years. Has a thoroughly practical knowledge of Fruit and Plant Growing, including Orchids, Chrysanthemums for exhibition, Flower and Kitchen Gardening, House and Table decorations. Life experience.

**GARDENER (HEAD).—T. JONES,** Albany Cottages, Reading Road, Fleet, Hants, for many years with the late Lord Calthorpe; two and half with present, is open to engage with any Lady or Gentleman requiring the services of a Head Gardener: life experience, and thoroughly practical; reference kindly permitted to the Rt. Hon. Lord Calthorpe, Elvetham Park, Winchester, Hants.

**GARDENER (HEAD), in a good establishment.**—Age 30; six years in present situation as General Foreman; thoroughly experienced in early and late Forcing, Flower and Kitchen Gardening; excellent character.—E. HOLLOWAY, The Gardens, Hartham Park, Corsham, Wilts.

**£5 BONUS offered for information which will lead to Advertiser securing a situation as HEAD GARDENER in a good Establishment. Excellent references.**—N., 37, Nicholas Road, Upper Holloway, London, N.

**GARDENER (HEAD), age 31, married, two children, seeks re-employment.** Life experience; good references from large establishments. Three and a half years with present employer.—W. BUCKETT, Cockfosters, New Barnet, Herts.

**GARDENER (HEAD).—29;** life experience in good all-round Gardening. Last few years as Foreman. Good references.—J. W., 1, Well Road, Hauppstead, N.W.

**GARDENER (HEAD), where four or more are kept.—Married.** Experienced in all branches Inside and Out; Early and Late Forcing. Over seventeen years in present situation, leaving through death in family. Good character.—Z. KEEN, Howbery Farm, Crowmarsh, Wallingford.

**GARDENER (HEAD WORKING); age 31.—**THOS. H. DAVIS, Gardener to G. M. Harsey, Esq., The Borne, Wiford, Ware, Herts, can very highly recommend his Foreman, H. OGLE, to any Lady or Gentleman requiring a thorough practical Man in all branches. Sixteen years' experience, with excellent character.

**GARDENER (HEAD WORKING); age 35** married, no family.—GENERAL T. E. WEBSTER wishes to recommend his Gardener; has been in his service four and a half years. Experienced in all branches.—W. PAYNE, The Lodge, Bournhurst, Horley.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 27, married when suited;** life experience in good all-round Gardening. Excellent references. Disengaged on February 23. Churchman.—M., 135, New Park Road, Brixton Hill, S.W.

**GARDENER (HEAD WORKING, or OUT-DOOR FOREMAN).—Age 30, married;** life experience Inside and Out; good characters from late employers.—F. W., Mr. Dollings, Church Lane, Edgware, N.

**GARDENER (HEAD WORKING).—Age 36,** married, no family. Twenty years' thorough practical experience in Early and Late Forcing, and the general requirements of a good Establishment. Four years' good character.—T. P., The Lodge, Normansfield, Hampton Wick, Middlesex.

**GARDENER (HEAD WORKING), where three or more are kept.—Age 35, married;** thoroughly experienced in Fruit, Orchids, Stove, Conservatory, and Herbaceous Plants, Forcing, Kitchen Garden, &c. Eight years in last place. Excellent references.—J. CLUTSON, Tutshill, Chepstow.

**GARDENER (HEAD WORKING).—Age 33,** married; life experience in all branches. Excellent testimonials from last and previous employers. At liberty on Feb. 24.—UNDERWOOD, Gardener's Cottage, Dalby Road, Melton Mowbray.

**GARDENER (HEAD WORKING).—Age 30;** thoroughly understands the Early and Late Forcing of Fruit, Flowers, and Vegetables, also Orchids. Abstainer. Well recommended. State wages.—GARDENER, Bidborough, Tunbridge Wells.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED), abstainer, age 26.—A Lady** wishes to recommend her present Gardener as above. Thoroughly experienced in Orchids, Stove and Greenhouse Plants, Vines, Peaches, Melons, Cucumbers, and Tomatoes.—W., Thornby Hall Gardens, Rugby.

**GARDENER (HEAD WORKING).—Age 47,** married, no family; life experience in good establishments; thoroughly efficient in all branches. Good testimonials.—LOCKYER, Rose Terrace, Junction Road, Burgess Hill, Sussex.

**GARDENER (HEAD WORKING).—Age 36,** married, no family. Wife thoroughly experienced laundress. Nineteen years' good, practical experience; good character.—H. BROOKES, Mackrily End, Harpenden, Herts.

**GARDENER (HEAD WORKING).—Age 32;** thoroughly experienced in all branches, including Orchids, Stove and Greenhouse Plants, Vines, Peaches, Melons, Tomatoes, &c., with Flower and Kitchen Garden. Fifteen years' excellent character.—J. BROOKS, Hallow, Worcester.

**GARDENER (HEAD WORKING).—W. H. J. QUINTIN, Esq.,** wishes highly to recommend his present Foreman, J. Phillips, as above. Age 28, married, one child. Experienced in all branches, Orchids included.—Scampston Hall, York.

**GARDENER (HEAD WORKING), age 30.—**WILLIAM COLLETT, Head Gardener, Sudbourne Hall, Wickham Market, Suffolk, would be pleased to recommend his Foreman, who has been with him two years, to any Lady or Gentleman requiring the services of an experienced steady man; address as above.

**GARDENER (HEAD WORKING or good SINGLE-HANDED).—Thoroughly experienced in all** branches, including Orchids, Stove and Greenhouse Plants, and all Fruits under Glass, &c.—Apply in first instance, to F. Mrs. Heath, Stationer, Chesnut, Herts.

**GARDENER (SINGLE-HANDED, or where help is given).—A Gentleman** wishes to highly recommend his late Gardener as above. Thirteen years' excellent character. Address in first instance to—W., Reading Rooms, Englefield Green, Staines.

**GARDENER (SINGLE-HANDED, or SECOND of five or six).—Age 26, married when suited;** twelve years' practical experience Inside and Out; excellent reference.—HAZELTON, Castle Hill Gardens, Rotherfield, Sussex.

**GARDENER (SINGLE-HANDED).—Age 25,** abstainer. Thoroughly practical; almost three years in present situation. Excellent characters from two previous employers.—GARDENER, 12, Colmer Road, South Streatham.

**GARDENER (SINGLE-HANDED, or otherwise).—Age 27;** thirteen years' experience in Plant and Fruit-houses, and the general routine of Gardening.—A. F., Elmstead, Chislehurst.

**GARDENER (SINGLE-HANDED, or where help is given).—Age 29, single;** total abstainer. Good character. Life experience.—A. LOVE, Rughfield Hill, near Mortimer, Berks.

**GARDENER (SINGLE-HANDED, or where help is given).—Age 25, single.** Good practical experience in all branches in good gardens. Abstainer; ten years' excellent references.—S., 19, Lordship Road, Church Street, Stoke Newington, N.

**GARDENER (SINGLE-HANDED).—Middle** age, no children; good all round. Wife could assist in House or Dairy. Abstainer. Good character.—W., 12, Bexley Road, Erith.

**GARDENER (SINGLE-HANDED, or with help).—**Good practical all-round experience. Highly recommended. Ten years with present employer.—C. SANFORD, The Gardens, Chedington Court, Crewkerne.

**GARDENER, where three or more are kept.**—Age 30, married, one child. Mr. GARMAN, Manager, Frythesden Gardens, Great Berkhamstead, can highly recommend his Foreman, CHARLES HOWARD, to any Lady or Gentleman requiring the services of a Gardener. Sixteen years' experience in all branches.

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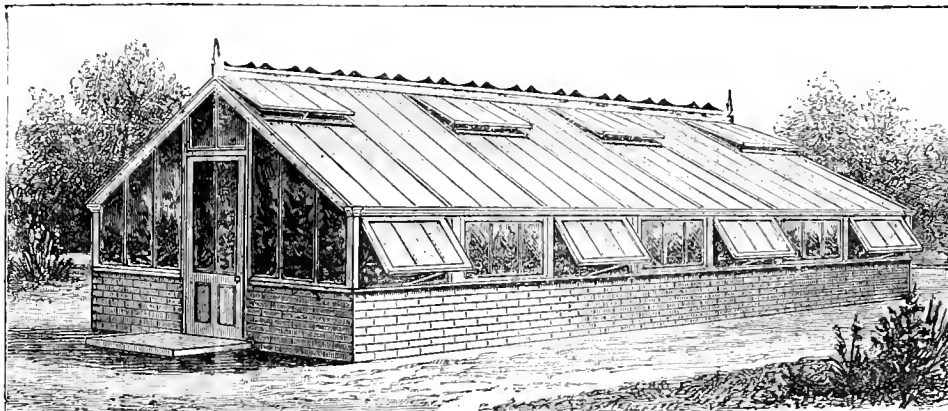
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# The GARDENERS' CHRONICLE

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## CONTENTS.

Arbor Day in Japan ...	204	Orchid notes and gleanings ...	197
Bamboos, Japanese names of ...	208	Orchids, natural hybrid ...	198
Begonia Ortigiesii ...	207	Orchids at Kew ...	195
Books, notices of—		Pear, Beurré Ferran ...	209
Botany of Yakutat Bay, Alaska ...	206	Plants, new or noteworthy—	
Maldives des Plants, &c. ...	207	Odontoglossum crispum var. Ashworthianum ...	196
Orchid Hybridists' Handbook ...	206	Rhododendron Nuttall ...	208
The structure and development of Mosses and Ferns ...	206	Royal Horticultural Society, Annual Meeting of the ...	204, 211
Coprosma Barriana, propagation of ...	207	Scilly, flowers in ...	206
Crocus Crewelli ...	208	Society of Arts, the ...	205
Cyrtopodium at Kew ...	204	Societies—	
Daffodils appearing blind ...	208	Cairo Horticultural ...	205
Dasyliion acrotrichum ...	204	Cercle Horticole Van Houtte ...	205
Erica Wilmoreana x ...	200	Ealing Gardeners ...	205
Farmers and fruit-growing ...	208	Ghent Horticultural ...	207
Forestry ...	200	National Chrysanthemum ...	208
Frost of 1895, the great, at Kew ...	196	Nationale d'Horticulture de France ...	200
Fruit-preserving in the Crimea ...	198	Reading Gardeners' Mutual Improvement ...	206
Garden, the, in relation to the house (Society of Arts) ...	205	Royal Horticultural ...	204, 210
Gardeners and steam-engines ...	207	Stocktaking ...	205
Gardener's requirements, a trade ...	208	Strawberry Louis Gauthier ...	199
Jamaica, a collecting tour in ...	197	Trees and Shrubs—	
Jasmine, common, fruiting in Kent ...	205	Crataegus tanacetifolia ...	200
Lily, another edible ...	209	Thunia orientalis pendula ...	200
Narcissus for forcing ...	208	Weather, the ...	202
Nursery notes—		Week's work, the ...	203
Primulas at Swanley ...	208	Flower garden, the ...	203
Obituary ...	209	Fruits under glass ...	203
		Hardy fruit garden ...	202
		Kitchen garden, the ...	202
		Orchid houses, the ...	202
		Plants under glass ...	203

## ILLUSTRATIONS.

Dasyliion acrotichum in the Conservatory at Corsbie, Newton Stewart, N.B. (Supplement) ...	201
Erica Wilmoreana x ...	201
Odontoglossum crispum var. Ashworthianum ...	197
Pear Beurré Ferran ...	209

## NOTICE TO ADVERTISERS.

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**ASPARAGUS, for Forcing.**—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.  
J. J. CLARK, Market Gardener, Goldstone, Brighton.

**SUTTON'S ROYAL FAVOURITE MELON.**  
—Mr. C. Brooks, The Gardens, Red Rice, says:—"Royal Favourite is a really grand Melon. The plant has a very robust constitution, is a free setter, and produces a splendid crop of large fruit. The flesh is white, exceedingly deep, and of splendid flavour. Fruit densely netted with a fine net."

**SUTTON'S ROYAL FAVOURITE MELON.**  
—Price of Seed, 2s. 6d. per packet, post-free.

SUTTONS' SEEDS, GENUINE ONLY DIRECT FROM  
**SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.**

**SUCCESSFUL GARDENING.**—If you wish success in keeping a Garden, or as a Competitor, procure a copy of Dobbie's Catalogue and Competitors' Guide, 180 pages, Illustrated. Full Catalogue Directions for Flowers and Vegetables. The Book free by Parcel Post for 6d.  
DOBBIE AND CO., Seed Growers to the Queen, Rothesay.

**NOW is the TIME to PLANT PEONIES and DELPHINIUMS.**  
Catalogue of KELWAY AND SON, Langport, Somerset.

**LARGE PALMS & DECORATIVE PLANTS.**  
Immense Stock.  
All sizes up to 20 feet for Sale or Hire.  
Inspection Invited. Prices on Application.  
B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Demy quarto, printed on fine paper in grey, gilt top.  
Price, £1 11s. 6d.

**THE ART and PRACTICE OF LANDSCAPE GARDENING.** By H. E. MILNER, A.M.I.C.E., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & CO., Ltd.

**SELECTED SEED POTATOS, all hand-picked tubers.**—For the best and most reliable varieties, see our Illustrated CATALOGUE OF GARDEN SEEDS, No. 459, post-free on application.  
DICKSONS, Seed Growers, CHESTER.

**CHOICE GERMAN FLOWER and VEGETABLE SEEDS.**  
CATALOGUES free on application.  
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

**PRIMULA SIEBOLDI.**—My collection of these fine Spring-blooming Plants consists of all the newest and rare varieties. List of sorts on application.  
HY. BROWNHILL, Seed Stores, Sale, Cheshire.

**CARNATIONS! NEW 'MALMAISONS'!**  
JAMES DOUGLAS, the noted Carnation Specialist, is now sending out plants, well established in pots, from his unrivalled collection of 20,000 plants.  
**CARNATION SEED**—Saved from the best named varieties at Bookham, 1s. 6d. to 2s. 6d. per packet.  
Catalogues on application.—Great Bookham, Surrey.

**TOMATO PLANTS, Chemin Rouge, strong plants, showing flower bracts in 80's, 20s. per 100; smaller plants, fit for planting out in 60's, 16s. per 100.**  
W. WHITELEY, The Nurseries, Billington Heath, Uxbridge.

**CUCUMBER SEED.**—True Rookford's variety; 28,000 Seeds sold last year. We now offer it at 2s. 8d. per 100; lower quotation per 1000.  
HAMLIN AND FULLER, Bletchley, Bucks.

**Extra Strong Ivy.**  
B. S. WILLIAMS AND SON have a remarkably fine stock of extra strong IRISE IVY, with many shoots, in pots.  
Victoria and Paradise Nurseries, Upper Holloway, N.

**WANTED, large CAMELLIAS** which have outgrown their Conservatory; also Sikkim Rhododendrons, Azaleas, Aralia Sieboldi, Chamaerops, O. GOLDSMITH, Leonardlee, Horsham.

**WANTED, in Exchange for Dwarf H.P. ROSES,** also Tea, true to name, CARNATIONS, CHRYSANTHEMUMS, and CLEMATIS, all good varieties.  
M. PAYNE, Clapton Nursery, Clevedon.

**BARR'S SEEDS.—UNEQUALLED.**  
VEGETABLE SEEDS, best in the world for growth. FLOWER SEEDS.—Upwards of 2000 species and varieties. BULBS.—Oladoli, Lilies, Anemones, Ranunculus, Tigridias, &c. PLANTS.—Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets.  
DESCRIPTIVE CATALOGUES of above sent free on application.  
BARR AND SON, 12, King Street, Covent Garden, London.

**LILIAM AURATUM.**—Importation just to hand in splendid condition; good flowering bulbs, 4s. per dozen; magnificent bulbs, 8s. per dozen, packed free for cash with order.—H. HEADLAND & CO., Old Road, Gravesend.

**PALMS, CORYPHAS and LATANIAS** from Stores, 10s. per 100. Cash or exchange for Carnations, Pelargonium Cuttings, or Bedding Geraniums.  
F. ROSS & CO., Merstham, Surrey.

**THE RAJAH EARLY POTATO.**—Ten days earlier than Sharpe's Victor. Very prolific. Price, 3s. per stone. Trade price on application.  
J. E. DIXON, Seed Merchant, Gainsborough.

**NEW HARDY PLANTS!!!**  
A splendid set of Novelties, many now offered for the first time. Also CARNATIONS, BEGONIAS, and many other popular favourites. Catalogues free.—PERRY'S HARDY PLANT FARM, Winchmore Hill, London, N.

**PLANTS (all kinds of Cabbage, Cauliflower, Onions, &c.) SEEDS (Vegetable);** Seed Potatoes, Sharpe's Victor, Duke of Albany, Jeanne Deans, Garton, &c., Scotch grown, by Scarlett, Musselburgh. Large quantities, low quotations. For Priced List—SCARLETT, Market St., Edinburgh.

**CARNATIONS.**—For full particulars of the best-certificated Grand New CARNATIONS Buccleuch Clove and Yuletide, and every other variety of merit, see FORBES' new descriptive Illustrated priced CATALOGUE for 1895, 148 pages. Free on application.  
JOHN FORBES, Hawick, Scotland.

To the Trade.  
**SEED POTATOS.**

H. AND F. SHARPE are prepared to give special quotations for their fine selected Stocks, and well-dressed samples of SEED POTATOS, comprising all the best varieties in cultivation, and including an extra selected Stock of the Yellow-fleshed SHARPE'S VICTOR. Prices for large and small quantities will be found very advantageous to purchasers, and may be had on application.  
SEED GROWING ESTABLISHMENT, WISEBECH.

**FERNS and DECORATIVE PLANTS!**—(TRADE).—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 4½", 10 best selling sorts, 6s. doz.; strong seedlings, 8s. 100, 50s. 1000; Adiantum cuneatum, in 4½", for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, Solanums, in 4½", 6s. doz.; Marguerites, Genistas, Erica gracilis, in bloom, in 4½", 9s. doz.; Ficus, Palms, Dracaenas, Crotons, Cinerarias, Spiraeas, Erica hyemalis, and Cyclamen, in bloom, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

**FOWLER'S MEALY-BUG DESTROYER.**  
—It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.—CORY & CO., Ltd., E.C. Sold by all Seedsmen.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, ½ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid, Cash with order.—C. HEESON, Bone Works, St. Neot's, Hunts.

**HORTICULTURAL BONES.**—Pure Bones, H in ½, 1-inch, and meal, specially prepared. For particulars and price apply to—  
E. S. WILES AND LEWIS, Bone Works, St. Albans.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc. Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W., Telegraph Address, "Hortulanus, London." Telephone, No. 8728.

**SALES BY AUCTION.**

**Monday Next, February 17.**

AMERICAN PEARL TUBEROSES, GLADIOLI, brilliant scarlet; GLAD. GANDAVENSIS Hybrids, SPIRÆA JAPONICA, DOUBLE PÆONIES, LILY OF THE VALLEY, BEGONIAS, TIGRIDIAS, LILIUM BROWNII, CARNATIONS, HOLLYHOCKS, IRIS, and ANEMONES; 300 Dwarf ROSES, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 17, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Tuesday Next, February 18.**

SPECIAL SALE OF CARNATIONS (the newest and best varieties); new VIOLETS, VIOLAS, hardy CYPRIPEDIUMS, IRIS, CALOCHORTI, BEGONIAS, TIGRIDIAS, HOLLYHOCKS, LILIUMS, in great variety; and a great assortment of rare HARDY PLANTS, HERBACEOUS PLANTS, 300 DWARF ROSES, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 18, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Wednesday Next, February 19.**

Enormous Consignment of—

**740 CASES OF JAPANESE LILIES,**

The Cases have just been opened, and are turning out in really magnificent condition.

THE IMPORTATION COMPRISES—

37,330	LILIUM AURATUM	RUBRO-VITTATUM
490	"	PICTUM
50	"	MACRANTHUM
3,285	"	SPECIOSUM ALBUM:
2,960	"	RUBRUM
3,259	"	TIGRINUM FLORE-PLENO
1,800	"	ELEGANS, BEST RED
600	"	ORANGE
300	"	LEICHTLINI, YELLOW
500	"	MELPOMENE
1,242	"	KRAMERI
1,169	"	DAVURICUM
600	"	CORDIFOLIUM
950	"	BROWNII.
280	"	

**15,000 GLADIOLUS BRECHLEYENSIS**

4000 American Dwarf Pearl TUBEROSES; 5000 Choice Hybrid GLADIOLI; 2000 Choice BEGONIAS; 250 Double PÆONIES; 150 LILY OF THE VALLEY Clumps; LILIUM COLCHICUM; 600 SPIRÆA ASTILBOIDES, JAPONICA and COMPACTA; Brown FIBROUS PEAT; LEAF MOULD.

50 LOTS of Specimen and other PALMS, DUTCH BULBS, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 19, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Thursday Next, February 20.**

300 DWARF ROSES, STOVE and GREENHOUSE PLANTS, LILIUM AURATUM, ROSEUM, BROWNII, and UMBELLATUM, LILY OF THE VALLEY, SPIRÆAS, GLADIOLI, TUBEROUS BEGONIAS, HARDY BORDER PLANTS and BULBS, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 20, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Friday Next.**

By order of Messrs. W. L. Lewis & Co.

**MESSRS. PROTHEROE AND MORRIS** will sell by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 21, at half-past 12 o'clock, choice imported ORCHIDS, comprising—

21 ODONTOGLOSSUM HUMEANUM, O. aspersum, and varieties.

7 LÆLIA ALBIDA BELLA, monster masses, in grand condition.

30 ODONTOGLOSSUM ROSSII RUBESCENS, specially selected varieties.

50 ODONTOGLOSSUM MACULATUM, anceps, and Dominian types, and other Orchids. Also—

6 LÆLIA ELEGANS, from the gardens of a wealthy Brazilian, in consequence of whose death his executors instruct us to sell. And—

7 good plants of the extremely rare and beautiful CATTLEYA RESPLEDENS, a supposed natural Hybrid between O. granulosa and O. Schilleriana.

CYPRIPEDIUM NIVEUM, LÆLIA ANCEPS ALBA, from the late Pickering Lodge Collection, &c.

On view morning of Sale, and Catalogues had.

**Friday Next, February 21.**

IMPORTANT SALE OF HARDY PERENNIALS, EXHIBITION HOLLYHOCKS, PANSIES, IRIS, CYPRIPEDIUM SPECTABILE, LILIUMS in variety, ANEMONES, TIGRIDIAS, MONTBRETIAS, BEGONIAS, GLOXINIAS, DAHLIAS, CLEMATIS, TEA and other ROSES, CARNATIONS (new and old varieties), PINKS, PHLOXES, Double and Single PEONIES, AMARYLLIS, 300 DWARF ROSES, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, FEBRUARY 21, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Friday Next, February 21.**

By order of Mr. P. McArthur, The London Nurseries, Maida Vale, W.

A magnificent importation of

**CATTLEYA PERCIVALIANA AUTUMNALIS** (new).

Quite distinct from the ordinary type. My collector writes:—"Found on a mountain at an altitude of 2,500 feet, and has never been introduced into Europe before. This is the scarcest of all Cattleyas in Venezuela, and the most difficult to get. I had to cut my way through woods that were almost inaccessible. This collection is the richest in colour I have ever found, and cannot be too strongly recommended."

Also some extra good plants of

**CATTLEYA ELDOBRADO SPLENDENS,**

And a grand lot of

**ONCIDIUM PAPILO MAJUS,**

richly spotted variety. Some

**NEW CATASETUMS and ANGILOA RUCKERII.**

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 21, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

**Thursday Next.**

By order of Messrs. LINDEN, Brussels

A MOST IMPORTANT SALE

of the

**OLD CATTLEYA LABIATA,**

Synonym CATTLEYA VAROQUEANA.

A grand new importation, in very fine order, having been collected in the same district from whence Messrs. Linden first re-discovered and re-introduced their unrivalled and unapproachable type of this famous Cattleya.

Many remarkable distinct masses are included in this consignment, which promise to surpass those wonderful forms already known and distinguished.

Linden's type of Cattleya labiata is universally acknowledged and proclaimed to be the finest and grandest of this most magnificent and kingly of all Cattleyas.

The plants are in magnificent order and condition.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 20, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

**Monday, February 24.**

**A SPECIAL SALE OF FIRST-CLASS PERENNIALS.**

Many scarce varieties being offered, consisting of Aquilegias, Dictamnus, Poppies, Campanulas, Helianthus, Primulas, Hepaticas, Tritomas, Gaillardias,

CARNATIONS, PICOTEES, PINKS, EXHIBITION HOLLY-HOCKS, DELPHINIUMS, PHLOXES, PYRETHRUMS,

PÆONIES, Double and Single Pansies, &c.

A Grand Collection of IRIS, GERMANICA, KEMPFERII, and other varieties; hundreds of GLADIOLUS, Brechenleyensis, Gandavensis, Lemoinei, and Bimous sections.

ANEMONES, TIGRIDIAS, and MONTBRETIAS, BEGONIAS, Double and Single, from an unrivalled Collection.

DAHLIAS (pot-roots), consisting of Cactus, Singles, and Pompons; CLEMATIS and Hardy Climbers; Tea and other ROSES. Also, Importations from the Caucasus and the Western States, and a quantity of HOME-GROWN LILIES, comprising all the finest varieties.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, February 24, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

To Market Gardeners, Florists, &c.

**MR. G. P. A. ROBINSON** will sell by PUBLIC AUCTION, at the Western Hotel, Penzance, on SATURDAY, February 22, inst., at 4 o'clock in the afternoon, all that LEASEHOLD TENEMENT known as RED HILL COTTAGE, in the parish of Madron, Cornwall, comprising an excellent Dwelling-house, Stable, and 3 acres of Garden Land, held for the residue of a term of 99 years, determinable on two lives, aged respectively 38 and 34 years, subject to the yearly rent of £3 7s. 6d. Together with three Policies of Assurance on the above lives for amounts making together £400, at moderate premiums.

Four Forcing-houses are erected on the land, of the following lengths—100 feet, 85 feet, 60 feet, and 25 feet, all fitted with Heating Apparatus of the most approved description, and in complete working order.

The land is in a high state of cultivation, is thoroughly stocked with fruit trees and plants which have been selected from the best varieties, and is well supplied with water.

The property is distant about 1 mile from the town of Penzance, and is situated in a sheltered valley.

Further particulars may be obtained of the Auctioneer, Causeway Head, Penzance; or at the offices of Messrs. TRYTHALL and BODILLY, Solicitors, Penzance.

Dated February 11, 1895.

**WANTED, to Rent, GREENHOUSES,** with or without Nursery or Garden Ground. Apply to—GATES, Potton, Beds.

**WANTED to Rent, within 14 miles of London,** about 500 feet of FORCING HOUSES, 12 to 14 feet wide. Boiler and Pipes must be in good working order. FRED, WHITE, 47, Chatham Place, Hackney.

**WANTED to RENT or PURCHASE, about 800-feet run of GLASS, well built, suitable for Cucumbers and Tomatos.** Must be near London. BROOKS, 23, St James' Road Edgaston, Birmingham.

**FOR SALE.—FREEHOLD HOUSE** and NURSERY; good opening for a Man who wishes to start with 6 or 9 acres of light land; easily worked.—A. G. W., 41, Wellington Street, Strand, W.C.

**FOR SALE.—NURSERY and FLORIST'S BUSINESS,** well established; 1 acre of land; eight Houses, all heated. Ninety-nine years' lease; eighty-four years to run. Eight miles from Covent Garden; introduction to customers. A reasonable offer accepted.

R. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

**A GENUINE BARGAIN.—Close to Station** within 20-miles-radius, favourite and growing neighbourhood, a FLORIST'S BUSINESS and FRUIT FARM, 3 acres well stocked Fruit Trees, &c. Thirteen Glasshouses, Vineries, Stabling, Dwelling-house, Shop, and every Trade requisite. In same hands twenty-seven years. Incoming, including Stock, Plants, &c., only £300. Long lease, or Freehold would be sold. Stamp. FOLKER and HORTON, Godalming.

**FOR SALE, Main Road, near Railway Main Line, GLASSHOUSES and PITS,** heated in suitable divisions; also Cold Frames, &c.; Shop and Dwelling-house; good order; compact; spare land; fenced in. If you see it, you will buy.—H., 41, Wellington Street, Strand, W.C.

**OLD CATTLEYA LABIATA**

MESSRS.

**PROTHEROE & MORRIS**

67 & 68, Cheapside, London, E.C.,

HAVE RECEIVED INSTRUCTIONS FROM

**F. SANDER & CO.**

To Sell a wonderful new importation of this unrivalled and unapproachable type of

CATTLEYA LABIATA,

**SWAINSON'S TRUE OLD TYPE,**

Producing the large brilliant varieties.

THIS WILL BE THE SALE OF THE SEASON.

**WEDNESDAY NEXT.**

**IMPORTANT SALE OF ROSES & SHRUBS**

**A Grand Collection of Choice-named Standard, Half-Standard, Dwarf, and Climbing ROSES,** from leading English, French, and Dutch growers, including a fine assortment of over 2000, with many of the best and newest sorts.

**Two Importations of Small, Beautifully-grown.**

Decorative Shrubs, for in or out-door culture, including a variety of AZALEAS, RHODODENDRONS, LAURELS, BOX, HYDRANGEAS, CUPRESSUS, RETINOSPORAS, HOLLY, variegated and green, &c., in fine order.

**A Small Consignment of Imantophyllums from Ghent.**

some well-grown PALMS, a collection of STOVE and GREENHOUSE PLANTS, cool ORCHIDS, FERNS, &c. Home-grown LILLIUMS, LILIUM AURATUM from Japan, South African and Pearl TUBEROSES, ANEMONES, BEGONIAS, GLOXINIAS, and LILY OF THE VALLEY.

**Pyramid and Dwarf-trained Apples, Pears, Plums, PEACHES, CHERRIES, &c.** Black and Red CURRANTS, &c. And a fine collection of BORDER PLANTS.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 19, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

**The Somerhill Collection of Established Orchids.**

**MR. J. C. STEVENS** has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Tonbridge, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., towards the end of March, the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

Cattleya Mossie Reineckiana	Odontoglossum vexillarium
" Wagneri	Cobbanium
" exoniense	Lycaste Skinneri Imperator
Dendrobium glumaceum	Ceologyne cristata alba
vallidum	Dendrobium nobile albiflorum
Disa Veitchii	" Cooksonii
Vanda teres	Vanda Sanderiana (Goldsmid's variety)
Thunia Veitchii	Lælia tenebrosa (extra good variety)
Lælia Gouldiana	" anceps (do. do.)
Ceologyne Dayana	Anthurium Le Flambeau
Anthurium Andreanum	" album
" album	" Ferriense
" Ferriense	Odontoglossum Uro-Skinneri
Odontoglossum Uro-Skinneri	" rotundispatum
" &c.	" &c.
" &c.	" &c.

N.B.—Further particulars will be given in future Advertisements.

KENT, near an important Town, Valuable FREEHOLD NURSERY, 23 acres; 34 modern Greenhouses and Vineries, efficiently heated; 5 ditto, not heated; commodious Dwelling-house, Cottages, Stabling, and Outbuildings, all in excellent order. Price, £800, or offer. Full particulars of BROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 8827)

NOTTINGHAMSHIRE, near Station, G.N.R. — Capital FREEHOLD MARKET NURSERY: easy communication with best Markets; 4 acres of excellent Ground, 10 good Greenhouses, all well Stocked; Tomatos particularly forward. Part of the Land could be developed for Building. The whole now in good working order. Capital required, about £1000. Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C. (Folio 8749.)

MALVERN (near).—For IMMEDIATE SALE, by private treaty, owing to sudden death of Proprietor. Renowned and highly lucrative FRUIT and FLOWER NURSERIES, including excellent Freehold Residence, and Cottage, Stable and Outbuildings. Also, the modern erected Vineries, Peach, Fig, Rose and other Glass-houses of large size, well heated on best principles. Trees all vigorous and highly productive, with a naturally fertile and fruitful soil. Total area 2a. 0r. 20p. Should be seen at once. A rare opportunity for a small capitalist. Price £1300. For cards to view apply, Messrs. PROTHEROE AND MORRIS, Estate Offices, 67 and 68, Cheapside, London, E.C. (Folio 8748).

SOUTH DEVON.—TO BE SOLD cheap, or LET on Lease, in a most picturesque and healthy district, 548 Acres, with stone-built GENTLEMAN'S RESIDENCE, eight bed and two reception-rooms, ample offices, &c. Excellent Farm House and Modern Homestead, unsurpassed fishing, shooting, and hunting. Owner through advancing years disposed to entertain any reasonable offer. The income arising returns a handsome interest on the investment. Small deposit only required, balance can remain on mortgage. Apply to H. M. FIRTH, Esq., Solicitor, Ashburton; or, to A. TROTT, 13, Great Western Dock, Plymouth.

LONDON, easy distance from Covent Garden.—TO BE LET on lease, direct from Freeholder, a MARKET NURSERY, about 50 acres, 10,000 feet run. Greenhouses could be divided, or sell right out. MARKET, 16, Jephson Road, Forest Gate, London, E.

Crown Lands, Eltham, Kent. TO BE LET, with immediate possession, about 23 acres of NURSERY and MARKET GARDEN GROUND; and 12 acres of Grass Land at the west end of the town of Eltham, lately in the occupation of Mr. Henry Dickinson, and now known as Oakhurst Farm, but formerly known as "Todman's Nursery." For particulars, apply to Messrs. CLUTTON, 9, Whitehall Place, London, S.W.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

TOMATO PLANTS.—Perfection, strong plants for planting out, in 60's, 10s. per 100. Cash with order.—L. DOVE, Bedford, Middlesex.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

Important to Mushroom Growers. CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

F. V. RASPAIL GERANIUM.—Unrooted Cuttings, 4s. p. 100, or 30s. p. 1000. H. Jacoby Geranium, unrooted Cuttings, 4s. 6d. p. 100, or 35s. p. 1000. Smilax Asparagus in 60's, good stuff, 10s. per 100. Free on rail; cash with order.—F. BOULTON, Beechenlea Nursery, Swanley.

FOR SALE or EXCHANGE, CHRYSANTHEMUM CUTTINGS for Roses, large or small quantities. Apply at once.—CHIPPERFIELD, Florist, Hampton Hill.

CUCUMBER SEED.—The Rochford (true to name, as last year), 5s. per 100. Cash with order, to B. J. WICKHAM, Grower, Sutton-Scotney, Hants.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN, 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in., at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldatone, Brighton.

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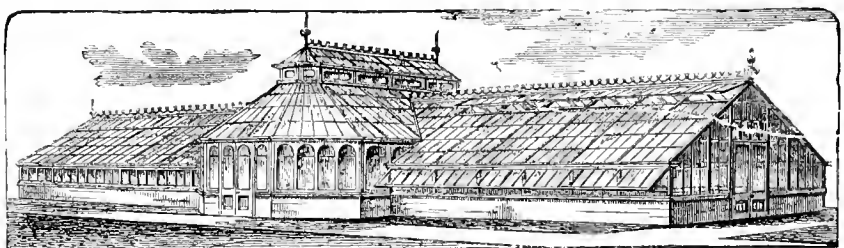
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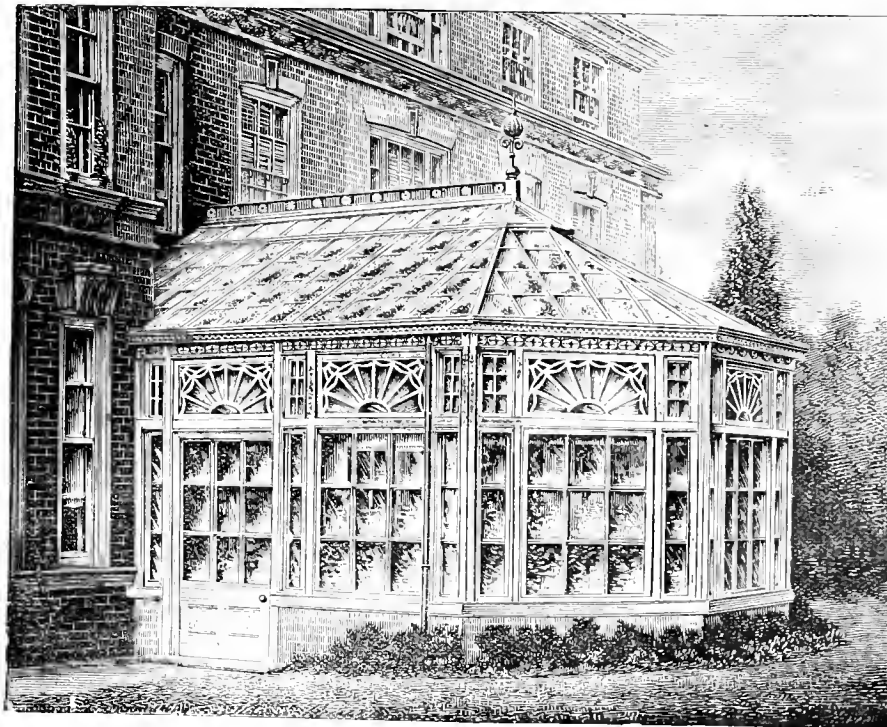
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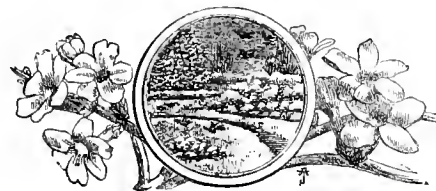
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## THE Gardeners' Chronicle.

SATURDAY, FEBRUARY 15, 1896.

### ORCHIDS AT KEW.\*

THE collection of Orchids cultivated at Kew is essentially different from any, at least in this country, in the possession of a private collector, and perhaps its only rival is that of the Royal Botanic Gardens, Glasnevin. Its main object is botanical, and to represent the family Orchidee in as comprehensive a way as possible. The scientific interest attaching to Orchids is very great. But even as regards form, they can only be studied from dried specimens with great difficulty; and as regards their varied and remarkable structural arrangements, and the striking mechanical contrivances for cross-fertilisation which they exhibit, they cannot be studied in the dried state at all. While the Kew collection contains representatives of all the most beautiful and popular species, it is more especially rich in others which at first sight are not particularly attractive. Most of these, however, on careful examination will be found to possess no small degree of charm and interest.

In 1880, Dr. Pfitzer, Professor of Botany in the University of Heidelberg, came to Kew to study in the Jodrell Laboratory the Kew collection of Orchids for his well-known researches on their morphology, and he has continued to draw on it since for further aid.

Dried herbarium specimens of Orchids are not easily procurable. Species frequently flower at Kew of which no other material exists available for study. By this means the Herbarium of the Royal Gardens has been continuously enriched. And in this respect it is also under great obligations to Glasnevin, the Right Honourable Joseph Chamberlain, Sir Trevor Lawrence, and others.

The task of exhibiting a collection of Orchids to the public is not an easy one. The dimensions of the houses which are suitable to their cultivation, and the conditions which it requires, are such as to preclude the admission of visitors. This is, however, of the less consequence, as, when out of flower, their general aspect for the most part is not, except perhaps to the expert, either instructive or interesting. The two public Orchid-houses at Kew, Nos. 13 (warm) and 14 (cool), contain for the most part only the plants which happen to be in flower at any particular period. These houses are not suited to the permanent cultivation of the bulk of the collections which at other times is carried on in the Orchid-pits (No. 15), to which the public is not admitted.

The cultivation of Orchids is one of the most remarkable developments of modern horticulture. Kew has neither the means nor the accommodation to compete with the magnificent displays of certain species to be seen in the gardens of many private growers. The President

\* We take these interesting statements from the *Hand-list of Orchids Cultivated at Kew*, just published, and to which we shall refer more fully later on.



of the Royal Horticultural Society in 1885 complained, in his opening address to the Orchid Conference held in that year, that "there is no sufficiently representative collection of Orchids there (at Kew) at present." It is hoped that the present *Hand-list*, which enumerates 200 genera and 1800 species (including about fifty garden hybrids), will remove that reproach as far, at any rate, as its representative character is concerned. And it is only right to say that, in arriving at this result, Kew is under great obligations to the liberality of Sir Trevor Lawrence, the Keeper of the Royal Botanic Gardens, Glasnevin, and various private growers and commercial firms, especially amongst the latter, Messrs. F. Sander & Co. of St. Albans. The bulk of the collection has, however, been built up by direct importation and purchase.

Orchids have been continuously cultivated at Kew from their earliest introduction into this country. The varied fortunes which have attended the collection practically reflect the history of the progress which has been made in the art of growing Orchids under artificial conditions.

The first exotic Orchid which was introduced into English gardens was *Bletia verecunda*, which was obtained from Providence Island, Bahamas, by Peter Collinson, in 1731, and flowered in the following year in the garden of Mr. Wager. About the year 1778 *Phaius grandifolius* was imported from China by Dr. Fothergill, and a full-sized coloured figure of it is given in the first edition of the *Hortus Kewensis*, under the name of *Limodorum Tankervillei*. A peculiar interest attaches to this plant, because it was in it and at Kew that in 1802 Francis Bauer, who was "resident draughtsman for fifty years to the Royal Botanic Garden," discovered and figured the "nucleus of the cell," an all-important body, the first description of which was published by Robert Brown in 1833.

In the first edition of Aiton's *Hortus Kewensis* fifteen non-British species are enumerated as cultivated at Kew, Sir J. E. Smith wrote:—"We have scarcely seen any one species of this genus (*Epidendrum*), except in a dry state, before the year 1787, when *E. cochlearatum* flowered at Kew; nor was it till October, 1782, that *E. fragrans*, of Swartz, exhibited its rich and elegant bloom in the same rich collection. At present, several species are to be seen flowering in the spring and autumn."

In the second edition of the *Hortus Kewensis* (1813) 115 species are enumerated, of which eighty-four are exotics belonging to thirty-nine genera, "the greater number," John Smith states in his *Records of Kew* (p. 228) "being epiphytal and natives of the West Indies, a few of the East Indies, Cape of Good Hope, and New South Wales."

According to the same writer, Dr. Roxburgh sent a number of species from India in the early part of the present century. "These," writes John Smith, "I found growing in 1822, on a shelf above a fine against the back wall in what was then called the propagation-house; the *Aërides* growing and flowering freely, its roots clinging to the back wall, as also *Saccolabium guttatum*. There were also plants of *Dendrobium Pierardi* and *D. cucullatum* flowering freely, which had recently been brought home from Calcutta by Mr. Pierard." But it was to Roxburgh that English gardens owed, beside the first *Aërides*, the first *Dendrobium*, and the first *Vanda*.

These "back walls" are only seldom found in modern horticultural structures; but they were not without their merits.

At this period, with the exceptions above-mentioned, the Orchids at Kew "were potted in common soil, and the pots plunged to the rim in a tan-bed." It is not surprising that their cultivation was attended with little success.

A little earlier than this the first step was taken in the direction of modern treatment. Sir Joseph Banks devised and carried out at Isleworth a method which was "one of the most successful modes of

treating epiphytal Orchids then known." Mr. H. J. Veitch, F.L.S., in his excellent historical account of "Orchid Culture, Past and Present" (*Journal of the Royal Horticultural Society*, 1889, xi., pp. 115-126), remarks:—"This was the first rude forerunner of our modern Orchid-basket, and the first instance I find recorded of moss being used for surfacing" (p. 118).

According to John Smith (*Records*, pp. 229, 230):—"Between the years 1823 and 1825 a considerable number of species were received from Trinidad, forwarded by Mr. David Lockhart, the Superintendent of the garden, amongst which were the first plants of *Stanhopea insignis*, *Oncidium papilio*, *Lockhartia elegans*, *Catacætum tridentatum*, *Ionopsis pallidiflora*, and others, all of which were epiphytal, and many of them being sent growing on portions of branches as cut from the trees, which being accompanied by instructions from Mr. Lockhart as to how they should be treated, led to the successful cultivation of epiphytal Orchids."

A whole generation was, however, to pass away before the culture of Orchids was placed on an intelligent footing. Dr. Lindley, during the middle part of the present century, dominated the horticultural world. In 1830 he read a paper before the Royal Horticultural Society, in which, generalising from insufficient data, he concluded "that high temperature, deep shade, and excessive humidity, are the conditions essential to the well-being of the plants" (Veitch, *l. c.*, p. 119). Thirteen years later he was substantially followed by Mr. Bateman, "except the important direction, to give the plants a season of rest" (*l. c.*, p. 120).

The cultural treatment approved by Lindley, "became, as it were, the only orthodox one, and was generally persisted in, in all its essential points, for upwards of thirty years."

Two men, however, broke away from the current tradition, and with conspicuous success. "One of the first of these was Joseph Cooper, gardener to Earl Fitzwilliam, at Wentworth" (1835). "A still bolder innovation was adopted shortly afterwards, by Paxton, at Chatsworth." In both cases the essential innovations were lower temperature and increased ventilation. The old tradition still, however, held its ground:—"Plants perished under the barbarous treatment they received in the hot-houses of this country almost as fast as they were imported. To such an extent were the losses felt, that Lindley, in a remarkable article published in the *Gardeners' Chronicle* towards the end of 1859, pronounced their treatment 'a deplorable failure,' and which Mr. Bateman also, some years later, characterised as 'incredible folly'" (Veitch, *l. c.*, p. 123).

(To be continued.)

## NEW OR NOTEWORTHY PLANTS.

### ODONTOGLOSSUM CRISPUM ASHWORTHIANUM (New Var.).

To flower a variety of *Odontoglossum crispum* with some brown or purple blotches on its segments used to be considered a happy circumstance, and if the blotches were there, the indifferent form of the flower was often excused; but to possess one in which the flowers were of the finest form, of the largest size, and in which they might be said to be almost entirely of various shades of rose and clear rosy-purple, perhaps never entered the mind of the most enthusiastic lover of this fine species. And yet, that is precisely what has taken place in this latest and finest of new *Odontoglossums*, which has recently bloomed in the rich collection of Elijah Ashworth, Esq., at Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook), who kindly sends flowers and material from which this description and the accompanying illustration (fig. 26, p. 197) was prepared.

As has been intimated, almost the whole of the flower is of a bright rosy-purple, shading off to light rose as it approaches the silvery-white margin. The base of each of the sepals and petals is white, and on their surfaces a few white marks appear. The base

of the lip is yellow, and on each side of the callus are some irregular bright yellow lines; the blade being ornamented by dark reddish-purple blotches. The exterior of the column is purple, and its face yellow. The reverse of the flower is wholly of a rich purple hue. It is difficult to imagine a more perfect or beautifully-coloured flower in its class—certainly none such has yet appeared. In form it is nearest to the superb *O. c. apiatum*, in colour its nearest approach is *O. c. Frantz Masereel*, but that is a long way behind in every respect. It flowered out of an importation by Messrs. F. Sander & Co., and after passing through other hands is by that firm introduced to its present home, James O'Brien.

## THE GREAT FROST OF 1895 AT KEW.

(Continued from p. 170.)

BULBS, &c.—The spring of 1895 will long be remembered as a particularly fatal one to many kinds of bulbs. All the Narcissi of the Tazetta section were killed, and even some of the trumpet Daffodils suffered a good deal; maxims, for instance, was quite killed, and this beautiful form fared no better in a large bulb-growing establishment in the neighbourhood. When taking up the ripened Narcissus bulbs, it was noticed that their quality was below the average; this was, doubtless, due to the fact that the roots first developed were all killed, and new ones had to be formed where the bulbs were not actually destroyed.

Hyacinths suffered badly, the white and red varieties more than the blue ones. Those in nursery beds, planted early in the previous September, were quite destroyed, whilst older bulbs planted under similar conditions six weeks or two months later survived. Hitherto, winter covering for Hyacinth-beds had not been found to be of advantage at Kew; but in such winters as that of 1894-95, it is necessary. The wild type, *Hyacinthus orientalis*, was nearly all killed in the border.

IRIS.

Many of the *Oncoclytus* group were killed, the rhizomes proving to be quite rotten when examined after the frost had gone. The "English" Iris did not stand so well as the "Spanish" Iris; of the former, about 75 per cent. were killed. Of the English Iris, the survivors were so weak that they were not worth the trouble of lifting for replanting. *Iris reticulata* stood without any shelter, and flowered freely; some of the bulbs dug up after they had ripened off were dried up, whilst others were perfectly sound. Many species of *Crocus* were killed outright; others were badly injured. *Crocus sativus*, for example, managed to exist on the food stored up in the corms themselves; all the roots had been killed, and in some cases the lower portion of the corms. *Gladiolus Colvillei*, and its variety *alba*, planted in the open ground in January as in previous years, were killed.

HERRACROUS PLANTS.

Lack of space renders it impossible to give a detailed statement of the losses incurred, but a few comparisons may well be mentioned. *Meconopsis Wallichiana* (a fine lot of plants in pots in a cold frame) was killed under glass, whilst a couple of unprotected plants in the rockery survived and flowered. The Pampas Grass, *Gynerium argenteum*, was killed in the rockery, whilst on the open lawns in many places the plants, although much injured, survived and flowered. The same remarks apply to the New Zealand *Arundo conspicua*. Even some of our native plants did not withstand the severities of the winter as well as many from countries in more southern latitudes with a warmer climate than Britain. Our native Thyme, *Thymus Serpyllum*, was much cut, and did not break again from the bare branches until late in the season. *Dryas octopetala* behaved in a similar way. The Cape of Good Hope *Berkheya radula* was killed outright, whilst *B. purpurea*, under exactly similar conditions, came through the ordeal unscathed. The collection of *Primulas* in pots in a cold frame withstood the

winter successfully (better than they did that of 1893-4); there were very few deaths, and these were perhaps not due to cold. On the other hand, a considerable number of alpine and dwarf herbaceous plants, grown in pots in cold frames for exhibition when in flower in the alpine-house, succumbed. *Kuiphofia*, even where well sheltered with dry leaves, suffered a good deal in some spots; in others, they were untouched. *Fluggea japonica*, large breadth of young plants being grown on for forming a turf in shady places where grass does not thrive, was all killed; whilst old masses which had not been transplanted, were but slightly injured. Many of the Cacti grown in a cold frame in the herbaceous ground were killed; amongst these may be mentioned *Opuntia brachyarthra*, *O. aurantiaca*, *O. imbricata*, *Echinocactus Wiedliszenii*, *Cereus cirrhiferus*, &c.

CONIFERS.

*Pinus insignis*, which usually suffers every winter at Kew, was scarcely affected by the frost of February. *P. tuberculata* and *P. muricata* were

sent us measured exactly 4 inches across the lateral petals, while the labellum, which is proportionately large, was beautifully fringed. The ground colour is a rich clear yellow, spotted with very dark chestnut, the even distribution of these spots and their bright colour being very noticeable. Major Pigott informs us he bought the plant in the imported state at Messrs. Protheroe & Morris' for *O. crispum*, and he is to be congratulated on having flowered such a splendid variety, which is decidedly superior to the best forms of *O. Wilckeanum*.

"It is interesting too, as illustrating the great variety of species and forms found in the home of *O. crispum*."

VANDA SPATHULATA (*Sprengel Systema*, iii., 719; Lindley, *Folia Orchidaceae* (Vanda), p. 9, n. 21).

A native drawing of this handsome golden-yellow species, together with the information that living plants of it have been got over from Ceylon, through Messrs. P. W. Woolley & Co., Basinghall Street, seems to promise that it will again receive a trial in gardens, and if the plants are really

A COLLECTING TOUR IN JAMAICA.

(Continued from p. 135.)

THE scenery up the winding Rio Grande is magnificent. Where the land is not cultivated, immense Silk-cotton, wild Fig, Cedar, Mahoe, Trumpet (*Cecropia peltata*), and other trees, from which depend festoons of Cocoon (*Entada scandens*) and *Ipomoea*, grow down to the edge of the water, whilst the canoes and rafts with natives on the river add to the picturesqueness of the scene.

Leaving this beautiful place we proceeded on our journey, and soon arrived at Port Antonio, a very pretty town of considerable importance, being the centre of the fruit trade. Steamers carrying fruit run regularly between Port Antonio and various ports in the United States. The port is divided by a narrow peninsula into two harbours, in one of which steamers of large size can lie close up to the wharves and receive or unload their cargoes. The Boston Fruit Company, by far the largest growers of Bananas and Cocoa-nuts, run their own steamers and, although they have competitors, they practically control the fruit market.

The majority of the large Banana plantations were once flourishing Sugar estates, but had to be abandoned owing to the unfair competition of the bountified European Beet-sugar industry. We left Port Antonio and pushed on for Priestman's River, a distance of 11 miles or so, our road taking us through Mangrove swamps, Cocoa-nut plantations, and grazing pens, along the wild rocky coast. The trunks of Mahogany, Sea-side Grape (*Coccoloba uvifera*), Calabash, Silk-cotton, and other trees, were covered by immense clumps of *Brassavola cordata* and *Broughtonia sanguinea*, especially the former, which we noticed in splendid condition in several places growing in the forks of trees overhanging the sea, and washed by the spray of waves dashed against the rocks. The Bread-fruit tree (*Artocarpus incisa*), here becomes a very common feature near negro settlements, and the trees were loaded with their large fruits, which are eaten either roasted or boiled, and by many are preferred to Yam. It certainly is a most excellent and nutritious culinary fruit. Mangoes, Star-apples, Avocado Pear, and other fruit trees were plentiful. During this stage of our journey we experienced a thorough tropical storm. The peals of thunder and roar of the surf combined were deafening; the lightning was so vivid that after each flash our animals stood still, both they and we being deprived of vision for a moment or two, and the rain came down in torrents. We were soaked, and feared that our specimens which had been gathered with such care would be ruined. As it turned out, many were spoiled, and others lost their colours through having to remain in the wet papers all night. Our halting-place lay some distance inland; we were strangers in the district, and entirely ignorant of the geography of the locality. The night was pitch dark, and we were at a loss to know what to do, when fortune smiled on us once more, and placed a guide in our way, who, for a consideration, undertook to lead us to our destination. Never were we more thankful to get under the shelter of a hospitable roof.

After going over the extensive property of our host, an English gentleman who, with his family, has recently settled down here, we began to explore the district, and made a good collection of various coast plants. On rocks near the sea, and often washed by the spray of the sea, we found *Adiantum deltoideum* growing in abundance, *Jacquinia armillaris*, the Cob-nut (*Omphalea triandra*) in flower and fruit, *Morinda citrifolia*, *Hymenocallis caribaea* growing plentifully along the sea-shore, and flowering freely, are a few of the plants gathered here. *Brassavola cordata* and *Broughtonia sanguinea* grow on the trees everywhere in this district. After a stay of a few days here, we proceeded on our journey to Bath, passing through Manchioneal. In a large Cocoa-nut plantation near this village, we noticed a very curious Cocoa-nut Palm, on the trunk of which the old flower-stems remained attached from near the



FIG. 26. - ODONTOGLOSSUM CRISPUM ASHWORTHIANUM: FLOWERS ROSEY PURPLE, MARGINED WITH WHITE. (SEE P. 196.)

somewhat injured, but will soon recover. *Pinus rigida* lost most of its leaves, but has since completely renewed them. Two plants out of three of *Podocarpus chilina*, which have stood out at Kew for the last twenty years, were quite killed; the third has grown again from the buried part of the stem. The Cyresses which have quite succumbed are *C. torulosa* and *C. glauca*; *C. sempervirens* and *C. macrocarpa* have been badly injured. The Golden Retinosporas have lost many small branches, whilst the ones with green, silvery, or glaucous foliage remain untouched. *Kew Bulletin*, January.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM LYROGLOSSUM (*Major Pigott's var.*).

MESSRS. SANDER have forwarded us the following note: "We have received a bloom from Major J. C. M. Pigott, The Verne, Instow, Devon, of *Odontoglossum lyroglossum*, which we consider so fine and so distinct as to be well worthy the varietal name given above. It is certainly one of, if not the finest form we have ever seen, the colours being particularly good and the markings very regular and well defined. The flower

strong and healthy, possibly with better results than heretofore. The beauty of the rich yellow flowers, each of which is about 2 inches across, is well-known; but hitherto it has the reputation of being shy-flowering, a term which in this case, as in many more, may be intended to mean that its habits and requirements up to the present have not been sufficiently grasped to get the wealth of floral beauty which it displays in its native land. Fresh trials may reveal the cause of former failure.

ODONTOGLOSSUMS FROM ARDDRARROCH.

The *Odontoglossums* in the collection of R. Brooman-White, Esq., at Garelochhead, seem to thrive in a remarkable manner in the genial air of the locality, and their flower to assume the best qualities possible to attain. A small sending gives samples of some of the fine varieties now in flower under the care of Mr. G. Roberts, the gardener at Arddaroch. The first is the finest form of *O. x* excellens we have yet seen, the flower being very large, of a rich canary yellow, with white bases to the petals, and large chestnut-brown blotches over all the segments; the sepals and petals are similar, oval in form, and just on 1 inch in width; the base of the lip is rich orange. *O. x Wilckeanum splendens*, and a fine form of *O. x Coradii* are also exceptionally good and distinct.

have all the way up the stem, giving it a singular appearance. The tree was as tall as its neighbour, about 40 feet high. We were unable to detect any difference in the leaves of this and neighbouring trees, although closer examination might reveal differences, but we could easily see that its fruits were very much smaller than the ordinary Cocoa-nut, and we were informed that they contain little or no "milk" or "jelly." The proprietor of the plantation has promised to procure specimens of this interesting tree for careful examination. It may be mentioned here that, although Cocoa-nuts are so extensively grown in Jamaica for export, little or no use is made of the husks, which produce coir, used for manufacturing matting, brushes ropes, &c. They are allowed to lie in heaps under the trees to rot.

We next passed through the Hector's River district, where there are good grazing-pastures, with fine flocks of sheep, and numbers of brood mares, generally of a small size. A remarkable thing about some of the pastures along the north-eastern coast is that, one field will be over-run with Guava bushes (*Psidium guajava*), whilst perhaps the next field to this is infested with the wild Hop-bush (*Flemingia strobilifera*). Neither plant is of any value for feeding purposes, and both are a great nuisance to the landowners, as once they get a good hold of the land it is impossible, without incurring heavy expense, to eradicate them.

We were very much surprised to find no Guinea-grass here, as we were under the impression that it was ubiquitous from sea-level to 4500 feet altitude. We were aware that above 4,500 feet it ceased to grow spontaneously, but we did not expect to find miles of country without it. Guinea-grass seeds were accidentally introduced from the West Coast of Africa as bird food in 1745. It appears that a Mr. John Ellis imported some birds from the coast of Guinea, and with them seeds for food. The birds died soon after, and the seeds were thrown away as useless. The Grass-seed germinated, and the Grass grew luxuriantly, and it was noticed that cattle ate it greedily. It was then transplanted into a garden and cultivated, and it soon became thoroughly established. *W. Harris.*

(To be continued.)

## FRUIT PRESERVING IN THE CRIMEA.

The British Consul at Odessa, reporting to the Foreign Office on the agricultural condition of the district, draws attention to fruit preserving as quite a new industry in the Crimea. In the very short time it has existed, he says, it has increased so rapidly that it seems probable that it will not only do away entirely with the imported article, but will itself become an article of export. With the exception of Oranges and Lemons, the Crimea produces every sort of fruit required, and is capable of producing any quantity for which there may be a demand. As early as 1840 attempts were made by the Government to introduce this industry, but until the railway was opened in 1874, connecting the Crimea with the rest of Russia, the cost of transport prevented fruit preserved in the Crimea from competing favourably with that imported, whilst it was out of the question to export fresh fruit for eating, so that fruit cultivation was little thought of. As soon as the railway was completed, Moscow merchants bought up large quantities of fruit which they sent to Moscow, partly for eating, and partly for preserving, but the difficulty of sending some of the more perishable sorts of fruit, led them to try preserving on the spot, and the attempt was such a success, that hardly any fresh fruit, except that for consumption as such, is now sent away. The first trial was made in 1877 at Simferopol by a well-known Russian firm. For three years the fruit was preserved by them without special machinery, but in 1880 the business had grown so much, that the firm sent to France for a skilled manager, by whose advice steam apparatus for boiling, drying &c., was

put up. In 1879 another well-known Moscow firm set up a factory at Simferopol, also under foreign superintendence; and in 1881 another factory was established, more especially for the so-called Paré of Tomatos, which has now become a Crimean specialty; since then several smaller factories have been started at Kertch, Simferopol, and other places, which every year increase their output. At first the price of fruit was very low, but it soon rose, and although large gardens and orchards are continually being laid out, the demand increases as fast as the supply, so that the price is maintained, and there are gardens where £200 to £250 is paid for the Apricot crop alone. The fruit is sold on the trees before it ripens; as soon as the amount can be estimated, so that the purchaser takes all risks. Competition is not felt by the factories, as the demand is equal to the supply, and both grow continually.

The factories turn out bottled and tinned fruits, fruits in syrup, crystallized fruits, (glacé) jams, jellies, and *puré*, which is a sort of stewed fruit, the fruits used being Apricots, Peaches, Pears, Apples, Quinces, Figs, Plums, Cherries, Sweet and Water Melons, Walnuts, Tomatos, Oranges and Lemons, the Oranges and Lemons being the only imported fruit, all the rest being grown in the Crimea.

The quantities of fruit bought up by the three principal factories alone were in 1894:—

Crimean fruit	...	500 tons of the value of	£3,700
Tomatos	...	1,000	1,400
Imported fruit	...	100	4,600
Total	1,000		£14,100

Each year about 10,000 tons of fresh fruit, valued at £140,000, are sent to the north of Russia for eating.

From the above, it will be seen that the cultivation of fruit has now attained very large proportions in the Crimea, and particularly noticeable is the quantity of Tomatos taken up by the factories. Until the factories were started, the Tomato was but very little grown, as it would not stand transport, and the local demand was small; but now it is largely cultivated, as a most profitable crop.

The produce of the factories, especially the crystallized fruits, compare very favourably with those prepared in France. Last year (1895) the fruit-harvest was a total failure, and enough fruit could not be got in the Crimea, so that quantities had to be imported from Bessarabia.

## NATURAL HYBRID ORCHIDS.

(Continued from p. 103.)

The next allusion I find to the occurrence of a natural hybrid among tropical Orchids is in 1859. Reichenbach then described *Lælia irrorata*, from the collection of Consul Schiller, of Hamburg (*Hamb. Gartenz.*, xv., p. 57), and after pointing out its affinity with *Lælia Schilleriana*, and some resemblances to *Cattleya intermedia*, we find the additional remark, "Bastard?" which shows that the author suspected it to be of hybrid origin. A year later the same author described *Lælia eupatha*, from materials sent by Dr. Casper, of Berlin, and M. Lüdemann, of Paris, on which occasion he observed, "I doubt not that this *Lælia* is a Bastard" (*Hamb. Gartenz.*, xvi., p. 420). He then went on to remark, that the pollinia much resembled those of *Lælia elegans*, except in number—being four only, yet still united to each end of the caudicle—and that the plant might be a hybrid between *Lælia Boothiana* and *purpurata* and *Cattleya intermedia*, or some allied species. With respect to these plants having appeared accidentally, he observed that they could not have been collected in flower, but that probably some old trees on which various forms grew together had been stripped, and the plants brought home for our collections.

These remarks are interesting, as they show that the observations made in Europe were not lost upon Reichenbach, who was evidently beginning to grasp the significance of similar phenomena among tropical Orchids. It is now clear that both *Lælia irrorata* and *eupatha* are natural hybrids between *L. pur-*

*purata* and *Cattleya intermedia*, and also that they are forms of *Lælia* × *Schilleriana*, Rehb. f., a plant described in 1835 from Consul Schiller's collection at Hamburg (*Allg. Gartenz.*, xxiii., p. 322), whose hybrid origin was not even then suspected, for long afterwards it was still enumerated as a species. We shall have to return to this point presently.

The author's remarks on the pollinia of *Lælia elegans* are also suggestive, though he evidently at that time did not realise the significance of the facts observed. This was a plant which was originally discovered by Devos, a collector for the late M. Ambroas Verschaffelt of Ghent, in the island of Santa Catharina in 1847, and which flowered for the first time in Europe in the following year, when it was described by Professor C. Morren as *Cattleya elegans* (*Ann. de Gand.*, iv., p. 93, t. 185). In 1852 it was again figured (*Bot. Mag.*, t. 4700), from a plant which flowered with Messrs. Backhouse of York, out of an importation of *Lælia purpurata*, from the same island. Sir William Hooker identified it with Morren's plant, though at the same time expressed doubts as to its distinctness from *Cattleya superba*. Shortly afterwards Lindley also obtained a flower from the collection of Mrs. Lawrence, of Ealing, when he pointed out that the pollen-masses were eight in number, but that four were very small, and lodged in shallow pockets in front of the anther; finally remarking—"This, too, is a *Lælia*, if the mere number of pollen-masses shall definitively separate the two genera—*Cattleya* and *Lælia*" (*Gard. Chron.*, 1853, p. 582). Reichenbach formally transferred the plant to *Lælia* in 1853 (*Allg. Gartenz.*, xxiii., p. 242).

It has long been recognised that this plant is a natural hybrid between *Lælia purpurata* and *Cattleya Leopoldi*, and it is a significant fact that both the parents were also sent home by Devos, though at a somewhat later date. *Lælia purpurata* was originally figured and described under the name of *Cattleya Brysiana* (*Lem. Gard. Fleur.*, iii., tt. 275, 276), from a plant which flowered in M. Verschaffelt's establishment in May, 1851, which had been received in the previous year, and it is believed that *Cattleya Leopoldi* came at the same time. How long it was before the hybrid origin of this plant was suspected is uncertain. Reichenbach makes no mention of it when describing *Cattleya* × *exoniensis*, the first of the series of *Lælia* × *Cattleyas*, which flowered with Messrs. Veitch in 1863 (*Gard. Chron.*, 1867, p. 1144). A second one, however, flowered the same year, and the records about it throw a curious light on the question. This plant was first exhibited at a meeting of the Royal Horticultural Society on September 22, 1863, under the name of *Cattleya* × *Devonia* (*Proc. Roy. Hort. Soc.*, iii., p. 372), and afterwards, on October 11, 1864, as *C. devoniensis*, on the latter occasion receiving a First-class Certificate (*l.c.*, iv., p. 178). This was claimed by Dominay, as a hybrid between *Lælia crispata* and *Cattleya granulosa*, the former being the seed-parent. No technical description appeared beyond the notes cited above, and the reason appears in a letter dated October, 1863, preserved with a specimen at Kew. It sets forth that the flower of *Cattleya* × *devoniensis* approaches so closely to some forms of *Lælia* × *elegans* that it had generally been looked upon as a form of that, and nothing more, and consequently the former name had been allowed to drop out of use. Mr. Soden, however, had pointed out characters that could only have come from *L. crispata*, and the question was whether the two hybrids were not really distinct, or, in other words, whether the hybrid origin of *Lælia* × *elegans* had been experimentally proved, as at first supposed. I believe not. On comparison of all the forms in question, it appears certain that *Lælia crispata*, and not *L. purpurata*, was one of the parents of *L. devoniensis*, while the *Cattleya* parent was in all probability *C. Leopoldi*, which at that period was confused with both *C. granulosa* and *C. guttata*. It may be further remarked that at this period the forms of *Lælia* × *Schilleriana* were not distinguished from *L. elegans*, which would increase the difficulty of separating *L. devoniensis*. Reichenbach cer-

tainly recognised the distinctness of the latter, for in 1877, when describing *Lælia* × *Sedeni* (a hybrid between it and *Cattleya superba*), he observed:—"The *Cattleya davoniensis* is a very curious product, since it is very much like *Lælia elegans*. I would even regard it the same, if it was not said to descend from *Lælia crispata* and *Cattleya guttata*, when there is, at least, to our actual knowledge, at the natal place of *Lælia elegans*, no *Lælia crispata* to be seen, and no *Cattleya guttata*, but the next cousins, *Lælia purpurata* and *Cattleya guttata* Leopoldi. It is much to be wished that Mr. Sedeni may soon raise magnificent hybrids by crossing the two last plants, the more so as within my knowledge the demand for *Lælia elegans* is far greater than can be supplied by the English growers" (*Gard. Chron.*, 1877, ii., p. 424). It is, therefore, evident that Reichenbach recognised the difference between these two plants, which have since, unfortunately, been confused together. We still await artificially-raised plants of *L. × elegans*.

Two years after Reichenbach described *Lælia irrorata* as a doubtful natural hybrid—namely, in 1861—another example appeared, from Guatemala. This was *Cattleya* × *guatemalensis*, T. Moore (*Fl. Mag.*, t. 61), a plant for which Messrs. Veitch, of the Royal Exotic Nursery, Chelsea, received a First-class Certificate in March of that year. It was sent home by Mr. G. Urs Skinner, who found it "growing in company with *Cattleya Skinneri* and *Epidendrum aurantiacum* on the stem of the same tree, from which circumstance," Mr. Moore remarked, "and from the singular flush of orange-colour which runs through the whole flower, the opinion has been hazarded that it may be a wild or natural hybrid between those two species." This record is interesting, and there can be no doubt about the hybrid origin of the plant. Skinner appears to have communicated with Lindley respecting this plant, for the herbarium of the latter contains a very interesting group, comprising flowers of *Cattleya Skinneri*, *Barkeria Skinneri*, and a third unnamed plant (labelled "hybrid?") with the remark, "'All from the same stock,' Guatemala, Skinner." This presumably represents Mr. Skinner's view of the origin of the unnamed one—which is *Cattleya* × *guatemalensis*—but Lindley has added in pencil "*Ep. aurantiacum* is ♀ and not *B. Skin.*" (Of course, which was the "♀" is purely conjectural.) So far as I can ascertain, Lindley never published anything about this plant, and unfortunately, there is no means of fixing the date. A few other individuals have since appeared among imputations of the parent species. *R. A. Rolfe*,

(To be continued.)

## FRUIT REGISTER.

### NEW PERPETUAL STRAWBERRY, LOUIS GAUTHIER.

AN apparently fine and valuable new Strawberry, under the above-mentioned name, which was originally described by M. André in the *Paris Revue Horticole* for September 16, 1895, is now being sent out by the well-known French fruit nurserymen, Messrs. Letellier et fils, of Caen, who are also the introducers of the new spineless Gooseberries raised by M. E. Lefort, of Meaux. M. André sums up the distinctive characteristics of this new Strawberry under four heads:—1, its extraordinary vigour of growth; 2, its enormous production of fruit, as many as 160 fruits having been counted on a single plant; 3, its white or blush-white colour, so rare amongst large-sized Strawberries; and 4, its considerable size, which exceeds that of the well-known variety, Dr. Morère. This new Strawberry was raised by Mr. L. Gauthier, gardener at the Château de Greuthéville, in Calvados, after whom M. André has named it. Its first crop ripens about the last week in June, and five of the finest berries were then found to weigh 570 grammes, or about 19 oz. The runners are produced early in the season, and quickly come to maturity, producing,

under favourable circumstances, a second crop of fruit about the month of September, which, if not quite so large in size as the fruits produced in June, are of equally fine flavour, and should prove most acceptable at that period of the year. Messrs. Letellier assert that this is absolutely the first large-sized Strawberry from which two distinct crops can be gathered in the same year. A well-executed woodcut, showing the appearance of the plant when in full fruit in June, and bearing its second crop in September, is sent to purchasers by Messrs. Letellier. *W. E. Gumbleton*.

## ENVILLE.

THE seat of the Countess of Stamford and Warrington, in Staffordshire, by reason of its somewhat inaccessible position, is seen by fewer gardeners from a distance than many a place of less pretensions. A distance of nearly seven miles intervening between the mansion and the nearest railway station, however, is sufficient to deter many a one from visiting—even a garden that has been as fine as any the country possessed. Nor need this fact reflect upon the enthusiasm of those who have been forced to forego such a pleasure as a visit would afford, though they have been in the vicinity of Stourbridge, for we are well aware that time in such a case is quite as essential as enthusiasm.

As the horse was not taken from the vehicle during the time we were there, justice may not be done in this article to the magnificent gardens; still, perhaps a note or two upon Enville as the place is seen now, since the extraordinary and princely features it had forty years ago have been modified, may not be without interest to some who saw the place under these conditions, as well as to those who may never have seen it at all.

Anyone should visit Enville who admires a large old-fashioned garden, where acres are as important as to the London suburban resident square yards have become, where the grounds include an abundance of green lawns and flower-beds, with many an admirable specimen of the best of our ornamental trees and Conifers, and where the whole place is surrounded by a park, and beautiful and picturesque environs extending for some miles.

It is a coincidence that this place, lying deep in the country, presents several features that remind one of a garden common a quarter of a century ago. The establishment is thoroughly well managed, and is by no means old-fashioned in everything, yet there are one or two instances where the visitor realises that the constantly changing fashions in regard to horticulture have affected Enville in less degree than most gardens. The large quantity of Pelargoniums, Ageratums, and other "bedding plants," as they are termed, in masses for creating breadths of colour effective from a distance, on beds raised above the ground level as much as 2 feet, remind one more of a flower garden earlier in the century than now. On the other hand, there are long borders where there is a good and varied collection of interesting herbaceous perennials, through their entire length. In speaking of the flower garden, it must be understood that this is one of the features that has been modified since the days when Enville was so famed for these.

In spite of this, however, the quantity that remains is quite sufficient to surprise many a gardener whose experience has been gathered during the latter part rather than in the middle of the century. Admittedly, Enville is one of the many places which are not all they used to be, but in a very distinct contrast to many of these, it remains a first-class place of large dimensions, and it is well kept up by Mr. Geo. Green, who has had charge of the garden for a good many years. The number of plants required annually even now for the filling of the beds still existing, is far beyond the quantity used in large establishments generally. Although the staff of assistants has been much larger than it is now, yet, the visitor need not anticipate to see the fact apparent at every turn. The bedding is done well, and in its style could hardly be excelled.

Riband borders, so fashionable once, may still be seen at Enville, where lines of golden and silver variegated Pelargoniums, running parallel with Ageratum, *Coleus Verschaffelti*, *Lobelia*, or taller subjects seem to be more attractive than formerly, because not so common. Carpet bedding has not the simple beauty that the herbaceous or alpine gardens, or even the riband border, presents, but when executed skilfully, and carefully looked after whilst growing, as it is at Enville, we must admire it, though even then rather as one would a picture than a garden scene.

The natural advantages of Enville can hardly be overated, it owes so much to the picturesque character of its site; to the exceedingly fine timber of ordinary species, as well as to the beauty of those introduced because of their ornamental character. The landscape gardener might do his utmost, but unless his site was a favourable one he would yet fail to produce another Enville. The glorious vistas through which at places the surrounding country can be seen are very pleasing to the wanderer over the pleasure grounds, and fortunately there have been improvements made in this respect. Horse and Spanish Chestnuts, Beech, Limes, Planes, Oaks, and Yews are the trees one first observes, and many of the specimens are old, sound, and of noble size. Conifers generally are happy, especially the fine specimens of *Abies nobilis*, but several trees of *Araucaria imbricata* are less satisfactory.

The kitchen garden is nearly 6 acres in extent, and is made to produce as much as possible, for the demands of Enville are by no means small. There are plenty of fruit-trees, some inside the gardens, others in an orchard, a few among the latter past bearing specimen fruits, but useful, maybe, nevertheless.

### THE GLASS HOUSES.

In speaking briefly of the glass structures, mention must first be made of the noble conservatory; than which there are few finer existing. It was built upwards of forty years ago by Messrs. Gray & Ormson, of Chelsea, and was figured in the *Gardeners' Chronicle*, December 1, 1855. The dimensions given at the same time are as follows:—Length, 150 feet; width, 70 feet; height at apex of the two domes, 65 feet and 30 feet to top of the curved roofs. Though erected this considerable time, Mr. Green says it has required few repairs save glass, and he regards it as having been built in the most perfect manner. In the interior are large specimen plants of various cool species of plants, such as *Camellias*, which are planted in large beds; *Dicksonia antarctica*, *Azaleas*, *Genistas*, and others. We must not omit to commend the specimen white-flowered *Azalea*, trained bell-shaped; they are, probably, the best extant. *Abutilons* and other suitable plants clothe the pillars; and a stage running round the circumference is kept as well furnished with flowering and other greenhouse plants as the season renders practicable.

Figs are grown in fair quantity in a lean-to house, and include chiefly the older varieties, which are known to be free-cropping. There are plenty of vineries, and the crops of Grapes obtained are very satisfactory. Some old Vines in a low span-roofed house, apparently too aged for service, we are informed, still bear good crops of useful Grapes, and a new tenure of existence is to be granted them by training the rods down again to the front on the opposite side of the house. Pine culture, which is rapidly becoming a neglected industry in British gardens, is still pursued at Enville, and with success. Three nice fruits (Queen), weighing 14 lb., and cut at same time, affording good, if not, exceptional testimony. There are 2000 to 3000 Strawberry plants forced annually, and in the various fruit houses there is excellent accommodation for them. What a quantity of Peaches and Nectarines must be produced in the year from such a number of trees! Several smaller houses contain some, and then there is a case with span-top, about 365 feet long, 7 feet wide, and 14 feet high. Three of the four divisions into which this house is divided contain Peaches and



Nectarines, and embrace a good number of varieties, but Barrington Peach, and Nectarines Lord Napier, Humboldt, and Rivers' Early were mentioned as special favourites. The trees are in excellent condition, and bear good crops. In the remaining division, which is devoted to Cherries, we may mention a grand Cherry-tree (White Heart) which covers about 13 yards of the wall, and is one of the finest Cherry-trees we remember to have seen. A similar length of Peaches and Nectarines, with the addition of Apricots, is grown outside, with the protection of a glass coping at the top of the wall. At this season of the year, a good-sized house with low roof is devoted to Tea Roses in pots, of which there is a large stock. Afterwards, when these can be placed outside, they will be succeeded by a crop of Tomatos. Speaking of Tomatos, it may be useful to record the capital character of the variety Frogmore Selected, raised by Mr. O. Thomas, for planting at the foot of walls out-of-doors. Nothing could exceed the satisfaction the variety gave last season at Enville, and we have had other occasion to observe that it is excellent for this purpose. Warden Park Favourite has been given a trial, but Mr. Green thinks it may be discarded with advantage. Glenhurst Favourite has still a good reputation.

Of the principal houses reserved for the cultivation of plants, there are several good ones with span-roofs, in which we have seen grand batches of Adiantum and other Ferns, also greenhouse miscellaneous species, and a capital collection of Eucharis grandiflora. There are about one hundred 10 and 12-inch pots of these in the best of health. They have not been potted for four years, but are fed well with soot-water, and liquid-manure obtained from sheep-dung. They flower well twice each year. Orchids also in fair quantity are cultivated, but they are principally of those species most useful for the supply of cut blooms. There is, however, a good collection of Vandas and Aërides, well foliaged and in good health. Imported plants of Cattleya labiata autumnalis and Lælia autumnalis were seen, and a fine lot of established plants of Dendrobium nobile, Lælia anceps, miscellaneous Cyripediums, and two dozen grand specimens of Coelogyne cristata were noticeable. The stove contains a good collection of foliage plants useful for indoor decorative work, and in the summer season the pillars are graced with Aristolochias, Stephanotis, Gloriosa superba, &c. A house full of Azaleas reminds one again of the abundance of these useful-flowering plants found here. Chrysanthemums are grown in fairly large numbers, but for the needs of the place only, not for exhibition. There will soon be in bloom a number of white-flowering East Lothian Stocks in pots, being plants that were lifted from the open ground last autumn.

Enville used to be open free to the public on two days in each week. We are sorry to have to add, that four years ago the privilege was withdrawn, owing to the conduct of a small proportion of the numbers who annually visited the place. Her Ladyship, however, is still desirous that small and respectable parties, who wish to make a visit, should have that privilege, and by writing to the gardener beforehand, they may obtain a printed permit.

## FORESTRY.

### OUR TIMBER TREES.

(Continued from p. 168.)

A SPECIES coming rapidly into favour is the Douglas Fir. Up to the present, its use in plantations has been limited, owing to the comparatively high price at which it is sold, and if Larch-planters had experienced the same obstacle, we might have had fewer failures to record. In moderately-sheltered situations and fairly good and fresh soils, the Douglas Fir is likely to beat the record for fast growth, and the quality of its timber is also satisfactory. Compared with the Larch, however, it has one important drawback. The lower branches of the Larch are easily checked and killed off, and

exception when entirely isolated, it never becomes objectionably coarse and knotty. With the Douglas Fir this is otherwise, and nothing but close order will make it clean enough to please the timber-buyer, or render it useful at an early age. As we have no sufficiently rapid-growing nurse to mix with it, we must either plant thickly, or put up with coarse and inferior timber. To plant even a thousand to the acre would mean something like £5 per acre for plants alone if the smallest size were used, and this is rather higher than planters on a large scale care to go. Until young trees can be obtained more cheaply, it is hardly likely to become a common forest tree, although plentiful enough already as specimen trees. One parasitic disease (Botrytis Douglasii) has already made its appearance, attacking the young shoots; but whether this will ever prove a serious hindrance to its cultivation has yet to be seen.

As a rapid grower, Thuja gigantea is also frequently mentioned, and it has also the advantage of being easily propagated either from seed or cuttings. What sort of reception it is likely to receive in the timber market is another question. So far as we know, the timber of this species has never been imported into this country, and reports as to its quality are not so encouraging as those of the Douglas Fir.

When we come to compare the above or other introduced Conifer with our native hardwoods, it is apparent at once that the latter cannot put on the same bulk of timber in a given time as the former. But on the other hand, our hardwoods have a recognised position in the timber market which these introduced trees (the Larch excepted) have yet to acquire. Oak, Ash, Beech, and Elm of good quality always meet with a ready sale, and although their value has greatly depreciated during the last few years in correspondence with that of other commodities, we have no reason to believe that the demand has decreased to any extent. The natural supply of these timbers is nothing like so large as that of soft woods, nor is the land suitable for their growth of that class which is likely to remain uncultivated when once cleared. Unlike Pine timber, our home-grown hardwoods are still considered of better quality than imported wood of that class, in spite of the unfavourable conditions under which the former are grown. The most profitable and also the most rapid growing tree which our English climate can grow is probably the Ash, providing it gets the right sort of soil and situation. It seems doubtful economy, therefore, to plant Conifers whose timber is practically uncalled for, when indigenous species can be grown with less initial expense, and more certain pecuniary results. Even with such species as Scotch Pine and Beech, we have still to find their equal on tracts of poor soil and chalky hills, where the question is not so much what we ought, as what we can grow, and a live dog is always better than a dead lion. In ornamental plantations, anything so common as Beech or Oak would not, of course, be tolerated, but *de gustibus non disputandum est*. A. C. Forbes.

## PARIS.

### SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE.

THIS SOCIETY is about to form two new committees—one for Chrysanthemums, the other for Roses. At the *réunion* held on January 9, MM. Daval et fils, Versailles, staged a new *Odontoglossum*, which they have named O. Henrici, and for which they obtained a first-class award. This plant belongs to the O. Andersonianum group, it may be a natural hybrid or a variety of a type under which should be classed some plants which certain persons consider as distinct? This question remains to be answered. One thing is certain; that is, that this new *Odontoglossum* is a beautiful plant. It is remarkable for its flowers, with sepals and petals of a citron yellow, a little undulated, bordered with golden-yellow, and spotted with brown-yellow. At the same meeting, M. Troffant, of Versailles, staged a splendid new Cyripedium, for which a First-class Certificate of Merit was awarded him. This plant, named C. villosum Truffauti, is, according to the exhibitor, a natural hybrid of C. villosum × Boxalli, of which the parents shows traces. Two other hybrid Cyripediums were exhibited by M. Page, gardener to M. Lebandy (Robert), of Bougival. One, C. Nilssonii, is from C. Chantini × C. Boxalli; the second, C. Harrisii villosum, has, as parents, the plants whose names it bears. A first-class award was allotted to M. Page.

At the meeting on January 23, MM. Daval et fils showed *Cyripedium Harrisiano-superbum*, true, remarkable for its large and beautiful flowers; C. Charlesworthi, with a rose-coloured lip; and *Odontoglossum Rozzi*, a variety bearing violet spots. M. Truffaut staged *Selenipedium Schroderæ* var. splendens, brilliant in colouring. MM. Cappe et fils, nurserymen, of Vésinet, showed *Cyripedium hirsuto-villosum*, a splendid hybrid raised by them, differing from C. Germinyanum, although from the same parents. The plant flowered for the first time in 1890 in MM. Cappe's house. D. Bois.

## ERICA WILMOREANA.

THE present is a most fitting season for drawing attention to one of the finest of all the early spring-flowering Heaths. It is one of the earliest hybrids raised in this country, being first brought into notice about sixty years ago. Of its parentage I have no record, but as regards the value of the offspring there can be no question, whether for the greenhouse or conservatory. Under good cultivation it is a long-lived variety, being a most vigorous grower, so much so in fact, that it is sometimes shy to flower, unless carefully managed. It flowers best when in a measure pot-bound, but under these conditions much care is necessary that it does not suffer for want of water after the flower-buds are formed, otherwise there will be several blind or yellow ones formed, which will spoil the uniformity of the spikes. On the other hand, if watered to excess, there is a tendency on the part of this variety to make an adventitious growth late in autumn or during the winter. The remedy is plenty of light, a cool temperature, and close attention to watering. The foundation of a good crop of flowers is, as a matter of course, laid in the autumnal treatment prior to the plant being housed, a thorough ripening process being then most essential. After flowering, the spike-like shoots should be cut back hard, and young ones encouraged, otherwise the growths will soon be unmanageable, by reason of their length. Mildew is one of the worst enemies to fear, the dense growth favouring its development, but the usual remedy of sulphur will suffice. The colour of the flowers is deep pink, tipped white, and they last in good condition several weeks. Jas. Hudson. [See Knowles and Westcott, Floral Cabinet, ii. (1838), p. 115. Ed.]

## TREES AND SHRUBS.

### THUIA ORIENTALIS PENDULA.

AMONGST pendulous-habited Conifers, this is certainly one of the most distinct and attractive, while at the same time it is perhaps the most fastidious in its requirements. It is very apt, when growing under unfavourable conditions, to lose the lower branches, and in consequence it wears a naked and miserable appearance; but when seen in a healthy, thriving state, it must certainly be ranked as one of the most pleasing and ornamental of hardy Conifers. It differs much from the species, the flattened and freely-divided branches being replaced by large, pendulous, cord-like branchlets, with but few ramifications. Planted singly, and in suitable soil, it forms an ornamental, small-growing tree, of regular outline; while the long filiform branchlets impart a grace and elegance to the specimen for which it is justly remarkable.

The largest specimen I have seen is growing in deep, dampish, sandy soil, at Esher Place in Surrey, it being 16 feet high, 12 feet through, and with many

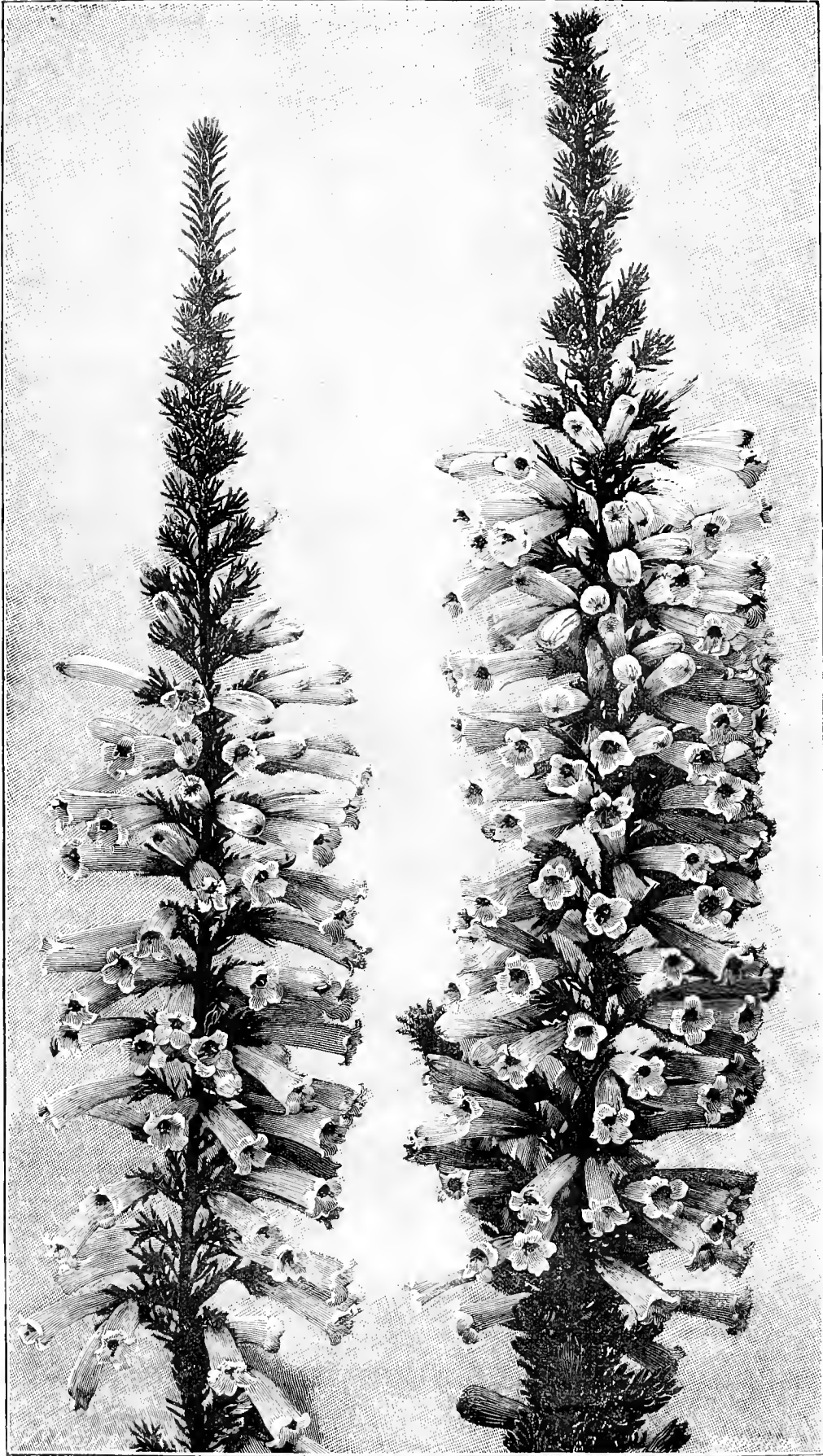


FIG. 27.—ERICA WILMOREANA X. (SEE P. 200.)

of the branchlets hanging gracefully downwards for 18 inches in length. From this specimen I have picked fruit similar in every respect to that of *T. orientalis*, thus proving conclusively that it is only a distinct and well-marked variety, and not a species as was at one time supposed. *A. D. Webster.*

#### CRATEGUS TANACETIFOLIA.

There is no reason why the tansy-leaved Thorn should not be classed with edible fruit trees. From its large yellow haws can be made a jelly, which resembles that made from the Guava (*Psidium Cattleianum*); and apart from this merit, not a very common one, considering the fewness of fruits suitable for the manufacture of jelly, the tree has characteristics deserving the attention of planters. For instance, it has large, yellow-coloured fruits, thus contrasting with those of the more common red haw. The foliage is very distinct, the hairs upon the leaves give them a greyish appearance, and the tree is of robust growth, with a fastigate habit, the main branches being upright and rigid. Other peculiarities are, the fruit is larger than that of other Thorns, excepting that of *C. mexicana* and *C. Aronia*, possesses prominent bractees, and is ribbed. The foliage is later in appearing in the spring than that of other species, with the exception of *C. orientalis*, from amongst which a profusion of large white flowers unfold late in the month of May, or early in June. The origin of the tree is somewhat doubtful, though it is supposed to come to us from the Levant. *William Earley.*

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WHITE, *Barford, Dorking.*

**CYPRIPEDIUM MASTERSIANUM, ETC.**—The recently-imported plants of *C. Mastersianum* should be first potted in crocks only, and the leaves well washed before this is done. Water these crocks often enough to keep them always moist, as this will induce the plants to make roots. Not having had any experience in the cultivation of this handsome species, I can only advise cultivators who possess several plants to place them in the various warm-houses, and in different positions, carefully watching them and noting where they thrive best. When root-action is commencing, re-pot the plants into ordinary Orchid-compost. Plants that have their bottom leaves intact need not be repotted, but if the gardener have a suspicion that the sphagnum-moss is decaying, fresh healthy moss should be substituted for it. *Saccolabium ampullaceum*, *S. curvifolium*, *S. Hendersonianum*, *S. giganteum*, *S. zuttatum*, *S. retusum*, *S. violaceum*, *S. Blumei*, and *S. praeorsum* coming from the hottest tropical regions naturally require a high temperature. They do best in baskets of teak, for being of dwarf growth, there is little difficulty in placing them close to the light, a matter of great importance to their well-doing. Hung up, these plants are less liable to be reached by cockroaches, which do much injury to them by nibbling the points of the roots. All root disturbance should take place as soon as root action has begun.

**ANGRÆCUM SESQUIPEDALE AND OTHERS.**—This interesting plant always attracts attention when in bloom, on account of the remarkable character of its flowers, which are large, bold, and of ivory whiteness, and furnished with tail-like spurs exceeding 1 foot in length. Plants of *A. sesquipedale* which have finished flowering are pushing a number of young fleshy roots out of their stems, and any plant in need of more root-space, or the sphagnum-moss of renewal, should forthwith be attended to. If any specimen have lost its lower leaves, it may be lowered and repotted, and treated in all respects like *Asiides* (see previous Calendar). *A. sesquipedale* likes heat and moisture, and the East India-house forms a suitable place in which to grow it. It will thrive, however, in a warm part of the Cattleya-house. The roots like moisture rather than dryness, therefore when water is needed, let it be afforded in abundance, but avoid always keeping the sphagnum-moss wet, or the "spot" disease will speedily appear on the leaves. The singular *Angræcum pertusum* is another interesting plant, with small white flowers arranged symmetrically along the upper side of the spike, and owing

to this feature it is generally known as the "fish-bone" Orchid. It is not difficult to cultivate, if afforded similar treatment to that afforded to tropical species generally. *Angræcum distichum* deserves more general cultivation, but it is at present not generally known; all the same, it is well worthy of the attention of the amateur, especially if he have a fancy for the so-called botanical species. Its tiny flowers, of unusual whiteness and pleasant odour, are produced in profusion. *Angræcum distichum*, like its congeners, succeeds in the East Indian-house. Another small-flowered species is *A. odoratissimum*, which although not a showy Orchid, is well worth attention, if only for its perfume.

**THE INTERMEDIATE-HOUSE.**—The various *Miltonias*, as *spectabilis*, *Moreliana*, *Blunzi*, *Lubbersiana*, *Peetersiana*, and *virginialis*, have started to grow, and for those requiring more rooting space this is the best season for re-potting. These plants being of dwarf growth, shallow pans suit them best, and as extension in every direction is rapid, considerable root-space is required by them. Those which are bare in the centre may be divided, and have all diseased or useless pseudo-bulbs and dead roots cut away. The living thriving pieces may be made up again into neat compact specimens, and those which have but few roots should be secured with pegs stuck into the compost, or they will never do any good. *M. Regnelli*, *M. cuneata*, *M. Clowesii*, *M. stellata*, and *M. candida grandiflora* are stronger-growing, and should be accommodated in Orchid-pots, not, however, disturbing any which have well-advanced flower-spikes, the proper time for the operation being on re-commencement of growth. The whole of the *Miltonias* here mentioned succeed in fibrous peat of good quality, from which all the fine matter has been knocked out, using no sphagnum-moss whatever; but plenty of crocks to prevent souring of the peat, frequent waterings being required by the plant whilst growing.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Droppore, Maidenhead.*

**HORSE-RADISH.**—Although often grown in some out-of-the-way part of the kitchen garden, and allowed to occupy the same ground for many years without re-planting or other cultural attention, it is a vegetable which, to obtain at its best, that is, with roots of half the size of a man's wrist, must be given good culture, and it should not be left year after year without being re-planted. If a fresh piece of ground which has been manured and thoroughly trenched can be spared, planting may take place shortly. When new ground for a bed is not to be had, the old bed should be trenched forthwith to a depth of 2 feet, a heavy dressing of well-rotted dung and any burnt refuse being dug into the land and well incorporated with it. In trenching it, let every particle of horse-radish root be gathered up, saving all the pieces that are large enough, and lay them in, in rows, on a north border for future use. Pieces suitable for making planting-sets should also be selected, those which are young, straight, and about 12 inches in length being preferred, and after all the lateral thongs and small roots are trimmed off, lay these also in some out-of-the-way border till wanted for planting. For this operation a good long dibber of either wood or iron with a tread is required for making the holes, which should not be less than 15 inches in depth, the top of the set when dropped in being 2 or 3 inches below the surface. A small quantity of soot and wood-ashes should be scattered over the bed, and then the surface raked over, so as to fill up the holes. The sets should be planted in rows 18 inches apart, and at 1 foot asunder in the rows. If the soil consists of rich, heavy loam, Horse-radish is better for being grown on low ridges, and the sets planted in a slanting direction just under the surface. The roots are easily dug up for use when planted in this way; and some of the best roots I have seen were thus grown in a new garden made on what had previously been a pasture.

**ROOT STORE.**—There should be no delay in placing seed Potatoes for outdoor planting on end in shallow boxes, the eyes being placed uppermost, special care being taken of the central or strongest sprouts, if sprouting has taken place. The tubers for consumption should be turned over occasionally, and cleared of all sprouts, otherwise deterioration will take place. Onion, Carrots, and other roots in store should be similarly treated, and decaying roots removed.

**CELERY.**—Celery required for use early in the autumn should now be sown in pans or boxes filled

with light rich soil, the seeds being very slightly covered. Place the seed-pans, &c., on a hot-bed, or in a warm house, where they should remain till germination takes place, and then be at once removed to a cooler place. A mild hot-bed should be made soon afterwards for pricking-out the seedlings upon, which last may be done when they are large enough to handle; or should some heads be required for early exhibition purposes, the required number may be put into small pots, grown on, and afterwards hardened-off by degrees in readiness for planting-out at the end of the month of May. Early Rose is one of the best varieties for sowing at this date.

**VARIOUS.**—A small sowing should be made in pans or boxes of Brussels Sprouts, Eclipse and Autumn Giant Cauliflowers, and of Cabbage. A small breadth of Potatoes may be planted on a sheltered border, which should be near to a south wall if possible, and where it will be easy to afford protection from frost. A sowing of Peas may be made, selecting a variety with wrinkled seed, such as Duke of Albany. Seeds of Broad Beans and Peas sown some time since in pots and on turves, should be brought out of the warm houses as soon as they are 1 inch above the soil, and placed in cold frames, keeping the lights rather close for a few days, and afterwards ventilating freely even removing the lights entirely in fine mild weather.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**LABELLING FRUIT TREES.**—It is very important that the names of all newly-planted trees received from the nurseries should be properly written on durable permanent labels of lead, zinc, or earthenware, before the writing on the nursery tickets has become illegible. Whatever the kind of label used, let the wire tie which fastens it to the tree, be of sufficient length to form a ring 4 to 6 inches in diameter, and fix this round a side branch rather than the stem, the latter increasing more rapidly in girth than the former. For my part, I prefer to draw a plan of the garden, making small circles, each of which has in its centre a number, indicating the position of each tree, and on one side of the plan I place the numbers with the names of the varieties and kinds attached, so that the position and name of each tree is readily found.

**NEWLY-PLANTED FRUIT TREES AND BUSHES.**—Fruit trees which were planted on coming from the nursery, or transplanted during the past autumn, should now be pruned. Before commencing to prune a tree or bush, the gardener should determine the number and position of the branches to be left to form the basis of a well-proportioned head, either as standard, bush, pyramid, espalier, or cordon. In pruning standard trees and bushes, one of the chief points to be observed is to cut out all superfluous shoots, that is, those which, if retained, would prevent, in great measure, the sunlight getting to the inner parts of the crown or head when the leaf is on them. The laterals which are left should be shortened to a couple of buds each, and the main branches to about one-third of the length of the previous year's growth, the terminal bud being one which is on the outer side of the shoot, which points towards the direction in which it is wanted. Pyramids require their leading shoots to be shortened about one-third of the length of last year's growth, cutting them to a bud that is well placed for taking the lead, pruning back the main side-shoots into well-ripened wood, and always having an eye to the symmetrical aspect of the trees. Spurr-in closely all laterals, and if any of the branches show a tendency to grow upwards instead of horizontally, fasten them in the proper position to stakes driven into the soil. Espaliers, if horizontally trained, should have the upright leader cut back to a length of from 12 to 15 inches beyond the last pair of side-growth, close to the bud that is placed immediately above the pair, which will supply the next tier of branches. The lateral shoots should be pruned to a couple of buds, but the short starchy shoots of from 3 to 4 inches long, which are usually fruit-buds, or will eventually make such, should not be pruned. The side branches themselves will not require to be stopped, but extended till they have filled the space allotted to the tree, when they should be treated like the lateral shoots—that is, cut back to two buds annually. Cordons should have all the lateral growths spurred-in, and the leading shoot or shoots allowed to grow in length about 12 or 18 inches, according to the vigour of the cordon. It should be borne in mind that trees

making strong growth, whose wood is well ripened, should not be hard pruned like those of weakly growth. Wall trees, espaliers, and cordons, as soon as pruned, should be secured in their proper positions, the soil having settled itself by this time. If the trees and bushes were not mulched with stable-manure when planted, a mulch may now be given, and the spaces between the trees lightly dug over.

#### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**GLADIOLUS.**—The beds in which these are to be planted should be prepared without delay. Well trench the soil, and add a good proportion of decayed manure; if obtainable, cow-manure should be preferred. The Gladioli delight in a rich well-drained soil, and a position unshaded by trees should be chosen. An open spot in the garden is the best, provided the plants are not exposed to rough winds. As a rule, the planting of the corms may be proceeded with any time from the beginning of March; but in some localities the soil may be too cold, in which case it is better to place the corms singly in 4 or 5-inch pots, and allow them to start gently in a frame or cool house—growing them on thus for a few weeks, before planting them outdoors. The corms require to be planted about one foot apart, and securely staked as growth advances. Beds of the Colvillei alba and the Lemoinei varieties, which were planted in the autumn or early winter months, should receive a good mulching of half-rotten manure if such has not been already applied.

**CLEMATIS, JACKMANI**, and other varieties, when planted in a bed, afford a fine display of richly-colored flowers during late summer and autumn. They are, however, not so much employed in the flower-garden as they might be. It is usual to peg the branches and stems down to the soil, or train them on pieces of wire stretched slightly above the ground, in which manner they succeed admirably. An excellent edging to a bed of Clematis is formed of *Dactylis glomerata*, or *Pelargonium* with silver variegated leaves, either of these contrasting well with the purple and other rich colours of the Clematis blooms.

**MIGNONETTE.**—For an early out-of-doors supply of flowers a sowing should now be made in 3-inch pots, this being a size very handy for turning out. A suitable compost in which to sow is made of loam two-thirds, leaf-mould one-third, and a small quantity of sand if the loam be tenacious; the drainage should be good. Having made the soil quite firm, and levelled the top, sow twelve seeds on each. Mignonette does not bear heat, and the seed should not come into a temperature exceeding 50° to 55°, and as soon as the seedlings are through the soil, afford plenty of ventilation; harden off by degrees preparatory to planting out in a somewhat sheltered position. Useful varieties are Mchet, Miles' Spiral, and Golden Gem, the last-named being very compact and fragrant, and a decided acquisition.

**PELARGONIUMS.**—Speaking generally, these plants should be propagated in the autumn, but losses will occur during the winter months which have to be made good at this season. In making the cuttings, each should be cut just below a joint, inserted singly into thumb-pots in light sandy soil, and made firm; the latter point deserves careful attention, to ensure rapid rooting. Place in a temperature of 60° to 70°, or plunge the cutting-pots in leaf-mould, coal-ashes, or Coconut fibre refuse over a gentle hot-bed, avoiding, however, much humidity in the pit or frame, or the cuttings will damp off badly.

**AGERATUMS.**—Cuttings may now be taken, which root freely enough whether cut just below a joint or not. Insert them in sandy soil in pots or boxes, and place in a warm-house. The most expeditious manner of striking cuttings of this plant is to insert them in ordinary saucers filled with sand and water, and place in a brisk bottom-heat or over the hot-water pipes in the propagating-house. Under this kind of treatment, the cuttings will frequently make roots in four days. They should be potted-off without much delay after becoming rooted. Seeds may also be sown in heat, for the production of plants by the end of the month of May.

**MESEMBRYANTHEMUM CORDIFOLIUM VARIETATUM.**—This is one of the most difficult bedding plants to propagate, unless great care be taken in preparing the cuttings, and with their treatment afterwards. The cuttings should not be bruised in the least, and a very sharp knife should be used, so that the cuts which should be made below a joint, may

be clean. The cuttings should be dibbled at about an inch apart into 5-inch pots, filled with a mixture consisting of two parts clean sand and one of sifted leaf-mould, with a thin surfacing of fine clean sand, well watered in with a fine sprayer, and the pots placed on a shelf in a house whose temperature does not fall below 65°, and where there is no drip. Shade the cuttings from bright sun, and afford no water, if the atmosphere of the house is moist, till after they are fairly well rooted, which should be in about fourteen days; pot them off singly into thumb-pots, keep them in a growing temperature, finally shifting them into 3 or 4 inch pots, and gradually hardening off in cold pits or frames.

**DAHLIA CUTTINGS.**—The tubers of any varieties required to be propagated may now be placed in heat for forming cuttings. Cover the tubers with a thin light soil, watering down amongst the roots with tepid water. When the growths are 3 to 4 inches long, take off the foremost as near to the root as possible, and insert them singly in thumb-pots in sandy soil and plunge in bottom-heat; or if more convenient the cuttings may be dibbled in Coconut fibre refuse in a propagating case, and when rooted pot off. It sometimes happens that the first cuttings from the old roots are hollow in the stem, these should be rejected, for they seldom root freely, the smaller cuttings are much to be preferred in every way.

**MISCELLANEOUS WORK.**—All outdoor work should be pushed on as rapidly as possible, and grass-walks, lawns, gravel-paths, and drives made neat and tidy. Should moss or other weeds have made their appearance on the two latter, they may be speedily destroyed by the use of one of the many advertised weed-killers. Herbaceous borders should receive attention either in the matter of re-arranging or the making good of any vacancies that may have occurred, as the case may require. A selection of plants may be made from a list given in a former Calendar.

#### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**FIG TREES PLANTED IN HOUSE.**—Where forcing was commenced early in the year, these trees will be starting well into growth, requiring attention in the matter of tying down or thinning out shoots where crowded. A moist atmosphere, by means of syringing twice a day, should be maintained, and the afternoon syringing should be done early enough to let the wood get dry before nightfall. If the border requires it, water should be applied, and slightly warmer than the temperature of the house. Weak liquid-manure may be afforded if the trees are weak in growth. The night temperature should vary from 55° to 60°, and rise during the day to 75° or 80° by sun-heat. Close the house in the afternoon with a warmth at 70°; when higher than this figure, a free circulation of air should be afforded.

**EARLIEST FORCED FIG TREES IN POTS.**—These plants should be supplied at regular intervals with weak, and warm liquid-manure, and if the drainage is what it should be, there will be no fear of supplying more than the plants can make use of. Syringe the trees morning and afternoon on fine days, and in other ways keep the atmosphere moist. All gross shoots should be stopped at the fifth or sixth leaf, interior shoots removed or thinned out, as well as all useless spray, so that the fruit-spurs and fruit may have the full benefit of air and light. If the pots are filled with roots, a top-dressing of stimulating material may be given. Strips of zinc, 3 or 4 inches in depth, placed round the rim of a pot, will allow of a good thickness of materials. The bottom-heat should stand steadily at 85°, the temperature of the air at 65° to 70° at night, according to the state of the weather, affording fresh air in small quantities on all favourable occasions, and closing early in the afternoon at 75° or 80° by sun heat. Thin the fruit as soon as it can be decided which are the more promising.

**EARLY PEACHES.**—Let these fruit trees be pushed on by closing the house early, no harm accruing to them by so doing during the prevailing mild open weather, and syringing them with tepid water at closing time. Do not use more fire-heat than is really necessary on cold nights. A temperature of 50° will suffice for the present, advancing 5° in mild weather. When the fruits set, partially thin the crop by removing those fruits which show at the back of the shoots and in clusters of twos or threes.

The succession-house should be treated as advised in an earlier calendar. Unpruned trees in late houses should be pruned, cleaned, and fastened to the trellis forthwith. Keep these trees cool for the present, with full ventilation afforded night and day. Water may be afforded at the root if there is any suspicion that the soil of the border is dry.

**PINERY.**—Plants which showed for fruit early last month will soon be in flower, and will then require a temperature of 70° at night, with a small amount of air by day when the internal heat reaches 80°. Shut up early and economise fuel thereby. Water carefully, examining every plant twice a week, and afford water only to those which really require any. Keep a moist air by wetting the walls, paths, &c., twice a day, but be sure that the moisture which condenses on the glass does not drop on to the crowns or fruits. A batch of plants for succession should now be afforded an increase of top and bottom heat, so as to induce them to flower next month. Give one good watering, enough to moisten the whole ball and no more, till the crown appears, and keep them rather dry if the plants are disposed to run to leaf.

#### PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

**THE CONSERVATORY.**—This building may now be thoroughly overhauled, and the climbing plants therein pruned and regulated. If this work be well done, it will suffice for the next four months. As all kinds of plants thrive better in a clean house than in the opposite, and they are easier to keep clean, the wood-work, glass, and walls should be rendered quite clean, or be painted and white washed as may be required.

**CHRYSANTHEMUMS.**—The young stock of these plants will in most cases be rooted, and those which are rooted should be placed on a greenhouse shelf near the glass. Much depends in Chrysanthemum culture on a good beginning. I would advise gardeners to keep the cuttings for the next month or two as cool as possible, with as much ventilation afforded as is consistent with safety to the other inmates. In close houses the plants become drawn and weakly, and their constitution soon ruined. No re-potting will be needed before the cuttings have plenty of roots, and on the other hand they must not be allowed to starve by being kept in the pots after these are nearly filled with roots. For the first potting the compost should be of a light nature, and consist of equal quantities of good loam and leaf-mould, some river-sand—more or less according to the kind of loam used, with a sprinkling of wood-ashes. The potting should be firmly done by hand only. Much water should not be afforded until roots have pushed pretty freely into the new soil.

**BEONIAS.**—The tuberous varieties should now be shaken out of the soil in which they have been kept, re-potted into pots of two sizes smaller, and given a start in a temperature of 60°. Seedlings raised last autumn, and which were pricked-off into pans may now come into thumb-pots, and be started into freer growth. Begonia seed may now be sown to supply plants for late flowering. The seed-pans may be half filled with crocks, and over these place a compost consisting of peat and leaf-soil two parts, and one part silver-sand. There should be little or no covering of the seed with soil, although a sprinkling of sand is not injurious. Great care must be taken not to disturb the seed when watering the seed-pans, by using the finest of rose-cans, or sinking the pans to two-thirds their depth in a pailful of water. A shelf in a warm greenhouse is a suitable place for the seed-pans till the first rough leaf is made.

**ROSES IN POTS.**—These plants should now be pruned, and re-potted or top-dressed, as each may require. My practice is to re-pot and top-dress in alternate years. In re-potting and top-dressing, I would advise the use of strong loam three-quarters, one-quarter clean river-sand, with a fair sprinkling of Vine-manure. A Peach-case where the trees are on the move is a capital place for pushing on pot Roses, provided they are not shaded in any way.

**THE FLORA OF THE PARIS STREETS.**—A census of the plants found wild or growing spontaneously in the streets of Paris, shows that the number of such plants is not fewer than 209. In the courtyard of the Louvre (Place du Carrousel), forty-five species may be found. The banks of the river and the canals furnish the greater number.



## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETINGS.

THURSDAY,	FEB. 20—	Linnean Society meet.
FRIDAY,	FEB. 21	{ Royal Gardeners' Orphan Fund, Annual Meeting at Anderson's Hotel.
SATURDAY,	FEB. 22—	Royal Botanic Society meet
SALES.		
MONDAY,	FEB. 17	{ Hollyhocks, Roses, Spiræas, Begonias, &c., at Protheroe & Morris' Rooms.
TUESDAY,	FEB. 18	{ Carnations, Calceolari, Herbaceous Plants, Roses, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	FEB. 19	{ Great sale of Japanese Lilies, Tubero- seas, Gladioli, Fœonies, Begonias, &c., at Protheroe & Morris' Rooms.
THURSDAY,	FEB. 20	{ Stove and Greenhouse Plants, hardy Border Plants, and Bulbs, &c., at Protheroe & Morris' Rooms.
FRIDAY,	FEB. 21	{ Hardy Perennials, Clematis, Amaryllis, Carnations, &c., at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39° 3'.

The Royal Horticultural Society.

THE proceedings at the annual meeting of the Royal Horticultural Society resulted in a triumphant vindication of the Council.

Nor is that surprising. The financial state is sound, the number of new Fellows increases steadily, Chiswick is in good condition, the Drill Hall meetings are well supported, and the Temple Show is increasingly successful, and the *Journal* is well conducted. All this, it must be remembered, is the direct result of the changes which were made in consequence of the exodus from South Kensington, and among those responsible for the present condition of affairs, none has taken a more prominent and useful part than the present Secretary. All these facts are obvious to the Fellows, and were properly enough enlarged upon by the President.

The other side of the shield was not shown, and though an amendment was proposed and seconded, it failed to attract the sympathies of the meeting. On such occasions as annual meetings, general principles are discussed rather than minor details of management. On this account, it was, we suspect, that the highly objectionable procedures in connection with Chiswick, and other matters which have caused so much feeling, were passed over entirely.

The provinces which claim, and rightly claim, a greater share in the benefits of the society will, for the present, have to be content with the appointment of two deputies to attend the show at Chester and that at York, though what the deputies are going to do is not apparent. This is an imitation of the plan which has been carried out in Paris for many years, and we suppose, therefore, has been found useful. The whole question of the relations between the provincial and the parent societies needs discussion. At present neither the head-centre nor the local bodies seem to have any ideas beyond flower-shows. We do not wish to disparage their usefulness, but we think the co-operation of metropolitan and local societies might be much more advantageously turned into other channels. The advancement of horticulture is the main point to be striven after; the gratification of the exhibitors and the recreation of the public are relatively subordinate matters. In the meantime it is a fair question to ask what advantages do the affiliated societies get now by their connection with the Royal Horticultural Society, and what they might get in the future? This is too large a subject to enter upon now. It must

suffice to point out that in an educational direction alone much might be done.

The election of members of Council is an affair which the Fellows should take into their own hands, but almost invariably they neglect to do so; and the consequence is, that now there is not a single representative gardener on the Council. Everyone forgets that the proposals for new members of Council should be sent in before January 10! It may be suggested that the Council should, each year, about one month before the proper time remind the Fellows of their duties and of the date when they should be executed.

In moving an amendment to the adoption of the Report, Mr. SMEE abandoned the formidable battery of questions which he had proposed to ask at an earlier period, and which would at least have thrown some light on the discreditable proceedings at Chiswick, and confined himself to a legal point—the right of the Society to elect a Life-Fellow and make payment to him.

The meeting was in no mood to listen to legal subtleties, and was no more judicial than such assemblages usually are. Many will remember that a cognate difficulty arose in the case of Mr. D. T. FISH some years ago. The point should obviously be settled, in view of preventing the indignities which may, as was the case with Mr. FISH, be some day cast upon the very men it was desired specially to honour, and which it is conceivable might affect the future payment of Mr. BARRON'S pension.

Still less inclined was the meeting to sympathise with the questions put by Mr. BARR. These were so obviously personal, that it is much to be regretted they were ever put.

Mr. BARR'S ill-judged catechism proved an opportunity for Baron SCHRODER to make an eloquent vindication of the Council in general, and of Mr. WILKS in particular. He was followed in a similar strain by Mr. VEITCH, so that the proceedings ended with a sort of ovation for the Council of the Society and its officers.

Arbor Day in Japan.

WHAT this anniversary signifies in the United States of America has long been understood by our readers, and it will certainly please them to know that the idea is being taken up in Japan by both official and non-official persons; in fact, it is very likely that the first celebration of Arbor Day will take place on the 11th proximo, the anniversary of the accession of the first Emperor of Japan; or on April 11, the anniversary of the said monarch's death. The former would certainly be the more auspicious occasion. But it is proposed to make of Arbor Day in Japan a more important affair than, as we understand, it is made in the United States. All the scholastic authorities in Japan have taken to the idea, and it is proposed, through its adoption, to interest all the boys and girls of Japan in the study of botany—the State working out a profit in the establishment of forests wherever the growth of timber is now required. It is scarcely necessary to say now that there is no study in the whole curriculum equal to that of botany, and the Japanese authorities have issued an extended "minute" full of wise provisions or suggestions for the guidance of heads of schools, all bearing directly on the planting, growing, and bringing to maturity, of flowering shrubs and plants, and of forest trees—Oaks, Pines, &c. It would be useless here to do more than state that the "minutes" of the State official seem to cover the whole ground of a good course of botanical instruction; but the necessity for its proving a paying concern is kept prominently

before "all whom it may concern." The United States Consul, who was privileged to introduce the subject of Arbor Day to the Japanese Sub-Secretary of Finance, must surely long since have been congratulated by his chief, Mr. J. S. MORTON, on the success of his effort, as he deserves to be by all lovers of botany throughout the scientific world.

**DASYLIRION ACROTRICHUM** (see Supplementary Illustration).—Of this fine decorative plant, a specimen stands in the foreground of our view of the conservatory at Corbie, Newton Stewart, N.B. *Dasylirion* belong to the natural order Liliaceæ, and *D. acrotrichum* is a native of Mexico. It is rarely met with in gardens, notwithstanding the ease with which it may be cultivated in the greenhouse, and its graceful habit; and it is still more rarely observed in bloom. The specimen shown in the view possessed a shaft and panicle of flowers of 8 feet in height, being doubtless a remarkably handsome one. The flowers are white and the panicle dense, cylindrical, and usually measuring 4 to 5 feet in length. The leaves are linear, 3 to 4 feet long, and the trunk is simple and of very slow growth.

**LINNEAN SOCIETY.**—On the occasion of the meeting held on Thursday, February 6, Mr. C. E. CLARKE, F.R.S., President, in the chair, the Rev. E. WOODRUFFE-PEACOCK and Mr. W. COLE were admitted, and Messrs. J. BACKHOUSE, GILBERT CHRISTY, and J. RICHARDS were elected Fellows of the Society. Sir W. H. FLOWER, K.C.B., F.R.S., presented to the Society, on behalf of the subscribers, a portrait of Mr. WILLIAM CARRUTHERS, F.R.S., Ex-President of the Linnean Society, painted by Mr. J. HAY. On the motion of Mr. J. G. BAKER, F.R.S., it was resolved *nem. con.* that the portrait be accepted, and that a cordial vote of thanks to the donors be recorded. On behalf of Mr. B. G. COBURN, Dr. D. H. SCOTT, F.L.S., gave the substance of a paper on "Polystelic Roots of certain Palms." He remarked that, with scarcely any exception, the roots show one normal vascular bundle or stele. The author, utilising material from Caylor, found that in *Areca catechu*, Linn., *Cocos nucifera*, Linn., and a species of *Versaffeltia*, the young roots agree with this condition; but on examining older and thicker portions of the same roots, he found many steles present. After discussing the origin of this, the author considered the change to be primary, not secondary, and suggested that these roots might serve as props to the stem. The paper was criticised by Mr. GEORGE MURRAY and Professor TBAIL, Dr. SCOTT replying to objections.

— An evening meeting will be held on Thursday, February 20, 1896, at 8 P.M., when the following paper will be read:—"On Discoveries Resulting from the Division of a *Prothallus* of a Variety of *Scolopendrium vulgare*." By Mr. E. J. LOWE, F.R.S., &c.

**CYPRIPEDIUMS AT KEW.**—"The editorial note on the collection of cultivated *Cypripediums* at Kew, published last week under the heading of "Hybrids" (p. 175) is both misleading and untrue. There are sixty species of *Cypripedium* (including *Selenipedium*) in the collection, and, except only the rare *C. Fairrieanum*, these are all that are known to be in cultivation. Of the hundreds of hybrids now known (in the list published in the *Gardeners' Chronicle* last year, February 16, p. 199, there are 522 enumerated), only thirty-two are represented at Kew. During the winter, the more delicate species are kept in the small private houses, where the conditions are more suitable than in the large houses to which the public are admitted; but anyone specially interested is permitted to see the plants in the private houses. When the note in question was written, there were thirty-six species and twenty-four hybrids on exhibition in the two public Orchid-houses, and of these fourteen species and seven hybrids were in flower. Every plant has a label indicating whether it is a species or a hybrid. It is difficult to believe that anyone acquainted with these



A FLOWERING SPECIMEN OF *DASYLIRION ACROTICHUM*, IN THE CONSERVATORY AT CORSEBIE,  
NEWTON STEWART, N.B.



plants could, after actually inspecting the collection at Kew, arrive at the conclusion that hybrids predominated there, and that 'pure species were relatively very few.' *W. T. Threlson Dyer.* [We are glad to have the opportunity of publishing this note, as it is sufficient evidence that the original species, which are in danger of being lost elsewhere, are well cared for at Kew. Our figures and memoranda differ from those above cited, but as we visited the collection for a specific purpose, though of necessity hastily, it is more than likely we overlooked several species, and hence arrived at the conclusion that hybrids were predominant. Ed.]

**KEW GUILD.**—The annual general meeting of the Kew Guild will be held in the Gymnasium, near Kew Gardens Railway Station, on Thursday evening, February 27, at half-past seven.

**SOCIETY OF ARTS**—A meeting of the Applied Arts Section of the Society of Arts was held recently at the Society's Rooms, John Street, Adelphi, when Mr. F. INIGO THOMAS read a paper on "The Garden in Relation to the House," and which is reported in full in the *Journal of the Society.* Mr. T. G. JACKSON presided. Mr. THOMAS said he thought that as a nation we were beginning once more to realise the charm of a formal garden. We were commencing to infuse a breath of life into some of our buildings, and it was natural that the growth of interest in the direction of architecture should be accompanied by a wish to give the buildings some proper and dignified setting. Giving a history of garden architecture of old, Mr. THOMAS pointed out that old gardens were divided into several departments, and each of these bore a character distinctly its own. Passing on through the development of the pleasure-grounds of old, he suggested that the period of greatest activity might be placed in the reign of WILLIAM and MARY. Following a description of some Italian gardens, Mr. THOMAS proceeded to give his idea of how a garden should be made in these days a proper adjunct to the house. It was well, he said, in choosing a site, to depend more upon the masses of foliage which always existed than on what was proposed to be planted. But the difficulty was, that the idea existed that a different hand was required for the grounds to that which designed the house, and further that it was time enough to consider the grounds when the house was finished. He contended that if an architect had such a limited experience of country life that he could not be entrusted with the grounds, he certainly would not be competent to design a living home in the country; and that to place the whole of the designing in the hands of one individual was the only means likely to result in harmony. The paper was illustrated by numerous lantern-slides, showing the various types of gardens mentioned.

**THE GARDENERS' ORPHAN FUND**—We are glad to learn that His Grace the Duke of BEDFORD has accepted the Presidency of this Institution in the room of the late Sir JULIAN GOLDSMID.

**FLOWER SHOW AT CAIRO.**—On the 21st of January, the Cairo Horticultural Society held an exhibition in the Eshkekeysh Gardens. The Khedive was the Patron and opener of the exhibition, which was well supported by the principal residents in and by visitors to Cairo. It was, altogether, a complete success, for which great credit is due to Mr. WILFRID CAREY, the Honorary Secretary of the Society. The exhibition was divided into two sections: one devoted to flowering plants; plants grouped according to the exhibitors' taste; plants with decorative foliage; bouquets; table decorations, and cut flowers. The second section contained but two classes: for fruit and vegetables respectively. The show was the first of its kind held in Cairo, and therefore, somewhat of an experiment. All concerned with the management of it are to be congratulated upon the enterprise which led them to embark upon the scheme, and the great success which rewarded their efforts.

**HORTICULTURE AT THE INDUSTRIAL SCHOOL, FELTHAM, MIDDLESEX.**—The London County Council having decided to afford the boys at Feltham

School instruction in horticulture, combined with practice, have appointed to the post of lecturer and instructor in the art of gardening Mr. A. McMILLAN, for a long term of years head gardener to Lady BATEMAN, Oakley Park, Scole, Norfolk.

**STOCK-TAKING, JANUARY.**—However sanguine many might have been after considering the balance-sheet of the trade for 1895, few would have cared to predict so favourable an opening of the account for 1896 as has been furnished by the trade returns for January, issued a few days since. The figures are simply astonishing. The imports for the month are valued at £38,473,856—or an increase over the corresponding period last year of £1,730,375; the exports foot up at £21,127,168—an increase of £2,902,932 over the same period in 1895. All this reads "straightforward hard work, and plenty of it." Here are our usual extracts from the 'summary' table of imports for the past month:—

IMPORTS.	1895.	1896.	Difference.
Total value of imports	£ 36,743,431	£ 38,473,856	+1,730,375
(A.) Articles of food and drink—duty free ... ..	11,872,133	12,512,808	+640,675
(B.) Articles of food and drink—dutiable	1,950,705	1,894,900	-57,805
Raw materials for textile manufactures ... ..	9,825,233	9,031,186	-794,047
Raw materials for sundry industries and manufactures ...	2,693,577	3,189,712	+496,135
(A.) Miscellaneous articles ... ..	1,308,847	1,258,115	-50,732
(B.) Parcel Post ... ..	128,784	122,636	-6,148

In provisions there is a marked increase, and in butter. So marked is the increased import that the entries are now divided into colonies; of course, European imports still hold front rank. Tobacco has increased—always a good sign; and though Wheat has gone down, flour and other cereals are greatly in excess of previous records. By-the-way, the price of English Wheat is now 25 per cent. in excess of what it was in 1894. Raw materials have gone up nearly half a million sterling; timber is better by some £170,000; and manufactured articles of various kinds are considerably greater than is on the record for the same period last year—silk goods being notably greatly in excess. But it is useless to proceed further in this direction, and we turn to the imports of fruits, roots, and vegetables—always an instructive item:—

IMPORTS.	1895.	1896.	Difference.
Fruits, raw—			
Apples ... .. bush	487,339	293,163	-194,176
Cherries ... .. "	—	—	—
Plums ... .. "	72	210	+138
Pears ... .. "	3,261	834	-2,427
Grapes ... .. "	733	1,589	+856
Unenumerated ... ..	31,751	47,316	+15,565
Onions ... .. "	461,683	697,936	+236,253
Potatoes ... .. cwt.	112,795	41,672	-71,123
Vegetables, raw, unenumerated ... .. value	250,652	58,347	-192,305

It may not be out of place here to notice the complaint of an old correspondent, who says:—"For some years I have been trying to get the authorities in Whitehall to record in the Trade Returns the names and values of the vegetables imported into this country from abroad; this for the benefit of agriculturists and market gardeners at home—in vain! My last application was made in good time for the consideration of the committee. Perhaps some one else may be more successful." It has just occurred to us that, as the Russians are now taking, or about to take, to growing their own Tea, a new field for enterprising Birmese, with some English capital, has been found in some recently explored parts of that far-away land. The wild plant has been found in great luxuriance—proof in favour of the cultivated article.

**"SUITES AU PRODOMUS."**—Botanists and horticulturists will be pleased to hear that the ninth volume of this work is about to be published. It is devoted to the Order Bromeliaceæ, and has been prepared by Dr. C. Mez, of the Breilan University. It will comprise a summary of the researches of BRONGNIART, E. MORBEN, WILKOMM, BAKER, and others, together with the enumeration of the many species discovered since the publication of the works of those authors. About 1000 species are described, of which 239 are in cultivation. The book is likely to be of importance not only to botanists, but also to cultivators.

**JASMINE FRUITS.**—Mr. A. BUTCHER, of Welling, Kent, sends us ripe berries of the common Jasmine, with the information that this is the second time within three years that it has fruited in that locality. Considering the native country of the species, its fruiting here is a noteworthy occurrence.

**CERCLE HORTICOLE VAN HOUTTE.**—The Cercle Horticole Van Houtte, of Ledeberg, near Ghent, has arranged to hold from April 12 to 19, its second Grands Exposition Générale d'Horticulture, under the patronage of His Majesty the King of the BELGIANS. The programme mentions nineteen sections, and 397 classes; the awards are numerous and handsome. A special building will be prepared in the public square at Ledeberg. The engagements already received seem to promise that the exhibition will be a success. The attention of foreigners is directed to the classes devoted to new plants and to Orchid hybrids.

**THE LEEDS PAXTON SOCIETY.**—This virile society, of which the honorary secretary is Mr. J. CAMPBELL, gardener, Methley Park, Leeds, will hold their eighth annual Chrysanthemum Show on Tuesday and Wednesday, Nov. 10 and 11 next.

**EALING GARDENERS' ASSOCIATION.**—At the usual weekly meeting, held on the 4th inst., a good method of instituting a discussion on gardening topics was adopted. A number of questions were written on paper, collected, put into a hat, and the names of those persons who were willing to speak into another hat. These were shaken up, the hon. secretary, Mr. W. ROBERTS, drawing a question-billet, and Mr. C. B. GREEN, who presided on this occasion, one of the names, then calling upon the person indicated to open the discussion. The first question drawn was from the chairman of the Society, Mr. S. A. SEWELL, who was anxious to know as to the trees upon which the Mistletoe was known to grow? Mr. HARDING, in reply, stated that he had seen such growing on the Apple and the Oak; whilst Mr. COOPER gave in addition to these, the White Thorn and Lime. His was confirmed in this by Mr. SIMPSON. Mr. FROST had seen it growing on the Poplar. Mr. CHAMMAN on the Crabtree, Mr. STYLES on the Elm, Mr. COX on the Acacia, Mr. CHANDLER on the Wych Elm and Abele; whilst Mr. W. ROBERTS named a place in Hertfordshire where it grew, not only on the Sycamore and Maple, but on the Gooseberry bushes as well! The next question—"Is it desirable to root-prune Apple trees?"—elicited a variety of opinions. Mr. COOPER answered in the affirmative, with certain reservations. Messrs. HOLLOWAY, SIMPSON, and others, remarked that much depended upon the nature of the "stock" on which the Apple was grafted, the soil, and other matters. Several members, however, bore practical testimony to the beneficial results of root-pruning on trees, which had previously borne little or no fruit. Regarding the question of cocoanut-fore refuse being better than leaf-soil for propagating purposes, various opinions were expressed. Mr. HOLLOWAY, who opened the discussion on this question, was in favour of leaf-soil; Messrs. SIMPSON and CHANDLER stating that they mixed the fibre, when they used it, with suitable soil. Other subjects dealt with, and which raised useful and interesting discussions, were "the best means to stop Vines from bleeding," and "the best way to raise *Grevillea robusta*."



**MR. A. OUTRAM.**—We learn from Mr. OUTRAM, now in the service of Messrs. SUTTON, of Reading, as traveller, that he sails on Saturday, 15th inst., in the *Campania* for the United States.

**FLOWERS IN SCILLY.**—Owing to the unusually mild weather and the high temperature of the last two months, the flower and early vegetable traffic is expected to be the largest ever known. In consequence of the new night service arranged by the Great Western and London & North-Western Railways, in connection with the up London Mail from Penzance, flowers despatched from Scilly in the morning arrive in Edinburgh and Glasgow soon after noon next day. It is expected that vans will run from stations in Cornwall by the Severn Tunnel route to all the great towns in the Midland and Northern districts without any transfer at Bristol. The arrangements made by the railway companies for perishable traffic, in quick transit and early delivery, are much improved this season. *The Western Mercury*.

**READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—That the interest in the Chrysanthemum is still increasing was testified by the large attendance of members at the fortnightly meeting of this association, held in the Abbey Hall, to hear a paper on Chrysanthemums by Mr. W. H. LEES, gardener at Trent Park, New Barnet. After the formal business had been transacted, the President, Mr. A. W. SUTTON, said that Mr. LEES needed no introduction from him, as he was so well known to all present, but it was exceedingly kind of him to come and give them his experience in the culture of the Chrysanthemum. Mr. LEES gave a very interesting paper on the production of blooms for exhibition. The lecturer dwelt briefly with propagation, soil, potting, spring and summer quarters; watering, dressings, cutting down, stopping, feeding, insects, diseases, housing, &c., were all ably dealt with. Many questions were asked, and an interesting discussion ensued. Flowers were staged by Messrs. SUTTON of Cyclamens and Primulas; whilst Mr. TOWNSEND, gardener to Sir WILLIAM FARRER, Sandhurst Lodge, Wellington College, brought an interesting collection of Hellebores, numbering twenty-five varieties. The thanks of the meeting were accorded to Mr. LEES for his lecture, and to Messrs. SUTTON & SONS, and to Sir WILLIAM FARRER.

**ESSEX COUNTY SCHOOL OF HORTICULTURE.**—On Saturday, February 8, the students attending the above school, accompanied by the staff lecturers, inspected the indoor department of Messrs. SALTMARSH & SON'S Nursery, Chelmsford. They were heartily welcomed by the manager (Mr. SHERMAN), and taken to the various houses. Special interest attached to the visit to the propagating-pits, and the students eagerly availed themselves of the opportunity thus afforded of becoming conversant with the propagator's art. The forcing-pits afforded some useful information, as did the collections of stove and greenhouse plants.

**THE SURVEYORS' INSTITUTION.**—At the general meeting, held on Monday, February 3, 1896, a paper was read by Mr. R. F. COLAM (Associate), entitled "An Improved Method of Settling Disputes as to Rights of Way." A discussion followed, and was concluded, and a vote of thanks was unanimously passed to Mr. COLAM for his paper. The next ordinary general meeting will be held on Monday, February 17, 1896, when a paper will be read by Mr. A. A. HUDSON (Associate), entitled "Conditions of Building Contracts." The chair will be taken at 8 o'clock. It has been decided this year to hold the annual dinner on Wednesday, March 18, at the Whitehall Rooms, Hôtel Métropole.

**WHOLESALE FRUIT AND POTATO SALESMEN AND GROWERS' BENEVOLENT ASSOCIATION.**—We understand that Mr. GEORGE MONSO, of Covent Garden, has consented to preside at the annual Festival Dinner in aid of the funds of the Wholesale Fruit and Potato Salesmen and Growers' Benevolent Association, to be held on March 10, at the Holborn Restaurant.

**NATIONAL CHRYSANTHEMUM SOCIETY.**—The honorary secretary informs us that the annual general meeting of the members of the above Society will take place at Anderton's Hotel, Fleet Street, E.C., on Monday, February 24 next, at 7 o'clock in the evening.

**PUBLICATIONS RECEIVED.**—We have received the following Exchange Lists of Seeds.—*Liste des Graines Recoltées par le Jardin Alpin d'Acclimatation* (Geneva), H. COSSEYON, Janvier, 1896.—*Delectus Seminum quæ Hortus Botanicus Universitatis Rheno-Trajectinae* (Utrecht)—*Index Seminum in Hortis Musei Parisiensis* (Paris).—*Seed List from the Botanic Garden of the University of Pennsylvania*. Also the following publications:—*Proceedings of the Seventh Annual Meeting of the Association of Economic Entomologists*. Bulletin No. 2, U. S. Department of Agriculture. A publication treating of various injurious insects, and how to cope with them.—*Fourth Annual Report of the Women's Branch of the Horticultural College, Swanley, Kent.*—*The Improvement of Unproductive Black Soils*, by H. A. HUSTON, forming Bulletin No. 57 (for November, 1895), from Purdue University Agricultural Experiment Station. This pamphlet is written to prove how, by efficient drainage of a special kind, unproductive land can be rendered fertile. Bulletin No. 94, from the New York Agricultural Experiment Station (October, 1895). This consists of a valuable treatise on the Composition and Use of Fertilisers and of Science applied to Feeding-plants. The chemical compositions and properties of various manures are considered; and, in addition to information as to their right use, there are tables showing at a glance their respective constituents and the quantities necessary to dress certain lands bearing particular crops.—U. S. Department of Agriculture, Division of Entomology (Washington), *The Honey-bee; A Manual of Instruction in Apiculture*, by FRANK BENTON, M.S. A useful pamphlet, devoted to bee-keeping on an extended scale, and illustrated particularly clearly and well.—*Programme de la 162<sup>e</sup> Exposition Horticole qui aura lieu du 15 au Novembre 17, 1896*. Chrysanthèmes, Plantes Ornementales et Orchidées (Société Royale d'Agriculture et de Botanique de Gand). This should prove a useful guide to intending exhibitors at Ghent; in addition to a list of awards offered, it includes hints on the particular classes of plants expected by the judges, and the rules according to which the exhibition will be governed.—*Nature Notes* for February.—*Chapman's Magazine*.—*English Illustrated Magazine*, February.—*Agricultural Gazette*.—*Temporary Pastures: the Cheapest Method of dealing with Unprofitable Arable Land* (CASTEN'S, 237 and 238, High Holborn, London).

### PLANT PORTRAITS.

CATASEIUM IMPERIALE, *Gard. Mag.*, Jan. 25.  
HIPPOPHAE RHAMNOIDES, *Garden*, Jan. 25.  
PLUM EARLY RIVERS, *Gartenflora*, t. 1423.  
POMME PRÉSIDENT RIEBUYCK, *Bulletin d'Arboriculture*, &c., January.  
RENANTHERA STORIEL, *Rchb. f.*, in *Gard. Chron.*, 1880, xiv., p. 296; *Orchid Album*, t. 513.  
STUARTIA PSEUDO-CAMELLIA, *Garden and Forest*, Jan. 22.  
VRIENTIA SURINGARIANA.—A cross between *Warminqui* and *psittacina*. *Tydschrift voor Tuinbouw*, tab. 4.  
YELLOW TRANSPARENT ROSE NIEUWE APPEL, *Tydschrift voor Tuinbouw*, Plate III.

### NOTICES OF BOOKS.

#### BOTANY OF YAKUTAT BAY, ALASKA.

THE Washington Department of Agriculture in the Division of Botany has just issued another contribution from the *United States National Herbarium*, vol. iii., No. 6. This is an account of the Botany of Yakutat Bay, Alaska, by F. VERNON COVILLE. The catalogue consists of 137 species and varieties of vascular plants, and 27 species of cellular plants.

The specimens collected undoubtedly represent nearly all the species of vascular plants that occur in the area traversed, but circumstances prevented, for the most part, the collection of the cellular cryptogams.

Yakutat Bay is an interesting point in the classification of the zonal plant areas of the Pacific Coast, for at this place the dense coastal forest characteristic of the coast-mountains of British Columbia and Southern Alaska is broken by the occurrence of a series of glaciers which here come down to the very beach, counteracting the influence of the warm ocean currents and driving the timber-line backward into the sea. West of these points the Coniferous timber of the coast region ceases.

The transition ground of such a change from forest to perpetual snow and ice is full of interest. Two zones are clearly represented in the flora of the Yakutat Bay region, one extending from the sea up to the timber-line, the other from timber-line to the lower limit of perpetual snow. The conspicuous floral features of these zones are described in the field report embodied in the contribution.

#### THE ORCHID HYBRIDISTS' HANDBOOK.\*

Quickly exceeding each other come publications more or less pretentious, enumerating the hybrid Orchids and their parentages. The compilation being merely a matter of patience, offers a temptation to rush into print. Each issue may be regarded as a testimonial to the usefulness of the horticultural press, which supplies the matter of the original writers, from whence so many call the material for the work which is to bear their name. But such works are useful, inasmuch as they bring together all the available records, and thus form handy references until the lapse of time and the rapid production of new hybrids place them out of date. As a simple Handbook, enumerating the hybrids raised up to the present time, and their parentages, that under notice, compiled by Mr. A. E. HOPKINSON, appears to be one of the best. No intricate classification or new arrangement is attempted; and, consequently, once a person grasps the very plain plan of the work, it is easy for him to find that which he desires to see, provided it appeared not later than 1894. But seeing that we are now well into the second year of hybrids since the newest enumerated in the *Handbook*, the list will soon be superseded. Why such a simple matter as a catalogue of the kind should bear date of publication 1896, and yet stop at 1894, it is difficult to understand. There are a few pages of "Hints to Amateurs on Hybridisation," which contain nothing new or particularly useful on the subject, and the poor quality of the few illustrations does not help the work much. But as we said before, it is useful so far as it goes. As the compiler states that the printer's errors, which are rather numerous, are to be corrected before the *Handbook* is issued to the public, it would not be fair to comment on them now.

#### THE STRUCTURE AND DEVELOPMENT OF MOSSES AND FERNS. By D. H. CAMPBELL, Ph.D. (Macmillan & Co.)

THE object of this work is to gather together into one whole the mass of facts and observations which have accumulated of late years concerning the anatomy and life-history of mosses and Ferns. Hofmeister's researches, dating back more than thirty years, furnished a clue, which has eagerly been pursued, and which has led to a much clearer idea of the relationships of mosses, Hepaticas, Ferns, Lycopods, and Equisetums, than before existed. More than that, the investigations have, in a measure, bridged over the gap between Conifers and the higher Cryptogams, by linking the observations of Robert Brown on the corpuscula of Conifers, to those of Hofmeister and many other subsequent investigators, of the embryology of Cryptogams.

Among modern workers in this attractive field, Dr. Douglas Campbell, an American botanist, stands out prominently; and the present summary of his own researches, and those of Treub, Bower, and others, will be warmly welcomed. These researches

\* *The Orchid Hybridists' Handbook, with Hints to Amateurs on Hybridisation*, by A. E. Hopkinson. (Liverpool: Blake & Mackenzie, 1896.)

are of the greatest value for genealogical purposes, but, at present, they are not available for practical use. The distinction between Eusporangiate Ferns, whose sporangia originate from a group of cells, and Leptosporangiate Ferns, whose sporangia are the result of the development of a single cell, is one of no advantage to a practical botanist who has the developed plant to deal with, still less is it of benefit to the cultivator; nevertheless, this may only be a question of time. If the distinctions named be really valid, no doubt other co-relations will be found which will serve the purposes of the practical man. Everyone recognises a dicotyledon when he sees it, but comparatively few see, or can ever hope to see, the two cotyledons in every case.

The alternation of generations is a marked feature in these plants; the leafy stage, so to call it, is often very different from the fruiting stage. But recognising this, it is still open to doubt whether some of our modern morphologists do not push matters to an extreme when they repudiate any homological relation between the products of the two stages. The marked tendency to develop buds from any part of the surface, whether of gametophyte (prothallus), or of sporophyte, and the frequent occurrence of apogamy, seem to show a closer relation than is sometimes admitted between the two stages of growth. Dr. Campbell's book is clearly written, well illustrated, is provided with an adequate bibliography, and a copious index, so that it will take its place at once as a standard classic, and will, we think, retain that position for no inconsiderable period.

#### MALADIES DES PLANTES AGRICOLES CAUSÉES PAR DES PARASITES VÉGÉTAUX. Par Ed. Prillieux, tome I. (Paris: Firmin, Didot & Co., 56, Rue Jacob.)

This is a valuable treatise on the diseases of cultivated agricultural plants caused by various fungi. M. Prillieux has devoted special attention to this subject ever since, in 1876, his first appointment to the National Agronomical Institute in Paris. We have been till lately so accustomed to get our information from German sources, that it is an agreeable change to derive it from another quarter, and one more characterised by terseness and lucidity of expression than are as a rule the works of our Teutonic kinsfolk. Within the last quarter of a century, moreover, much has been done by our own investigators and by those in the United States, and now that the County Councils are establishing laboratories, we cannot doubt that so substantial an advance in home-grown knowledge will take place as to render our obligations to other nations less than they now are. In the meantime, let us be grateful to those who, like M. Prillieux in the volume before us, deals with the subject magisterially and practically. We observe that the Tomato disease, which is now so common in this country, and which consists in the rotting of the fruit in concentric lines spreading around the base of the style in the first instance, and gradually involving the whole fruit from above downwards, is attributed to a bacillus, the disease having, according to M. Prillieux, been induced by inoculation of the young fruit.

### BELGIUM.

#### GHEENT HORTICULTURAL MEETING.

THE February meeting was coincident with the General Assembly and the banquet of the Chambre Syndicale des Horticulteurs Belges, and was particularly interesting. Among the many fine Orchids shown were good collections from the well-known growers M. J. Hye Leyson and M. A. Van Imshoort.

Among M. Hye's Orchids, was *Odontoglossum crispum* Davivierianum, admired last year, and now seen again with a very fine truss of eleven magnificent flowers, remarkable for the different colours of the spots on the sepals and petals; the former are a brown-red, the latter purplish-red. This distinct variety won a Certificate of Merit *par acclamation*.

A similar award was allotted for *Cypripedium* × *Madame Jules Hye* (*C. tonsum* × *Spicerianum*). This new hybrid is distinct in the robustness and vigour of the whole plant, characteristics which are particularly noticeable in the two large, well-coloured flowers, rounded in form, like those of a good *Odontoglossum crispum*; the standard, which is 2½ inches wide, shows the influence of *Spicerianum* (the variety chosen for hybridisation, and which we know is most distinct), but it is redder, and the central band is of exceptional width; the lower sepal is as remarkable as the upper one of most *Cypripediums*, it being a reduced copy of the upper one; the petals show the brown shade of *C. tonsum*; they are in width (2 cent. = about 1 inch) exactly the same as the petals of the male parent; in shape they are intermediate between the two parents, having slightly-waved borders, the slipper is less long, but wider than that of *C. tonsum*; it has a very heavy look, and is, in colouring, like that of *Spicerianum*, the foliage is rather that of the latter, with more purple marbling. *Odontoglossum crispum* album received a Certificate of Merit *par acclamation*, it is the best white variety I know, the flower-stem bears eleven blooms of medium size and good form, full, and round; all the divisions of the flower are indistinctly, delicately crimped, the sepals and petals are pure white, the lip beautiful in form, the top and region near it are bright canary yellow, very effective against the white; the staminate is entirely white. *Miltonopsis Elei* (*Miltoia Blenana*), with three floral racemes, bears fourteen very large flowers, and has two stems still in bud, a fine plant, the splendid flowers of which exhale a perfume like that of certain Tea Roses. *Lælia anceps* var. *Hyeana* is an admirable variety with large snow-white flowers; the petals are from 1½ to 3 inches wide; the lip has a beautiful saffron-yellow tip, the yellow background lined with purple; it is a very strong plant with fourteen buds. M. J. Hye won a Certificate of Merit *par acclamation* for an unusually fine lot of *Odontoglossum*; we noted *O. crispum* *Albertianum*, very unusual, with a flower-stem bearing twenty-one blooms, yellow with red spots on all the divisions, and with the lip unusually broad. The flowers were not fully open.

There were a number of Orchids from M. A. Van Imshoort, including *Lælia* × *Cattleya* *Ghielaine*, raised from *L. harpophylla* × *Cattleya amethystoglossa*. The plant is still small, bearing two flowers, they were straw-coloured on opening; the sepals and petals have now lost this tint and the flower when shown was creamy-white; the lip is narrow, the edge dentated, bordered with red. The foliage resembles that of the mother-plant, and so does the flower in form. It is supposed that the plant when fully grown will bear, as do its parents, a truss of from six to nine flowers. The male parent had a white flower, dotted with red; it is curious that this red has disappeared in the seedling. This hybrid is the first seedling *Cattleya* raised in Belgium. The jury awarded for it a Certificate of Merit *à l'unanimité*.

We should mention as staged by M. Van Imshoort, *Ipeea speciosa*; a natural hybrid *Oacidium* from *O. fuscum* × *O. lamelligerum*, which has bulbs and foliage like those of *fuscum*, and flowers more resembling those of *lamelligerum*; *Lælia anceps* *Sanderiana*, very beautiful; *Epidendrum Endressi*, a very elegant small Orchid; and *Oncidium incurvum* album, with a fine truss of bloom.

M. Poelman Maenhout staged a pretty hybrid from *Cypripedium villosum* × *Boxalli*, named *C. Madame Petrick*. Traces of *villosum* are visible; those of *Boxalli* are less noticeable—the standard some think like that of *Spicerianum*, others like that of *Chantini*. The raiser is certain as to the parents of the plant, which seems a peculiar variety.

Apart from Orchids, there was shown by M. Edouard Pynaert, a new plant, *Graptophyllum picturatum* (*Acanthaceae*), a native of the islands of the Pacific Ocean. It is a greenhouse plant, with evergreen foliage, brightly variegated in the centre, very compact, of a beautiful golden-yellow colour. This coloration is irregularly arranged on each side of the mid-rib, and the dark green edge of the blade

is spotted with a pale green round the central variegation. M. L. De Smet showed a noteworthy new *Kentia*; a seedling from K. Balmoreana, which it resembles in habit. The stems and veins of the leaves are dark claret colour. The colour of the leaves is dark green, with a light reddish tinge; the plant is of dwarf habit, nice and leafy. The same exhibitor showed a fine *Alocasia Watsoniana* and *Aralia Veitchii robusta*, also a beautiful *Anthurium Scherzerianum* triumphans, with a spathe very long, fine in form, of a salmony flesh-pink colour, very delicate; a good variety. MM. Vervaeet et Cie. exhibited an excellent *Croton Massangeanus*. *Ch. de B.*

### HOME CORRESPONDENCE.

PROPAGATION OF *COPROSMA BAUERIANA*.—The propagation of this plant is often found a little difficult in private gardens, and of the many methods I have seen tried, the following has proved the most successful.—Cuttings of the young wood are taken either in the spring or autumn, and made into three-joint lengths, the leaves removed from the two lower joints, then the cutting inserted in sand, and plunged in bottom-heat with a bell-glass over them. Allow them to remain so for a fortnight, then take the cuttings out, and cut them over by the second joint, afterwards inserting them in the sand, and treating them as before, until rooted, when they should be carefully potted into small pots, and grown on in an intermediate temperature. Will some botanical reader of this note kindly inform me what function the little round holes on the under-side of the leaf perform? I observe there is one at the base of each of the side ribs, with the exception of the two lower ones next the foot-stalk of the leaf; the upper surface of the leaf is slightly raised just above the holes. *Alex. Morton*. [These holes probably serve the purpose of vents to get rid of any superfluous water. *En.*]

*BEGONIA ORTGIESII*.—What Mr. C. Herrin is growing at Dropmore under this name is represented by a greenhouse, evergreen, winter-flowering form, small-leaved, the leaf-surface a kind of bronzy-olive-green; the under-surface reddish, with red mainstalks and branches; blooming freely at this season of the year in small-flowered trusses or panicles, the colour yellow. Mr. Herrin speaks highly of it as a continuous bloomer for cutting at this season of the year. It is propagated by means of cuttings taken in the spring and rooted in a gentle bottom-heat. *R. D.*

GARDENERS AND STEAM-ENGINES.—I am sorry Mr. Mawson is about to suffer a keen disappointment, because we have arrived at the time when large grass lawns, cricket, tennis, and bowling-greens will be mown and rolled more expeditiously, and at considerable less cost both in time and labour than is being done with the cumbersome horse-machines. I also think that a professional gardener is quite as much in love with his garden and grounds as the professional artistic gardener, and that peace and beauty will reign equally well with a mower and roller worked with some motive-power other than manual or animal. We gardeners now-a-days are obliged to study the science of political economy, for the decreased income of many of our employers, and the consequent reduced garden staff, teach us the necessity of keeping up the gardening establishment at the least possible cost; but of course, where a landscape artist is working at the expense of the ratepayers, economy is not a consideration, otherwise our public parks and recreation-grounds would not cost the immense sums they do. As to "seeking our own destruction," or becoming mere "engine tenders," I pass that by for what it is worth, and say that everything now-a-days, even to the maintenance of large gardens and pleasure-grounds, and I should certainly see public parks, is or should be, worked on purely commercial principles, and every appliance adopted that will save the ratepayer's pockets, which is the true "economy with efficiency" policy; but artists, both garden and otherwise, are faddists, and see things with an artist's eye only, seeking to accomplish certain objects regardless of expense; but when we are told that if we "allow these things to invade our reposeful domains," we shall do an irreparable injury to one of the purest enjoyments of this country, "and that

no commercial excuse can hold good," I can only think that is the opinion of a very few uncommercial men in this age of progression. *Hortus*.

#### EARLY BLOOMING OF MAGNOLIA GRANDIFLORA

—On the 2nd inst. I picked a fully-developed bloom of *Magnolia grandiflora* (Exmouth variety) from a tree planted against a south-west wall at Exwick, near Exeter. *H.*

**DAFFODILS GOING BLIND.**—Concerning this malady, Mr. J. Walker, of Ham, told me a few years back that complaints often came from market growers of bulbs going blind, and he attributed it to their practice of removing the boxes or pots of bulbs after they have started growth and roots, direct from their outdoor quarters into strong heat. If that be so, then it serves to show that howsoever little excessive cold may affect bulbs, remembering of course that such cold as "J." refers to did not come like a thief in the night, but gradually grew to its ultimate intensity; yet sudden changing into undue heat may produce blindness. Mr. Walker's rule with Daffodils is to remove from outdoors into a cool-house for a short time, so as to accustom them to their improved surroundings, and to then pass them on to heat. In that case there are no failures. I am not giving this as my own experience. I prefer that of a great grower to my own, but it serves to show that there are cases when Daffodils may find, if not in cold, at least in heat, conditions unfavourable for flower production. That frosts do no very appreciable harm to true bulbs, may be due somewhat to their scaly formation. *Gladiolus curma* are not scaly, and do not suffer from frost. I submit this as a possible explanation. *A. D.*

**NARCISSUS FOR FORCING.**—There was some correspondence in the *Gardeners' Chronicle* last year respecting the suitability of certain kinds of Narcissus for forcing. My experience is that some of the later kinds force as well, and flower as soon, as some of the earlier varieties when subjected to exactly the same treatment. I am sending you flowers of several kinds which illustrate this; the plants were brought into gentle heat (with cool Odontoglossums) in November. Dr. Fell (a Wear-dale seedling), rather a late flower out-of-doors, has come as soon as princeps. Palmerston and Barri conspicuus are a little later. Besselmann major and Tenby were a few days earlier. Dr. Fell is a very free flowerer, and does better indoors than out, as it is liable to come behind in dry weather. *R. O. Backhouse*. [The flowers were very good, but that certain kinds of Narcissus are most adaptable to hard forcing has been proved over and over again. *Ed.*]

**JAPANESE NAMES OF BAMBOOS.**—In your answer to a correspondent as to the Japanese names of Bamboos, I am made to say "Shiko-chiku is = *Bambusa quadrangularis*; Shih-chiku is = *B. marliacea*." This is a printer's error. It should run thus:—"Shiho-chiku = *B. quadrangularis*; Shih-chiku = *B. marliacea*." I now find that Hotei-chiku is = *B. sterilis*, a synonym of *Phyllostachys aurea*, though the Japanese apparently consider it a separate species. *A. B. F. Mitford*.

**FARMERS AND FRUIT GROWING.**—Under this heading, I advocated a row of Celery to be planted on either side of a row of trees if they should need root-pruning. "A. D." p. 177, states the newly-pruned roots would be feeding grossly on the manure. I do not know how "A. D." treats his Celery; in this part it is usually planted in trenches varying in depth, a space of 2 to 3 feet being left on each side of the row for the purpose of earthing-up, and by the time this operation is completed in late autumn, what was once a trench is now a ridge, with a trench on each side from 1 to 2 feet deep, according to how the Celery has grown, and the depth it was planted. Assuming the Celery row to be 6 feet from the stems of the trees, there will be a trench at 3 feet from the stem when the Celery is earthed-up. How, then, can the roots of the trees revel in the manure applied to the Celery some 3 feet from where the roots were severed? "A. D." must have forgot that gardeners earth up their Celery plants. By planting Celery and other vegetables amongst the fruit trees, I contend it is infinitely more profitable than the trees alone for seven or eight years, and more persons get their living by vegetable growing than by fruit growing. Celery growing involves more labour than that of most vegetables, and always pays for the labour if nothing more, so that by following my advice, the work of root-pruning is paid for, and I leave your

readers to decide whether it is better or not than "A. D.'s" proposals, to lift all the trees and replant at the end of four years, which makes it certain that there will be no fruit the following year, and if after that we have a deficient Apple year or two, eight years will have gone without any return, and rent and rates have to be paid. I do not know if "A. D." has any idea how many trees, say, six or seven years old, two men would lift, replant, and stake in a day, a distance of 200 or 300 yards from where they are growing? May I ask "A. D." where did I advocate anything calculated to destroy surface-roots of fruit trees? *W. P. R., Preston*.

**A TRADE GARDENER'S REQUIREMENTS.**—I think that the letter which appeared under the above heading, and the comments on it will, after all, serve a useful purpose, by drawing the attention of young gardeners to what is often expected of a trade-grower or manager. How many, while working among the crops under their charge, think it worth their while to pay attention to what is going on, possibly on an adjoining plot of ground? stakeholes are made, houses are built, and fitted with the necessary heating-apparatus, but the young gardener takes no notice, probably thinking it does not concern him. And yet, if he would become a successful manager, he should have some knowledge of these necessary operations, or how will he be enabled to judge if the work is being carried out in a correct and economical manner? Speaking from an experience of market-work, extending over many years, I have found a knowledge of the afore-mentioned requirements absolutely essential. *Another Foreman*.

**CROCUS CREWELL** (the possession of which I owe to the great kindness of Mr. Whittall, of Smyrna), may not be a good species, since it is not sharply defined from the very variable *C. biflorus*; but it is a charming garden flower. The lavender inner segments are set off by the bold brown-purple veining of the outer one, while charm is added by the yellow throat, the bright vermilion stigma, and the almost black anthers. Its name recalls memories of one of the most skilful and best of gardeners. It has been in flower with me about a fortnight. *M. Foster*.

**RHODODENDRON NUTTALLI.**—Will Mr. J. D. Nanscawen kindly inform me through these columns under what conditions he grows his plant of *Rhododendron Nuttalli*; that is, whether under trees or fully exposed, in what situation, east, west, north, or south, and in what compost? I have tried to grow it out-of-doors several times in different positions, but the slight frost that we get always kill it, and I have not seen a plant of *R. Nuttalli* growing out-of-doors in Cornwall. *W. H. B.*

## NURSERY NOTES.

### PRIMULAS AT SWANLEY.

The Chinese Primula, so well in flower at the present time in many a garden, and represented in almost every one, is a flowering plant that has received great attention from Messrs. H. Cannell & Sons during the entire existence of the firm. The collection of varieties now in bloom at this place is sufficient evidence that the plant is regarded a most important one, and rightly so, for it is just one of those which suggest themselves—by reason of its simple requirements during growth, and its cheap, readily procurable seeds—as being "everybody's plant." We do not intend to dwell upon the large display the plants are now making in the many houses, for although the effect is charming, it is one with which most of our readers are familiar, but our remarks shall be upon the features and improvements of the various strains and colours. This may be noted, however, that whatever it may be Messrs. Cannell take an especial interest in, some part of that stock will in the near future be found at the newer ground at Eynsford. The head of the firm has a great opinion of that place, and before the whole of the stock of Primulas was seen we had driven thence.

#### "THE LADY" STRAIN,

As being the most novel, may be remarked first. "The Lady" was figured in the *Gardeners' Chronicle* in March last year, and is known widely

by this time. Its general appearance is slender, and its inflorescence being composed of a series of whorls, tier upon tier, the plant is very free-flowering, and numerous fresh spikes are continually produced from the base. The flower-stalks are deep purplish-crimson, the flowers a delicate porcelain-white, and the foliage is borne upon very long petioles. The plant has been recommended as well worthy of culture in itself, from the great profusion of blooms it produces, which are very light and agreeably graceful for use in a cut state, and because a group of such plants, when in bloom, presents a much more effective display than do the ordinary varieties. On the other hand, it could never take the place of the excellent large-flowered florists' strain, in which the satisfactory results of so much crossing and selection is evident. But it is not the value or the novelty of *The Lady* itself that induces us to write thus fully of its character. Mr. Cannell has taken the variety as a means of producing a new type of Primula, which he intends to call the "pyramidalis" strain.

We saw a group of plants with many of the peculiarities of "The Lady" in a modified degree, carrying improved flowers, both in size and purity of whiteness. These were called pyramidalis grandiflora alba, and have been obtained by crossing *The Lady* with *P. sinensis fimbriata* × Cannell's White. The progeny were next crossed back again with *The Lady*, and subsequently among the better forms of themselves. They are thus of a much mixed character. In these are seen the best results of crossing with this type yet obtained, and many will doubtless be disposed to favour them who were not admirers of the original plant. The slender habit is retained, the flowers have more substance, are larger, and of clearer white, with small yellow eye and the foliage is less rough and loose than in the type but capable of still further modification. We have no hesitation in saying that a group of the plants present a fine effect, being so numerously flowered. The spikes of blossom which had reached their third tier, were in many cases 16 inches high. The purple stems present considerable contrast to the white flowers. The strain as thus improved and anticipating yet further development, is one which will meet with considerable popularity; this much seems assured by its graceful and floriferous qualities. That it will be popular for an indefinite time is not so certain, especially when we remember that the single-flowered *Chrysanthemum*, which also combines these qualities, meet with comparative neglect, if judged by the favour lavished upon the monster-flowering section. In Dahlias, too, there was a gratifying inclination on the part of the public a few years since to encourage the single-flowered varieties, which for a time seemed quite general, but now there is a noticeable revulsion in favour of the large compass-made ideal of the florists.

Before leaving this section, it should be added that Purple Lady is a sport from the type, having purple flowers; and there has also been obtained a variety with more or less of yellow in the flowers. Clear pink and bright rose may follow.

#### SINGLE AND DOUBLE VARIETIES (FLORISTS').

In Eynsford Yellow we have the best of this colour yet included in the Swanley strain, and it shows much improvement. These yellow varieties are only acquired after considerable labour, as one of the commonest results of crossing them is to obtain an undue development in the calyx, with only malformed or very insignificant flowers. Eynsford Yellow is a very free flowerer, and the flowers when properly expanded are pretty, the base being clear yellow, encircled with a band of pure white. The two colours do not unite in a ring, but like wedges, and the petals are nicely fringed. The habit of the plain or Palm-leaved foliage is good, and the variety has come very true from seeds.

Cannell's Giant Improved is a good strain of the old-fashioned colour in which different persons see purple, rose and pink. It represents considerable advancement in size of flower, and general habit. In Cannell's Giant Pink

we have an excellent strain, and the blooms are equal in size to the largest. The colour is one of the most pleasing shades of pink, and is combined with good general habit. The Queen type is splendidly represented by Pink Queen, decidedly better than The Queen in colour and in size of bloom, the pink being fairly deep and well-fixed. Like The Queen, it has very beautiful Fern-like foliage, and the wing-like characteristics in the blossoms. *Defiance* impresses one as being somewhat similar to *Cannell's Giant*, noticed above, but the colour is far superior, being a good purple, and almost perfectly round, albeit the habit is rather less dwarf.

*Glowworm* represents a strain in the red-flowered class, with larger flowers, and borne upon longer pedicels than the *Old Chiswick Red*; though not higher coloured than the old one, it is more bold in

well-known and appreciated. It has flowers a little smaller than has *Cannell's White*, and has Fern-like foliage. In *Her Majesty* is seen an improved *White Perfection*; the variety has dark Fern-leaved foliage, pure white flowers, and is generally first-rate.

Double-flowered varieties are very useful, and the blossoms are frequently turned to account by the florists, but they are not so important or numerous as the single-flowered varieties.

Semi-double forms from seeds, with one exception, are not grown at this place, but the true double-flowered varieties are kept in large quantity, and are propagated by offsets. To mention the exception first: it is of a good red colour, such as none of the true doubles possess. Of the latter, few remarks are needed, as they are all well known. First, there is the old pure white one, *P. alba*, fl.-pl.; also *P. albo-*

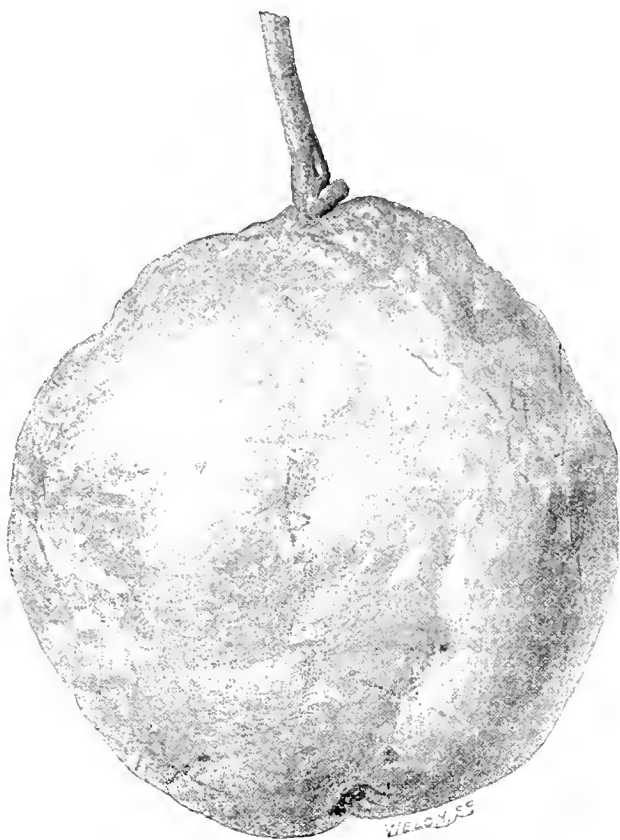


FIG. 28.—PEAR, BEURRÉ PERRAN.

appearance, and better. *Cannell's Carmine* is likely to please those who admire a salmon-pink coloured flower. *Æsthetic* shades more particularly belong to varieties such as *Princess Beatrice*, a delicate pale mauve, and *Duchess of Eife*, very pale pink, with Queen type of flower and foliage. The deeper colour upon the margins of the petals of the last named enhance its appearance. Of coloured single flowers there yet remains to be mentioned *Cannell's Blue*, which, although not as blue as a *Bluebell*, is as nearly such as the *Primula* has yet shown itself disposed to become.

Turning our attention to white varieties, there is *Cannell's White*, with good large blossoms of satisfactory substance, and plain or Palm-leaved foliage, very well fixed by being grown many years, and constantly selected. *Eynsford White* is more attractive though, and has blossoms of pure white [excepting, of course, the persistent yellow eye], and prettily crimped petals; the foliage is slightly moss-curl'd also. *White Perfection* is thoroughly

*fimbriata*, with similar blossoms of little larger size; then *Annie Hillier*, brought out by a nurseryman of that name, living at Winchester, and bearing pretty pale-flesh or pink flowers; and *King of the Purples*, which has been in cultivation for very many years. The best of the double varieties, however, are those which the late Mr. Gilbert sent out some years ago from Burghley gardens. Two of them are *Marchioness of Exeter*, white; and *Earl of Beaconsfield*, deep pink; they produce flowers larger in size than any others, and are as valuable as when first sent out. Several others introduced at the same time with varietal names were merely intermediate forms, to which both of those named occasionally sport, and they are not worth keeping distinct.

Other flowers in season at Swanley at present include a house full of *Cyclamens*, a large number of *Cinerarias* just commencing to bloom, and the winter-flowering *Begonias*, which are still gay in the structure they have adorned for several months past.

## PEAR BEURRÉ PERRAN.

This is a new variety which we believe will become very valuable. Our list of Pears of good quality, suitable for use during January and February, is not an extensive one, and any addition to it, providing the quality of the fruit is good, will be sure of a welcome. Such will be found in the variety represented by our illustration (fig. 28), which we are enabled to reproduce by the courtesy of Mr. W. S. Hurlstone, Parkfield Gardens, Hallow, near Worcester, who has kindly sent samples of the fruit to this office. Mr. Hurlstone writes that "The Pear was imported some thirty years or more ago by Mr. Smith, of the Worcester Nurseries, and Mr. Lea tells me he has had it for about twenty-seven years. I had never seen or heard of it until I came here last season. It is a grand Pear considering its season, and on a warmer soil than ours, which is clayey, it would probably be better." The actual size of the fruits grown at Parkfield have averaged a little larger than the specimen we have reproduced, and Mr. Hurlstone suggests that they would possibly be larger still on better soil. The shape of the fruit is well shown by our figure, and is rather short but thick, has an irregular surface, a long stem inserted in shallow basin, and open eye also shallow. The colour is pale yellow, but nearly covered with russet spots and blotches. It is really in season immediately after Christmas, though it is expected the fruits will keep until the end of February. For such a season the flavour is rich and good, flesh very melting, with a tolerably thick skin. An Award of Merit was granted the variety when exhibited before the Royal Horticultural Society on January 14, from the garden of C. W. Lea, Esq., Parkfield.

## GENEVA.

GENEVESE botany has sustained a great loss in the person of Dr. Müller (Argau), whose rather sudden and quite unexpected death we all here deplore very much. Besides being a very distinguished botanist, he was the kindest and most disinterested of men. Having lost his only son some years ago, and his wife being, it appears, sufficiently provided for, he showed his great generosity in bequeathing to the town of Geneva a sum of 30,000 francs, to be spent in the Delessert Herbarium, and another sum of 10,000 francs for the botanical laboratory at the University. *C. de Candolle*.

## Obituary.

JOHN REID.—Many readers of the *Gardeners Chronicle* residing in the northern parts of this country and in Scotland will learn with regret of the death on February 6, at the age of 82 years, of John Reid, who for nearly 66 years had been in the employment of Messrs. W. & T. Samson, seedsmen and nurserymen, of Kilmarnock. The deceased had filled the post of out-of-doors manager for nearly 50 years, and was well known in consequence amongst gardeners and the trade.

## VARIORUM.

ANOTHER EDIBLE LILY.—The firm of J. C. Schmidt, of Erfurt, puts into commerce, under the name of *Jamma Juri* [*Yama Yuri*, see p. 136 of the *Gardeners' Chronicle*. Ed.] another Lily root, which may, however, be identical with *Lilium tabern.* mentioned in our last issue. According to the description, *L. Jamma Juri* resembles our "Fire Lily," *L. bulbiferum*. It is perfectly hardy, and is prepared for table like *Asparagus*, *Cauliflower*, &c. One thing is certain, the vegetarian will rejoice to the full that the enriching of his menu is assured. The present year has so far been favourable to him, and there are missing only the *Spinach Violet*, *Viola edulis*, and the acidulous *Salad Rose*, *Rosa esculenta*, and the poetry of flowers receives a severe blow. *Pfeiffer*, in "*Illustrirte Flora*" for February.



## SOCIETIES.

## ROYAL HORTICULTURAL.

FEBRUARY 11.—There was quite an exceptional attendance at the meeting of the Committees in the Drill Hall, James Street, Westminster, on Tuesday last, the tables being thronged with members. Exhibits were also numerous, and the hall was nicely filled. An unexpected display of fruit was made, including fine collections from many of the trade growers, and some meritorious ones also from amateurs. Among the latter was a large collection of Apples from HER MAJESTY'S garden at Frogmore. Primulas and Cyclameus, together with other such plants in season were capitally shown, and were effective in the display. A few hardy flowers, such as Snowdrops, early Narcissus, and the like were staged for the first time this season. Orchids were shown in quantity quite up to the average. In the afternoon was held the annual meeting of the society, in the Lindley Library room at 117, Victoria Street. There was a large attendance, many Fellows being unable to gain admission.

## Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. Joo. Fraser, Owen Thomas, Joo. Laing, H. B. May, Geo. Nicholson, H. Herbst, W. Barr, Robt. Owen, R. Dean, E. Molyneux, J. H. Fitt, Geo. Stevens, J. F. McLeod, H. Selve-Leonard, Jas. Hudson, R. B. Lowe, C. J. Salter, R. M. Hogg, J. Fraser, J. D. Pawle, Chas. E. Pearson, W. Bain, Chas. Jeffries, J. T. Rennett-Poë, Chas. E. Shea, Ed. Mawley, H. H. D'Ombraim, H. J. Jones, E. L. Beckett, H. Turner, Geo. Paul, Chas. T. Druery, and Geo. Gordon.

A very large collection of Primula sinensis varieties was shown by Mr. JNO. R. BOX, West Wickham and Croydon. Marchioness of Lorne, Blush White, Intensity Red, Pink Queen, very pale in colour, with Fern foliage; Emperor Improved, Wickham Surprise, Blush White, Wickham White, King of the Blues, White Perfection, and Cannell's Pink, all single-flowered varieties, were most noticeable. The plants were capitally grown and finely flowered (Silver-gilt Medal).

Flowers of Primula sinensis varieties were also shown by Messrs. JAS. VEITCH & SONS, Chelsea, and Mr. W. BULL, King's Road, Chelsea, in each case to illustrate the quality of the strain.

Messrs. H. CANNELL & SONS, Swanley, Kent, sent a dozen or so plants of Primula sinensis, representing their best varieties, which are referred to on p. 204 (Bronze Flora Medal).

Messrs. JAS. VEITCH & SONS made a large exhibit of their blue-flowered Primroses, seedlings from the stock raised by Mr. G. F. Wilson. The plants were in pots, and carried numerous flowers, containing many degrees in the character of the blue, which in some cases may be described as purple-blue (Silver Banksian Medal).

A good strain of Cyclamen was exhibited by Mr. JNO. MAY, Gordon Nursery, St. Margaret's, Twickenham, who had a collection in which the flowers were large, and of bright, distinct colours. One of the varieties, named Vivian, was of an exceptional colour, and the strain was recommended an Award of Merit (Silver Flora Medal).

From Mr. CHAS. TURNER, Royal Nurseries, Slough, came collection of varieties of Cyclamen persicum, representing considerable variety and colour, also creating a very gay effect, but coloured varieties were fewer than white ones (Silver Banksian Medal).

A miscellaneous group of plants, staged by Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, S.E., contained a few Crotons, Dracenas, and other foliage plants, also Cyclamen, Peonies, and a few Orchids. Some Bertolonias were also effective (Silver Flora Medal).

Messrs. JNO. PED & SONS, Rouppell Park Nurseries, Norwood Road, London, S.E., exhibited a small miscellaneous group of plants, in which a few Orchids, Cyclamens, and Hartztonia brightened the foliage plants included (Silver Banksian Medal).

Mr. F. W. MOORE sent, from the Royal Botanic Garden at Glasnevin, blooms and foliage of Dombeya Wallichii, blooms of Iris stylosa alba, a fruiting branch of Dermatobotrys Saundersii, and blooms of a Rhododendron.

Mr. W. J. GODFREY, The Nurseries, Exmouth, sent some Callas blooms, said to be of different variety, but we could see no difference except in the size of the spathe, apparently the result of cultivation.

Messrs. J. VEITCH & SONS, King's Road, Chelsea, showed several hybrid Cinerarias obtained from a cross between C. cruenta and a garden variety. The plants differed from each other slightly in the colour of the flowers, some being self-coloured, others having a white ring. Also a hybrid Rhododendron, obtained from a cross between R. malayanum and R. javanicum var. Monarch. The flowers of this plant are not very showy, being rather small. In colour they are orange scarlet; the leaves small, and very dark in colour. The curious-flowered Hamamelis japonica var. Zuccariniana, was also shown.

Hardy flowers were shown by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, and Messrs. P. BARR & SONS, King Street, Covent Garden. The first-named exhibitor had several varieties of Galathea, including G. Elwesii, and a variety of the latter named F. Fell, a very fine Snowdrop indeed. The curious and fetid-flowered Scillopus Bigelowii (figured in *Gardeners' Chronicle*, March 3, 1894, p. 287), Nar-

cissus × Henry Irving, obobis, and 'others. He also showed Iris histrioides flowering in pots, and the exceptionally delicate-looking Iris Danfordiae, which produces yellow blossoms only 2 or 3 inches from the soil. Leucocum carpaticum was shown, and gained a First-class Certificate. It is a form of L. vernum but has much larger blossoms, and always bears two flowers on the scape. The flowers are white with the usual green tips more distinct, and the yellow anthers make the flower quite a showy one (Bronze Banksian Medal).

Messrs. BARR & SONS, showed some flowering plants of Primula obconica grandiflora, numerous varieties of Helleborus, Scilla bifolia, Narcissus mimimus, Chionodoxa Luciliae, and Galanthus Ikarie (Bronze Flora Medal).

A new system of glazing was exhibited by Mr. H. BECKER, Fruit Grower, Jersey. The advantages claimed by the exhibitor for the system, are briefly that no putty or outside painting will be required. The glass can easily be adjusted or taken out by unskilled labour, hence they are called Moveable Glass Roofs. The sash bars are squared, but no rabbets are needed.

Mr. TUBBENTHAL sent from Berlin some Cyclamen flowers. These were to illustrate the quality of the German strain, in comparison with those grown in this country, the subject having been recently discussed in these columns. Making allowance for the long journey, and for the fact that the flowers were taken from plants which had been a long time in bloom, it is still clear, from the specimen sent, that although the German strain may be superior to the plants raised there from seed obtained from England, it is by no means so good as we are accustomed to see here.

Messrs. W. PAUL & SON, Waltham Cross, Herts, exhibited a small, fairly well-bloomed collection of Camellias, the plants ranging from 3 to 5 feet in height. Noticeable were C. corallina, deep crimson; Madame Ambrose Verschaffel, bright flesh-pink, a flat-formed, full-petalled flower; Exquisite, an imbricated, rose-red-coloured, fine flower; Princess Marie Amelia d'Orleans, pale pink, with reflexed petals—very nice; the showy, bright, rose-coloured Marchioness of Exeter and Lady Hume's Blush. Eight boxes of Camellia blooms, in fine variety, formed an edging to the group.

It is very gratifying that Messrs. PAUL & SON continue to exhibit their beautiful varieties of this plant to an unappreciative generation; and we hope they will have their reward in witnessing a revival of its culture. Mention should be made of Beauty of Waltham, a very pretty bluish-tinted flower, of good form, with markedly volute petals.

E. H. WOODALL, Esq., St. Nicholas House, Scarborough, exhibited a plant of the scarlet-flowered *Cyrtanthus parviflorus* (Award of Merit).

An excellent group of plants of *Lachenalia Nelsonii* in flower came from LORD SUFFIELD, Gunton Park, Norwich (gr. Mr. W. Allen), (Silver Banksian Medal).

Messrs. PAUL & SON, Cheshunt, staged cut blooms of Roses in two boxes of known varieties, which were excellent for the season. Some plants of Paul's Snow White *Daphne Mezereum* (alba?) were also shown (Silver Banksian Medal).

## Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshaw, F. C. Jacob, W. H. Frothero, J. O. Fowler, J. Gabriel, Chas. Piker, T. Peed, F. Sander, T. W. Bond, E. Hill, J. Douglas, C. Wiun, F. Masoo, W. Cobb, E. Handley, T. B. Haywood, S. Courtauld, E. Ashworth, T. Statter, and H. J. Chapman.

There was a very fine show of Orchids, several very important groups being staged, and exhibits submitted, though few of them secured awards.

The Right Honble. JOSEPH CHAMBERLAIN, Birmingham (gr. Mr. H. A. Burberry), sent the first fruits of his operations in Orchid-hybridising, which were very promising. The first, a very beautiful *Masdevallia*, was obtained by crossing M. Harryana and M. Shuttleworthii, and was consequently, so far as the parentage was concerned, M × Shuttleworthiana. In beauty Mr. CHAMBERLAIN'S was immeasurably superior to the type, and was called M × Shuttleworthiana, Chamberlain's variety, to distinguish it. Its broad, handsome flower was of a clear rose-purple, with delicate red-purple spots at the base of the connate lower sepals, and red and yellow lines in the upper sepal. Each segment was furnished with a long, reflexed, yellow tail (Award of Merit) The second was *Dendrobium* × *Andromeda* (*Leochianum* × *Cassiope*), a very pretty and floriferous hybrid, with cream-white flowers slightly tinted with pink, and with purple disc to the labellum.

The Hon. WALTER ROTHSCHILD, Tring Park (gr. Mr. E. Hill), showed a fine example of *Houlletia trigina*, with two spikes of large and finely-coloured flowers, the one bearing two and the other four. The plant had been but once before exhibited, when we gave an illustration of it on p. 549 (Nov. 9, 1895). It received an Award of Merit.

Sir TREVOR LAWRENCE, Bart., Burford, Dorset (gr. Mr. W. H. White), showed a pretty group of Orchids, and secured a Silver Banksian Medal. The prominent features were a fine basket of the charming *Dendrobium* × *Burfordiana* (*Linawianum* × *aurum*), covered with rose-tinted flowers; D. × *palens*, a *Findleyanum* cross, and one of the most delicately tinted of hybrid *Dendrobis* (Award of Merit); *Masdevallia Henriette* (*ignea* × *Shuttleworthii*), a curious Indian red-tinted flower (Award of Merit); a grand example of *Pleurothallis Rozeii*, with numerous long-drooping racemes of purple flowers (Cultural Commendation); a noble specimen of *Dendrobium* × *Dominianum* (*Lioawianum* × *obile*); *Masdevallia melanopus*, M. Fraseri, and some fine examples of *Cyrtipedium villosum*, a species which not having previously received an award, was now given an Award of Merit; and *Cyrtipedium villosum aurum*.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), was awarded a Silver Flora Medal for a plant of the magnificent, blotched *Odontoglossum crispum obobis*, with seventeen flowers on a spike—one of the most beautiful examples of *Odontoglossum* yet exhibited. Baron SCHRODER also showed a fine O. Andersonianum.

Frau IDA BRANDT, Villa Brandt, Riesbach, Zurich, Switzerland, sent a very fine form of *Odontoglossum Rossii rubescens* (Award of Merit).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, staged a fine group of Orchids, at the back of which were some splendid forms of *Cattleya Trianaei*, *Dendrobium splendissimum grandiflorum*, *Phaius Blumae*, &c. Noticeable among other plants were *Dendrobium* × *Cordelia* and D. × *Cordelia flavescens*, which gave a remarkable instance of reversion to be expected from secondary or complex parentages. D. × *Cordelia enosmum leucopterum* ♂, *aurum* ♀) has on the male side a cross derived from *nobile intermedium* × *endocharis* (*aurum* × *moniliforme* (japonicum)). The typical D. × *Cordelia* is like a small *Hlaetifolium* D. × *Ainsworthii*, and the variety *flavescens* is so all but the odour, practically D. *aurum*. Messrs. VEITCH also showed *Selenipedium* × *Dromio* (*caudatum Lindenii* ♂, *cardinale* ♀); *Cyrtipedium* × *Germoyanum*, C. × *Lathamianum*, C. × *Io graude*, *Dendrobium Wardianum-japonicum*, *Saccolabium violaceum Har-risonianum*, *Epidendrum* × *Endrosio-Wallisii*, &c. (Silver Flora Medal).

Messrs. F. SANDER & Co. staged a fine group, in which were *Phaius* × *Cooksoni* and varieties of *Phaius-Calanthe* × *Ar-oldie*; a fine *Cyrtipedium Rothschildianum*, the beautiful *Dendrobium* × *Sybil* (*bigibbum* × *Linawianum*); D. × *Vannerianum* (*moniliforme* × *Falcoeri*), fine specimens of *Dendrobium Findlayianum* and D. × *Ainsworthii*; *Pescatorea Klabochoorum* and P. Lehmanni; *Lycaste Skinneri alba*; *Laelia anceps Schroderiana*, L. Sanderiana, and L. Hollidayana; the pretty and floriferous *Dendrobium* × *Curtisii* (*Cassiope* × *aurum*); the *Laelia*-like D. *Johnsonii*; *Cattleya Trianaei alba* and other varieties; *Trichopilia sanguinolenta*, *Oncidium cheiriphrum*, &c. (Silver Flora Medal).

ELIJAH ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire (gr. Mr. Holbroock), staged a remarkable group of cut examples of many species of Orchids, to whom a Silver Banksian Medal was awarded; also a splendid plant of the rich ruby-red *Cyrtipedium* × *Leyceianum* (*barbatum Crossii* × *bellatulum*), and for which a special Vote of Thanks was passed, the plant having previously received a First-class Certificate; also *Dendrobium* × *Wardianum-japonicum*.

R. I. MEASTRES, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), was awarded a Silver Banksian Medal for a good group of Orchids, in the centre of which was the pretty *Cyrtipedium* × *Pegasus* (*Leeaanum* ♀, *Morganii* ♂). The flowers, though very beautiful and distinct, were scarcely what would be expected from such a cross. In general appearance they were like a very large C. × *Arthurianum*, the upper half of the dorsal sepal pure white, and both sepals and petals evenly and prettily blotched with purple and chocolate. In the group were a richly-coloured *Cattleya Trianaei*; the fine *Cyrtipedium* × *Oleums*; C. × *Leonia* *Lady-mead* var. C. × *Calypso superbum*, C. × *polium*, *Saccolabium bellium*, *Dendrobium* × *Dominianum*, D. *obile* *Balianum*, and some grand plants of *Cyrtipedium villosum* (Award of Merit).

Messrs. HUGH LOW & Co., Clapton, staged a pretty group, consisting principally of *Phalenopsis*, P. *Stuartiana* and P. *Schilleriana* being exceptionally good. *Cymbidium Lowianum* and many varieties of *Cyrtipedium* gave variety, and of special interest was the pretty little white *Dendrobium* fragrans, which received a Botanical Certificate, and *Cynorchis Lowii*. The group was awarded a Silver Banksian Medal.

Messrs. B. S. WILLIAMS & SON, Upper Holloway, staged a group of Orchids, remarkable for the fine varieties of *Cyrtipedium*, of which the massive and richly-coloured C. × *Pithecanium*, Williams' variety, was, as it always is when shown, the finest of its class. C. *Bonalli marginatum* was also remarkable for the fine white band on its dorsal sepal. *Pescatorea Selmanni* and *Laelia glauca* were also included (Silver Banksian Medal).

T. GAUBRIEL, Esq., Elmstead, Leigham Court Road, Streatham (gr. Mr. H. Guyett), staged a group composed of finely-flowered specimens of *Cyclogyne cristata* (Silver Banksian Medal).

Messrs. HEATH & SON, Cheltenham, showed *Phalenopsis* × *Veitchiana* (*rosea*, ♂ *Schilleriana* ♀), a fine hybrid, with the colours of P. *Schilleriana*, but with the front lobe of the lip as in P. *rosea*; the plant had previously had a First-class Certificate; the fine *Cattleya Trianaei* *Ernesti*, the beautiful C. T. *Diadem*, *Dendrobium Findlayianum giganteum*, and a very fine form of *Phalenopsis Schilleriana*.

A. J. HOLLINGTON, Esq., Forty Hill, Enfield, showed three very fine and distinct hybrid *Cyrtipediums*, viz., C. × *James Bockingham* (*Enfieldense* × *bellatulum*), which had very finely-formed flowers of the C. × *Chas. Richman* class, which were tinted with rose-purple, and spotted with chocolate (Award of Merit); C. × *Annie Ayling* (*Curtisii* × *concolor*), which some persons considered the more distinct, its long, slightly falcate petals, densely dotted with dark purple on rose ground making it very effective; and C. × *Mrs. Fred Hardy* (*superbens* × *bellatulum*).

THOS. STATTER, Esq., Stand Hill, Whitefield, Manchester (gr. Mr. R. Johnson), showed *Cyrtipedium oxul superbum* var. *Anemense*; C. × *amabile*; C. × *Jamesoniana* (*Arthurianum* × *Leeaanum superbum*); C. × *Bragainum*.

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent *Maxillaria porphyrostela* (Botanical Certificate), and *Selenipedium Klottzeianum*.

E. H. WOODALL, Esq., St. Nicholas House, Scarborough (gr., Mr. Hughes), showed the pretty orange scarlet *Odontoglossum retusum* (Cultural Commendation); and WALTER

C. WALKER, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), sent *Dendrobium speciosum* (Botanical Certificate).

#### Fruit Committee.

**Present:** Philip Crowley, Esq. (Chairman), and Messrs. Geo. Bynard, T. Francis Rivers, Jas. H. Veitch, Wm. Pope, T. J. Saltmarsh, A. H. Pearson, J. Wright, Alex. Dean, Jno. A. Laing, Gen. Woodward, J. W. Bates, T. Glen, C. Herrin, G. T. Miles, Geo. Wythes, G. H. Sage, H. Balderson, G. W. Cummins, J. Cheal, Henry J. Pearson, F. Q. Lane, J. Willard, and Robt. Fife.

Messrs. H. LANE & CO., Berkhamsted, exhibited upwards of fifty dishes of Apples in as many varieties—culinary and dessert. The popular variety, Lane's Prince Albert, was finely represented in this collection, though the fruits were slightly damaged by hail. Oaklands Seedling is one of the very best keeping dessert varieties, being like Sturmer Pippin in consistency, and in flavour a little like Cox's Orange Pippin. It was raised about sixteen years ago. Many other good Apples were represented, and a few seedlings (Silver Knightian Medal).

Lord FOLEY, Ruxley Lodge, Claygate, Esher (gr., Mr. J. W. Miller), contributed a collection of fruit, including numerous dishes of Apples and Pears, three bunches of Black Alcheate Grapes, some Nuts, and a nice sample of Mushrooms (Bronze Banksian Medal).

A. H. SNEE, Esq., exhibited from "My Garden," The Grange, Wallington, Surrey (gr., Mr. G. W. Cummins), upwards of sixty dishes of Apples and Pears, all very bright and fresh-looking, being in excellent preservation (Silver-gilt Knightian Medal).

A capital collection of Apples and Oranges was exhibited by Messrs. T. F. RIVERS & SON, Sawbridgeworth, Herts. Among the Apples were noticed Buckingham, Peck's Pleasant, Cox's Orange Pippin, Bismarck, Biron, King of Tomkin's County, all very fresh and excellent (Silver Knightian Medal).

A larger collection of Apples was that from Messrs. GEO. BUNYARD & CO., which included one hundred dishes in the same number of varieties, representing splendid colour and preservation (Silver-Gilt Knightian Medal).

HER MAJESTY THE QUEEN exhibited one hundred dishes of Apples from the Royal Gardens, Frogmore. This was an excellent collection, consisting of medium-sized fruits of splendid quality, well coloured, and in good preservation. Each dish was labelled, and in a neat and effective manner (Silver-gilt Knightian Medal).

Another collection of fruit, including about ninety dishes of Apples and Pears, was staged by Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex, and worthy of great commendation (Silver Knightian Medal).

Mr. J. R. STEVENS, Clayton Nursery, Hassocks, Sussex, exhibited half-a-dozen plants of Strawberry Stevens' Wonder, some of which were carrying ripe fruits; also a small box containing ripe fruits.

From J. R. SAN, Esq., Bernard Street, Russell Square, London, was sent some fruits of an Apple called Beauty Pippin, said to have been raised twenty years ago, from seeds of Beauty of Kent, but apparently identical with Bess Pool.

Messrs. J. R. PEARSON & SONS, Chilwell, Notts, showed fruits of a good sized highly-coloured Apple called Clifton Seedling.

Mr. J. H. SHEPPARD, High Street, Bedford, had Apple Clapham Beauty.

Mr. H. BALDERSON, Corner Hall, Hemel Hempstead, exhibited Apple Scott's Prolific, a pretty, good-sized fruit.

J. G. MORRIS, Esq., Allerton Priory, Liverpool (gr., Mr. J. J. Craven), had a culinary Apple named Pomeroy of Lancashire.

Mr. DIVERS, gr. to the DUKE OF RUTLAND, Belvoir Castle, Grantham, again sent fruits of Apples Jenkinson's Seedling and Dewdney's Seedling. No awards were made to Apples on this occasion.

From HER MAJESTY THE QUEEN'S Garden, at Frogmore, Mr. O. Thomas exhibited a dozen fruits of a medium-sized pretty-looking Cucumber, Frogmore Winter Prolific. The fruits were of useful size and good colour.

An excellent lot of Apples came from the gardens of the Hon. G. M. FORTESCUE, Dropmore, Maidenhead (gr., Mr. C. Herrin). The collection consisted of Apples in season, and well-preserved specimens of earlier ripening varieties. We noted Ribston and Cox's Pippins, Dutch Mignonne, an Apple which there crops heavily as an orchard standard; Hubbard's Pearmain, Royal, and Baumann's Russets, Court Pendu Plat Lane's Prince Albert in excellent form, and as fresh as when gathered; and Beauty of Kent equally so, and Clark's Pippin? An award was made of a Banksian Medal.

Messrs. JOHN LAING & SONS, Stanstead Park Nursery, Forest Hill, showed a collection of Apples, chiefly bright, large and well-coloured, some apparently home-grown specimens. A Silver Knightian Medal was awarded.

#### ANNUAL MEETING.

THE Annual General Meeting of the Fellows of this Society was held at the Offices, 117, Victoria Street, Westminster, on Tuesday afternoon last. Sir Trevor Lawrence, Bart., the President, occupied the Chair, and there was an exceptionally large attendance of Fellows and members.

#### THE DEATH OF PRINCE HENRY OF BATTENBERG.

The President said, before they commenced the business ordinarily transacted at the meeting, he believed it

would be in accordance with the feelings of the entire community, and certainly of the Fellows of that Society, having regard to the fact that Her Most Gracious Majesty was Patron of the Society, that they should offer to the Queen, with the utmost respect, an address of sympathy at the grievous loss which had befallen her in the death of Prince Henry of Battenberg.—The meeting signified an unanimous assent to the proposal.

The Secretary (Rev. W. Wilks) having read the notice convening the meeting and the minutes of the last Annual General Meeting, several new Fellows were elected; at the present meeting the number was 88—a gain of 29 upon the preceding period of last year.

#### RETIRING COUNCILLORS.

The President proposed a hearty vote of thanks to the retiring members of the Council—Sir John Edwards Moss, Bart., Mr. Owen Thomas, and Mr. Henry Williams.

#### NEW COUNCILLORS.

The vacancies caused by the above retirements were filled by the Rev. G. H. Engleheart, Mr. Thomas Gabriel, and Mr. MacLachlan.

#### The adoption of the Report.

The President then rose to move the adoption of the Council's Report for the year (see p. 88). He said it was usual to make a few comments on the various matters dealt with in the report, and he proposed to touch upon each subject as it occurred. The first matter dealt with was the issue and circulation of a new Code of rules and suggestions for judges and schedule makers. He was glad to say that these rules and suggestions had been received with very general acceptance. They had not been exempt from criticism, and it was not desirable they should be; but he thought that on the whole it could be said that they had been very well received. They were not intended to be more than a beginning, or a basis for a code of rules, and the Council would be glad of any useful suggestions as to modifications or improvements. It was desirable that there should be a reasonable uniformity in the judging of horticultural exhibits, and he was sure they would allow him to convey their thanks to the many gentlemen who had been kind enough to give a considerable amount of time and attention to the drawing up of the rules.

The next matter referred to was the retirement of Mr. Barron. He was expressing the sentiments of every member of the Council when he said that they fully recognised the very valuable services that gentleman had rendered to the Society during a very long course of years. During the disastrous period preceding the termination of the Society's connection with South Kensington, when persistent attempts were made to subordinate horticulture to roller-skating and lawn-tennis, they were indebted in no small measure to Mr. Barron's exertions. The Council considered that Mr. Barron's services were entitled to recognition, and they were glad to say it was in their power to make him a retiring allowance. He was pleased to say that Mr. Barron had expressed himself perfectly satisfied.

The next point touched upon referred to Chiswick Gardens. A new Superintendent—Mr. S. T. Wright, hitherto of Glewston Court Gardens, Ross—had been appointed. The merits of the various applicants were carefully considered, and the Council believed they had found in Mr. Wright a thoroughly good man. Mr. Wright came to them with excellent references, and it was believed he would discharge his duties in a manner which would do credit to himself and to the Society. As to the future of Chiswick Gardens, the Council had very carefully considered what would be the proper course to take, and they had decided to give Mr. Wright full scope, and not to hamper him with a too definite programme. They were anxious that experiments on a more extended scale than had hitherto been the case should be carried out in hybridisation, etc., and in raising of new varieties of plants. It was also very desirable that something should be done for the country fellows. Those living in and near London were able to take full advantage of the numerous shows which were held in London, but of course the country fellows—or many of them—lived so far away that they were unable to visit the shows habitually, and the Council would like to be able to offer them such a selection of valuable and useful plants as they might reasonably do without in any way competing with the horticultural trade. The aim and object of the Council was to make Chiswick such a garden as any Fellow of the Society would like to show a friend from the provinces or abroad.

The next subject referred to was the Temple Show. That was a brilliant success. The fortnightly meetings had been supported in a way which showed the confidence of the horticulturists of this country. The shows had almost without exception, in whatever period of the year they had been held, been most interesting and attractive, and this was proved by the far larger attendances now than formerly. The Crystal Palace Show was also very successful. With reference to the Vegetable Show at Chiswick, he confessed that he was rather disappointed, but it was a disappointment for

which they were not quite unprepared, because for some inscrutable reason vegetables, although admirably grown in this country, did not receive the same attention as other things. He thought it was unfortunate that vegetables did not receive more attention, not only for show purposes, but also for dietetic reasons. Vegetables were a most valuable food, as was shown by the fact that in many parts of the world people lived entirely upon vegetable food.

The next point dealt with the Medals which the Society was offering to encourage individual research and effort in obtaining new plants either by importation or hybridisation. He did not know that it was necessary to stimulate the enterprise of horticulturists, but it was thought that those who succeeded in raising a new plant should receive the recognition of the Royal Horticultural Society. Therefore he thought the Council had done wisely in offering these medals.

There was one matter mentioned in the report to which he would like to allude: it referred to the labours of the Scientific Committee, and regret was expressed that a greater use was not made of the Committee's services. When they saw the list of members composing the Scientific Committee, and saw who were the eminent men who sat upon that Committee, he thought it would be seen that difficult points—those connected with the physiology of horticulture and the like—might with advantage be wisely referred to the decision of that Committee.

With regard to the *Journal*, he believed it was received by the Fellows with great satisfaction, and they were constantly receiving applications for copies from all parts, and from other societies.

Then with regard to the provinces, a movement was set on foot, and considerable progress had been made in the affiliation of provincial societies with the parent Society in London. They began with one or two, and now they had 79, and the number was daily increasing. An opinion had been expressed that the Society would do well to hold shows in the provinces, but when they recollected that, as a result of the show at Liverpool the Society was obliged to call upon the local guarantors, and was nearly £1,500 out of pocket as well, they would see that it was necessary to use the greatest possible caution in the matter. The Society had, however, received several invitations this year, and the Council thought they were acting in accordance with the desires of the Fellows in accepting some of them. They had consequently accepted the invitation from Chester to be represented at the great floral fête and gala there in August next, and the invitation for the floral fête and gala at York in June. It was thought desirable that they should not visit the provinces too frequently, but that they should confine themselves at present to two occasions in each year.

Mr. Snee had raised a question as to the election of Council, but all he could say was that the Council were governed strictly by the bye-laws. These bye-laws were placed before the Committee, and they were drafted after consideration, and in consultation with the solicitors of the Society. The bye-law under which they could alone act was as follows: "Any two Fellows may recommend any other Fellow for removal from or election to the Council, or for appointment to the offices of President, Treasurer, Secretary, and Auditors, such Fellows leaving notice in writing of their proposal at the offices of the Society on or before the 10th day of January in each year."

In conclusion, he desired to make a statement. The Council were aware that the conduct of the affairs of the Society by the Council had been made the subject of considerable criticism. The Council were in no way sorry on that account, for it indicated that an active and keen interest in the affairs of the Society was being taken by the Fellows. The Council claimed no exemption from liability to err, but they did claim that the new policy which had been consistently pursued since the Society left South Kensington had rehabilitated the Society in every way. A few figures would prove that up to the year 1889, every year, with rare exceptions, showed a deficit. In 1885, there was a deficit of £120; in 1886, the deficit was £780; in 1887, it was £684; and in 1889, the deficit was £453. He was thankful to say that since that year they had ceased to have any deficit; and not only was that the case, but owing to careful—though not too careful—management, the finances of the Society were in a sound condition, and they had a sum of between £2,000 and £3,000 in hand. The next figures he would refer to were the subscriptions. These had increased from £1,990 in 1887 to £3,355 in 1895, or about 69 per cent. The circulation of the *Journal* had increased 100 per cent. The cost of printing it was £3,470; the receipts from advertisements and sales was £1,960. The net cost of the *Journal* therefore was £1,510, or £215 per annum. The Fellows elected from 1887 to 1895 numbered 2,918; the resignations and deaths removed 862, leaving a net gain of 2,066. He ventured to think that in face of those figures it could not be contended that the Society had forfeited the confidence of the Horticultural world or of its Fellows. He could assure the meeting that the Council had done its very best for the good of the Society, and they trusted that the Fellows would endorse the policy they had adopted.

Mr. F. ROWLEY PARKER seconded the adoption of the report.

AN AMENDMENT.

Mr. A. H. Smeë said he regretted to be compelled to move an amendment to the resolution. He generally felt it his duty to support the Executive, and he believed the Council had endeavoured to do their best for the Society; but he thought there were times when they deviated a little from their powers. He then went on to say that the Council had acted *ultra vires* in granting a retiring allowance to Mr. Barron. It should be remembered that the Society was a voluntary society, and if any accident happened to it, he took it that the Fellows would be responsible for the pension. The report stated that Mr. Barron had had conferred upon him an Honorary Life Fellowship of the Society, but no such Fellowship was mentioned in their charter, and there was no such thing. If they had elected Mr. Barron an ordinary Fellow he would have come under Rule 90, and under that rule it would have been impossible for the Council to have conferred a pension upon him. He did not accuse the Council of wilfully doing wrong, but they were bound by their charter. Before bringing the matter forward he had taken the advice of counsel; and his amendment was as follows:—

"An allegation having been made by a Fellow that the Council may have acted *ultra vires* to its charter, and the bye-laws by electing Mr. Barron to a Life Fellowship, and that the form of ballot-paper and mode of election, and removal of members of the Council, is irregular, and a doubt is expressed that the meeting is incapable to deal with the allegations, it is expedient that a committee of seven Fellows shall be appointed to investigate and report on these allegations, and they be empowered to obtain legal advice on the subject and to report to an adjournment of this meeting."

Mr. Smeë added that he would, if desired, hand his "counsel's opinion" to the Council.

The President: "We don't want your counsel's opinion. That depends on the case put before him." Continuing, the President said they could not accept any such proposal as that contained in the amendment. The Council had acted in accordance with the custom that had been pursued ever since he had had the honour of being connected with the Society. He confessed that he believed it would be a total waste of the time of the seven members who might be appointed to the committee, and of the money which he supposed the Society would have to pay for counsel's advice. He sincerely trusted the meeting would, in the interest and welfare of the Society, give an emphatic negative to the amendment.

Mr. HENRY A. HARRIS said he did not wish to support the amendment; but it [the present practice] rather amounted to the Council electing their successors.

The amendment having been seconded, it was put to the meeting when only three voted for it. It was thus lost by an overwhelming majority.

Mr. Smeë said he was afraid he should have to stop the Council by an injunction.

The President: You must take whatever course you think proper.

The President then said that Mr. Barr had handed in a number of questions. I confess, continued the President, that it is with a feeling of shame that I feel called upon to read these questions. They are an attack upon an officer of the Society who has served the Society in a way that no officer has served the Board in the past. When we remember the cheerfulness, the courage, and the resolution of our Secretary while labouring under a severe physical disablement, in carrying on the duties of his office, and the way he devoted himself to the service of the Society during that severe illness, I could use language, in regard to these questions, which the reporter would not take down.

Baron Schroder said he did not intend to speak that day, but after the attack upon his excellent friend the Secretary, and upon the Council, he felt that he could not sit still. He thought he could speak with some authority, as he had been on the Council for many years. He joined the Council of the Society when the Society was in a very bad way, when they were like a cock-pit, and when they were financially ruined. Since then they had had the advantage of getting rid of a good many members of the Council who were obnoxious, and of getting a Secretary instead who was a man for whom they all had the greatest respect, and a man the like of whom he had very seldom found in the long life he had lived—a man who had filled his position with great honour, great integrity, and a great knowledge of the subject. He hoped they would unanimously record their appreciation of those qualities, and not allow their Secretary to be slandered. After the most painful scene they had just witnessed, he thought it was their duty to record a Vote of Confidence in the Council, in their President, in the Secretary, and in the Officers of the Society.

Mr. HARRY VEITCH said he had the very greatest possible pleasure in seconding the proposal. It had not been his good fortune to have sat so long at the Council table as some, but he had sat there sufficiently long to know the valuable—the invaluable—services of Mr. Wilks. He (the speaker) was one of those who joined in the fight against the then Council at South Kensington, when they had the gratification of ousting many of them, and it was at that time that Mr. Wilks joined the Council. He heard the question asked as to what were the official hours of the Secretary. He believed that not only had Mr. Wilks devoted his week-days to the

Society, but he believed he had given to it some of his Sunday hours. He had never addressed an enquiry to Mr. Wilks without getting an answer, and Mr. Wilks never allowed a single point to go undecided. It was very seldom they found clergymen with the business habits of Mr. Wilks.

The President put Baron Schroder's vote to the meeting. It was carried unanimously—"even these gentlemen by me," adding the Baron, "voting in its favour."

The President said he was very much obliged for the vote. In conclusion, he asked the meeting to pass a hearty vote of thanks to all those who had co-operated with the Council in carrying on the work of the Society. The gentlemen who composed the several Committees were most eminent in their branches of horticulture, and they gave valuable services at very great inconvenience to themselves. The vote was carried.

The Secretary, who was received with loud cheers, said he would very much rather have sat perfectly silent at that meeting, because it was almost as painful for him to have to listen to such exceedingly kind and almost undeserved words that had fallen from the Baron and from Mr. Veitch, as it had been to listen to the sort of catechism which Mr. Barr had put the President through. One was almost as painful as the other, but at the same time one was very gratifying, and the other was the reverse. The opposition they had had to meet during the last few minutes was in itself a source of gratification, as he would ten thousand times prefer that gentlemen should come to their meetings and say out what they meant, instead of following the course pursued in such matters by a kindred society. When the Society was criticised, it was doing good work. He thanked them very much for the vote of confidence.

The President mentioned that Mr. Wilks acted as Secretary to the Society for several years without any payment, and it was only when he felt he was obliged through circumstances to take any payment, that he did so.

Mr. MARSHALL enquired what was to be done at Chiswick, to which the reply was made that no answer could be given, but that a "free hand" would be allowed to the new superintendent.

Mr. R. DEAN said he noticed that there would be no meeting of the Floral Committee between an early date in September and the beginning of October. He thought there should be a meeting sooner.

The President promised that the matter should not be lost sight of. He then formally moved the adoption of the Council's report. The motion was carried.

DEVON AND EXETER GARDENERS' ASSOCIATION.

FEBRUARY 5.—The title of the lecture given at the last meeting was "The Cultivation of Vegetables," and the lecturer was Mr. T. H. SLADE, gr. to Lord Poltimore, of Poltimore Park.

Dealing first with Potatoes, Mr. SLADE recommended deep or double-digging, giving the plants plenty of space each way, and a frequent change of seed, especially seed from a different kind of soil. Brassicas, and especially Broccoli and Cauliflowers, were better able to withstand frost when planted on hard ground which had been deeply dug and well manured the year before. He recommended them to be grown in breadths, and, in the discussion which followed, it came out that these crops stood a hard winter better when well exposed on high ground than when in more sheltered positions. Model Broccoli he held to be a model in more than its name, as it combined good size with high quality, and protected itself well by its inner leaves. Peas, he said, did best on strong land, and, as a rule, good Wheat-land made good Pea-land. Mentioning the best varieties, such as Etonian, Duke of Albany, Main Crop, Stratagem, Autocrat, and others, Goldfinder came in for a large share in the discussion. It seemed to be a sort particularly well-adapted for Devonshire, in which county it was first selected, and it was generally considered as the best of the No Plus Ultra type. Onions wanted fairly deep soil, well worked and manured in the autumn, re-dug and trampled down before sowing. Mr. SLADE warned his hearers in testing new sorts of vegetables, not to be too loud in praising nor too hasty in condemning on the result of one season's trial. Discussing the question of garden manure, it was shown that fish manure or any manure rich in potash was the most generally useful for gardens. K unit was said to be well worth the price it was generally sold for, and, in conjunction with superphosphate of lime, a valuable manure for Potatoes. Wood-ashes, the remains of burnt rubbish heaps, was a valuable manure, as it both enriched and lightened heavy soil, and rendered it more porous.

A very useful discussion ensued at the conclusion of the address, and the meeting ended with a hearty vote of thanks to Mr. SLADE for his lecture, given extempore; and to the chairman, Mr. HILL, Market Gardener, Whipton, for presiding.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

A QUESTION OF RATING.—I have applied to the Assessment Committee for reduction of tax on my market garden, according to the trial reported in

the *Gardeners' Chronicle*, and also in the "Answers to Correspondents." The committee assert that the reduction of assessment to one-fourth applies only to sanitary rates, and not to the assessment for other taxes, which, if so, does not apply to the majority of country gardeners, who, outside a town, have no sanitary rate. Can you tell me if this is so, and if not what steps I can take to enforce the reduction. While writing, I should like to call your attention to the extremely unfair position of market gardeners in regard to assessment, in relation to other people. The tradesman uses his capital in buying stock, on which he pays no rate; the clerk, with an income of £150 pays no rate, except for the house he lives in; but the market gardener who invests his capital in a greenhouse, is straightway mulcted of a rate for the same. In the case of no other trade, I believe, is the tradesman rated for anything but his dwelling-house. Can you tell me if there is any appeal from the Local Assessment Committee, E. A. C. [Our correspondent should apply to Mr. S. Worrell, secretary to the Nursery and Seed Trade Association, 30, Wood Street, Cheapside, E.C. Ed.]

MIGNONETTE.—I planted Mignonette in a border in a greenhouse over two months ago. It hardly grows at all. Can you tell me the best manure for it, or anything which will conduce to its growth and blooming, E. A. C. [As sunlight increases, the plants will probably grow. In its present stagnant condition we should not apply manure. Ed.]

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS. Above (+) or below (-) the Mean for the week ending February 8.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.		
	ACCUMULATED.				10ths Inch.	Ins.			
	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.	Below 42° difference from Mean since December 29, 1895.					
0	6 +	24	5 + 35	- 132	3 -	31	7 6	12	9
1	6 +	29	13 + 21	- 90	5 -	21	2 0	27	21
2	3 +	15	28 + 23	- 92	4 -	17	1 4	10	17
3	0 aver	8	39 + 10	- 96	4 -	19	1 7	21	16
4	1 +	12	35 + 26	- 118	5 -	17	1 3	17	15
5	0 aver	8	29 + 16	- 104	5 -	15	1 3	18	14
6	6 +	23	0 + 40	- 107	4 -	26	4 6	5	12
7	3 +	20	10 + 53	- 121	3 -	20	2 7	6	13
8	0 aver	15	23 + 33	- 79	5 -	19	2 3	13	17
9	4 +	23	4 + 55	- 92	4 -	24	3 3	17	15
10	5 +	39	0 + 65	- 84	4 -	21	3 1	15	15
*	1 -	20	8 + 45	- 48	6 -	21	1 8	23	17

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
- 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c. Districts—6, Scotland, W.;
- 7, England, N.W.; 8, England, S.W. 9, Ireland, N.;
- 10, Ireland, S. \* Channel Islands.

MARKETS.

COVENT GARDEN, FEBRUARY 13.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Asparagus, 1st size,	6 0 - 7 0	Mint, per bunch	0 1 - 0 8
per bundle	6 0 - 7 0	Mushrooms, per lb.	0 8 - 0 9
— 2nd size, do. ...	4 6 - 3 0	Onions, Eng. cwt.	5 0 - 6 0
— (sprue), do. ...	0 8 - 0 9	Potatoes, Channel Islands, per lb.	0 5 - 0 6
Beans, Channel Islands, per lb.	1 9 - 2 0	Seakale, per bunch	0 9 - 1 0
— Madeira, p. bas. (8 to 10 lb.)	4 6 - 5 0	Tamatoes, Canary Islands, per case,	12 to 14 lb. ...
Cauliflowers, p. crate (6 doz.)	5 0 - 7 0	— Canary, boxes,	4 to 4 1/2 lb. ...
Cucumbers, per doz.	12 0 - 15 0		1 3 - 1 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Foliage plants, doz.	12 0-24 0
Aran lilies, per doz.	8 0-12 0	Hyacinths, per doz.	6 0 10 0
Aspidistra, per doz.	12 0 30 0	Lilium Harrisii, per	18 0-36 0
— specimen, each	5 0-15 0	dozen pots	18 0-36 0
Azalea, per plant	2 0-3 6	Marguerites, p. doz.	6 0-12 0
Crocus, per dozen	6 0-10 0	Mignonette, p. doz.	6 0-9 0
Cyclamens, per doz.	9 0-15 0	Palms, various, ea.	2 0-10 0
Dracena, each	1 0-7 6	— specimens, ea.	10 6-84 0
— various, p. doz.	12 0-24 0	Poinsettia, per doz.	12 0-18 0
Ericas, various, doz.	9 0-24 0	Primula siccosis,	per dozen
Evergreen Shrubs,	in variety, doz.	4 0-6 0	Tulips, doz. pots
— various, doz.	6 0-24 0	6 0-8 0	Solanoam, per doz.
Ferns, small, doz.	1 0-3 0	9 0-12 0	Spireas, per doz.
— various, p. doz.	5 0-12 0	9 0-12 0	
Ficus elastica, each	1 0-7 6		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Aroma, p. 12 blooms	2 0-4 0	Orchids—cont.	
Azalea, 12 sprays	0 6-0 9	Odoctoglossum	
Bouvardias, per bun.	0 6-1 0	crispum, 12 bms.	3 0-6 0
Carotians, 12 bms.	1 0-3 0	Pelargonums, scar-	
Eucharisa, per dozen	3 0-5 0	let, per 12 bunch	5 0-8 0
Gardenias, per doz.	6 0-9 0	— per 14 sprays	0 9-1 0
Hyacinths (Roman)	12 sprays	Poinsettia, 12 bms.	3 0-6 0
— per doz. spikes	2 0-4 0	Pyrethrums, 12 bun.	2 0-4 0
Lapageria, per doz.	6 0-1 6	Roses, Tea, per doz.	1 0-3 0
— blooma	0 6-1 6	— coloured, p. doz.	2 0-4 0
Lilac, French, p. hu.	3 0-5 0	— pink, French, doz.	3 0-4 0
Lilium Harrisii, bu.	4 0-6 0	— yellow (Maré-	
Lily of the Valley,	per doz. sprays	chal), per doz.	4 0-9 0
— per doz. sprays	0 6-1 0	— red, per dozen	6 0-9 0
Maidenhair Fern,	per 12 bunches	— Safráo	0
— per 12 bunches	4 0-8 0	French per doz.	2 0-3 0
Marguerites, per 12	bunches	Saunders doz. bun.	0 9-1 6
— bunches	3 0-6 0	Stephanotis, 12 sps.	6 0-9 0
Mignonne, 12 bun.	4 0-6 0	Tuberose, 12 bms.	0 9-1 6
Narcissus, White,	French, 12 bun.	Tulips, various, doz.	0 6-1 6
— Various, per	12 bunches	Viola, 12 bunches	1 6-2 6
— 12 bunches	0 9-1 6	— Parme, French,	
Orchids—	Cattleya, 12 bms.	per bunch	3 0-4 0
— Cattleya, 12 bms.	6 0 12 0	— Czár, do.	2 6-3 0
		— Mimosa or Aca-	
		cia, do.	1 0 2 0

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples from Nova	Scotland, per	Grapes Gros Colmar,	2nd quality,
— barrel	14 0-22 0	per lb.	2 0-2 3
— Wellington, 1st	quality, per	— Alicante, 1st	quality, p. lb.
— bushel	5 0-6 0	— Alicante, 2nd	quality, p. lb.
— Wellington, 2nd	quality, per	— Alicante, 2nd	quality, p. lb.
— bushel	3 0-4 0	Peaches, Cape, per	case containing
Cobs, per 100 lb.	25 0-30 0	— doz.	14 0-16 0
Grapes, Gros Colmar,	1st quality, lb.	Pine-apples, St. Mi-	chael, each
	2 6-3 0		2 6-4 6

NOTICES TO CORRESPONDENTS.

AGREEMENT WITH REGARD TO BUSINESS SALES: C. G. H. It should be ascertained if B. has any intention of continuing to trade within the prohibited radius, or if he is merely getting rid of trees, &c., for which he has no further use. The case seems to be one that might well be settled by a mutual friend or by an impartial arbitrator.

AMERICAN GARDENING PAPERS: A. D. We cannot say which is the best; *American Gardening and Garden and Forest* are good ones. Enquire of any foreign bookseller. Of Columbian and South American gardening papers we know nothing.

AQUILEGIA SKINNERI: H. C. You will find what you want in Mr. Baker's Monograph of Cultivated Aquilegia in *Gardeners' Chronicle*, vol. x., 1878.

ASPARAGUS: G. J. The beds having been dressed anew with manure, line them out to their original width, chopping down the sides with the spade, and throwing some of the soil from the alleys to the right and left, patting and smoothing it at the sides as you would earth-up Celery, throwing a little of it, say about 2 inches thick on the top of the beds. When this soil has become pulverised by wind, frost, and rain, which may occur in about a month, rake the beds smooth, and give them a rounded contour.

BOOKS: *Reader. Orchids for Amateurs*, by Jas. Britten and W. H. Gower; published at 170, Strand, W.C.—A. B., *Hants*. The best is *The Orchid Hybrids*, by Haasen, published by Dulau & Co., Soho Square, London.

BORONIA PROPAGATION: M. W. The cuttings of Boronia, like other plants belonging to Rutaceæ, should, in a general way, be taken from shoots which are mature, or approaching that stage; they should be cut through at a joint, and placed under bell-glasses with a hole in the top, and kept in a cool, airy house. Boronia serrulata, and probably B. megastigma, should be got into growth a little—say, put into mild heat for a month or two, the young tips of the shoots taken, no leaves being removed, and stuck into sandy peat, with an upper layer of the cleanest sand, covered with a bell-glass, and put in the propagating-house; but no

bottom-heat should be afforded, and not much water. B. pinnata does best when grafted on some freer-rooting species; B. alata, B. denticulata, and B. serrulata, if struck from ripe shoots, should have a length of 2 to 4 inches, and be struck cool.

CAMELLIA: R. O. Variegated Camellias are, we believe, in the trade; at any rate, we occasionally see them.

CARNATIONS: F. Webber. We cannot find any grubs in the plants sent, but from your description the insect is probably the "Carnation-fly," several times alluded to in this journal in the course of the last two or three years, R. McL.

CELERY LATE IN THE WINTER: Vegetarian. Plant some dwarf-growing variety, as Major Clarke's Red, or Sandringham White. The seed should be sown at the end of the month of March or in April, and treated hardily from the first, pricking off the plants before they get in the least degree crowded. The soil being wet, plant in very shallow drills, or on the level, and mould up by the end of November to about one half its height. In hard weather give protection by means of litter or bracken, and in February dig it up and lay-in in a north border close together, and as high up the stems as the heart leaves go.

DENDROBIUMS AND CATTLEYAS: A. D. The growths of the first in a state of nature are mostly pendulous or prostrate; of the second, erect or not, according to position.

DOUBLE DAFFODILS: J. A. O. The flowers sent are those of the common Double Daffodil (*Telamonia plenus*). These often come green, and are, indeed, very variable.

HOLLY HEDGE GETTING BARE AT THE BOTTOM: X. Y. Z. Short of cutting back the plants in the bare parts to half their height, you should keep the upper portion of the plants severely cut in as regards their lateral shoots for a season or two, permitting all shoots which issue from the lower parts of the stems to grow unrestrained for two or three years; even layering of the more conveniently placed lower shoots might be attempted, employing some fresh friable soil about the layers, and covering the ground with leaves, moss, or manure, to a depth of 2 or 3 inches.

INSECT: W. Cann. The grub of the Daddy-longlegs, *Tipula oleracea*.

LAWN DRESSING: W. Dawson. If the land is light, employ heavy loam finely sifted two-thirds, to one-third wood-ashes, or failing the latter substance, stable-dung in a thoroughly rotten condition; and if the lawn is bare of grass in places, sow "lawn grass" seeds in mixture on such places after scratching the surface with an iron rake, and beating or rolling the seed into the dressing. For heavy land, make use of wood-ashes, charred soil, sea-sand, soil from beneath the potting-bench, and if it be poor, at the least half of the whole should consist of rotten dung. Fish manure is an excellent dressing for grass land, but it should be applied when the family is absent from home for some weeks.

LIME AND VINE MANURE: J. A. The dressing of quick-lime need not be a "very slight one," but it should quite hide the soil from sight. The "Vine-manure" might be used two or three months later, or it may be given first, and slightly buried with the digging-fork.

MUSHROOM CULTURE: G. E. B. E. Apparently you are not acquainted with the rudiments of the art of growing Mushrooms; and the subject needing more space for its explanation than we can afford, we should strongly advise you to obtain a manual on the subject, such as *Mushrooms for the Million*, by J. Wright, 171, Fleet Street, E.C.

NAMES OF FRUITS: *Persicus*, I. Cocker Pippin; 2, Scarlet Russet.—A. Eyerly. Gloria Mundi.—Cockerell. Gloria Mundi.

NAMES OF PLANTS: *Reader*. *Cryptomeria japonica*.—A Lover of Orchids. *Cattleya Trianaei*, a very fine variety, near to C. T. Backhousiana; the other is a fairly good variety of *Lycaste Skinneri*.—A. E. H. The pseudo-bulb seed appears to be that of a *Bletia*, most of the species of which are easily cultivated in a cool or intermediate plant-house. B. hyacinthina is hardy in favourable situations. Some of the *Eulophias* have growth similar to that sent.—C. W. C. One of the Alders (*Alnus*); we cannot tell which, in the absence of leaves.—S. Maddox. *Streptosolen Jamesoni*.—C. C. Not a Snowdrop, but a Snowflake, *Lencium vernum*,

*Ooontoglossum Uro-Skinnei*: T. B., Leeds. Your undescendance of more than 4 feet in length, and which has been in flower since August last, is a very extraordinary ooe.

PEAR-SHOOT BORED: T. C. The work, probably, of the larvae of the Wood-Leopard Moth.

PELAGONIUM LEAVES DISEASED: X. Y. Z. The disease is caused by the presence of too much moisture at the roots, and the temperature of the soil being nearly that of the air. Give more ventilation. G. M.

PITCHER-PLANTS AND INSECTS: O. A. The bodies of captured insects and small creatures serve in some way—probably by the absorption of liquid-manure derived from the decaying remains to nourish the plants. The pitchers seem to be ordained to furnish an ever-present means of destruction in the plant's proper habitats, for insects which might by their excessive numbers disturb the balance of life in those parts of the world. The older pitchers in *Nepenthes*, *Sarracenia*, and other genera, are often full of water, secreted by the plants; at any rate, it helps to kill by drowning those insects which may have crept into the pitchers, and whose return is almost invariably frustrated by the smooth interior surface and fence of downward pointing stiff hairs.

TECOMA SMITHI: T. C. H. Do not overpot the plant; keep it under glass till it has made its growth, or most of it, then stand it out-of-doors in the full sunshine, or in a sunny pit or frame, taking care that worms do not get into the pot; syringing it occasionally in hot weather, and affording no manure-water. The plant will bloom in the young state.

TUBER OF RICHARDIA ETHIOPICA: R. K. B. The tuber has the appearance of having been gnawed by wireworm, but none of these creatures could be found in the package or on the tuber.

VINES IN PLANT-HOUSE: F. A. W. The Vines being so bad, it will doubtless be better to cut the rods back to a point near the ground-level, and if the old Vines are not too close, to plant new Vines between them in new soil. Select the best one or two canes which break from each old rod, and let them run without stopping them, or denuding them too severely of the laterals. The roots should be examined, and some good loamy soil got in, together with charcoal, crushed bones, and Vine-manure, in which the roots, or some of them, should be laid. The outfall for the water falling on the border should be examined, and put in order if found faulty. In the autumn, the work of thoroughly renovating the border may be undertaken. Keep the border for the Vines alone, and let the plants grown in the house be secondary to the Vines as far as may be.

VITIS COIGNETIE, PROPAGATION OF: X. Y. Z. This is a very difficult plant to increase from cuttings, and the only likely method is to use for the purpose wood which is nearly or quite matured, and three or four joints in length, cutting them straight across just below a node. If this be done in October, the cuttings should be put into porous sandy soil under a cold frame or hand-glass, placing them in another similar bed in a sheltered part of the garden unprotected by glass. Only one bud should show above the ground-level, and the soil made firm about them, making sure that the bottom of the cuttings rests firmly on the ground at the bottom of the hole. Layers would be more certain to root, especially if the bark be notched half-way round the shoots, and close below a bud or node, or if a wire be tied fast around them in the same place. Splitting the layered shoot for the distance of two nodes might facilitate the rooting process. We believe Mr. Thomson, of Taverner Street, Ipswich, offers seeds of the plant. Where a few plants only are wanted, grafting by approach (inarching) on any hardy Vine would probably be a better way.

COMMUNICATIONS RECEIVED.—G. D. Cann.—E. C.—J. B.—J. O. B.—E. J.—G. Massee.—A. McM.—H. W. W.—H. H. D'O.—D. T. F.—A. B.—W. D.—J. W.—A. B. & Co.—R. T. J.—Claude Lonsdale—W. N.—L. M.—F. B.—W. N. & Co.—W. T. T. D.—J. R. J.—M. C.—S. M.—T. C.—J. G. B.—H.—W. D., Cairo.—C. R. D., Newbury (next week).—R. K.—G. C.—M. T.—J. M.—Another Foreman should send his name and address.—W. C.—R. D.—W. C. S.—W. Igguldeo.—J. E.—J. H.—R. M.—W. K.—J. D.—J. S. F. L.—W. A. C.—J. J. W.—Harrison Weir.—A. G. M.

PHOTOGRAPHS RECEIVED WITH THANKS.—Geo. H.—S. T. W.



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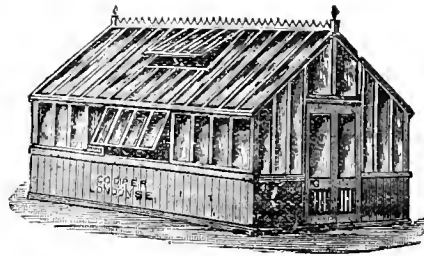
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  - 8.—We reserve to ourselves the right to refuse any order or orders that may be sent in upon these terms.
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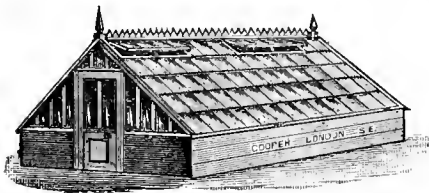


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Long.	Wide.	High.	To Eaves.	Erected Complete.
7ft. ...	5ft. ...	7ft. ...	4ft. ...	£4 0 0
8ft. ...	5ft. ...	7ft. ...	4ft. ...	5 0 0
9ft. ...	6ft. ...	7ft. 3in. ...	4ft. ...	5 10 0
10ft. ...	7ft. ...	7ft. 6in. ...	4ft. 6in. ...	6 15 0
12ft. ...	8ft. ...	8ft. ...	5ft. ...	8 0 0
15ft. ...	10ft. ...	8ft. 6in. ...	5ft. ...	12 0 0
20ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	16 0 0
25ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	21 0 0
50ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	40 0 0
100ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	70 0 0

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The utility of such a house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown.

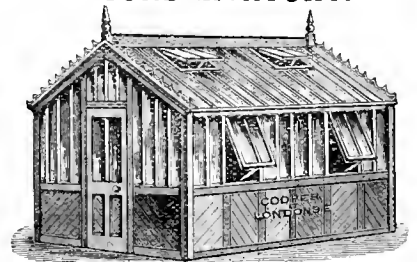
Specification.—Framework substantially constructed of red deal, the whole of sides, and 2 ft. 6 in. of ends, hoarded with well-seasoned tongued and grooved matchboards. Half-glass door, complete with rim-lock and brass-fittings, in one end; glass 16 oz. throughout, English cut. Ventilators supplied according to size of House, and stays necessary for opening same; stages for plants each side of House; all woodwork painted two coats of good oil paint, and the whole structure securely packed and delivered carriage paid to nearest station, and erected and glazed complete, at the following respective prices:—

Length.	Width.	Height.	Erected complete.	Length.	Width.	Height.	Erected complete.
7ft.	5ft.	7ft.	£4 0 0	15ft.	10ft.	8ft. 6in.	£11 0 0
8ft.	5ft.	7ft.	4 10 0	20ft.	10ft.	9ft.	14 10 0
9ft.	6ft.	7ft. 3in.	5 0 0	25ft.	10ft.	9ft.	19 0 0
10ft.	7ft.	7ft. 6in.	6 5 0	5ft.	10ft.	9ft.	38 0 0
12ft.	8ft.	8ft.	7 10 0	130ft.	10ft.	9ft.	65 0 0

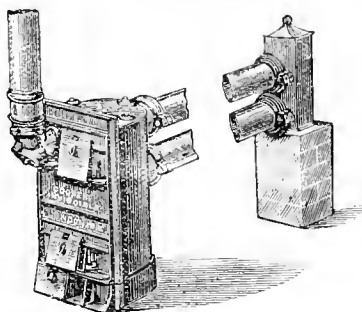
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The house is fitted with a half-glass door, complete with rim-lock, brass fittings, and key, and is supplied with lattice staging for each side, footpath the entire length of house, gutters, down-pipes, top and side ventilators, according to size, and necessary ironwork for opening same. All woodwork painted two coats of good oil-paint, glass cut to sizes, and all parts securely packed and delivered carriage paid to nearest station, and erected complete, at the following respective prices:—



Long.	Wide.	High.	To eaves.	Erected compl.	Long.	Wide.	High.	To eaves.	Erected compl.
7ft.	5ft.	7ft.	4ft.	£5 0 0	15ft.	8ft.	8ft. 6in.	5ft. 6in.	£15 10 0
8ft.	5ft.	7ft.	4ft.	7 10 0	20ft.	9ft.	9ft.	6ft.	23 0 0
9ft.	6ft.	7ft.	4ft. 6in.	9 0 0	25ft.	9ft.	9ft.	6ft.	28 0 0
10ft.	7ft.	7ft. 6in.	5ft.	10 0 0	50ft.	9ft.	9ft.	6ft.	55 0 0
10ft.	8ft.	7ft. 6in.	5ft.	11 0 0	100ft.	9ft.	9ft.	6ft.	90 0 0
12ft.	8ft.	8ft.	5ft. 6in.	12 0 0					



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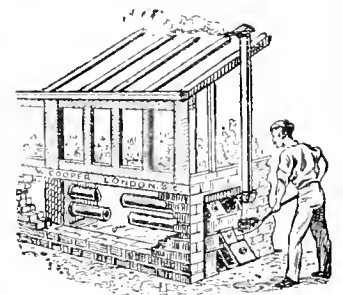
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9ft. by 6ft. ...	4 0 0	4 14 0	5 14 0
10ft. by 7ft. ...	4 0 0	4 15 0	5 15 0
14ft. by 8ft. ...	4 10 0	5 10 0	6 15 0
15ft. by 10ft. ...	5 15 0	7 0 0	8 10 0
20ft. by 10ft. ...	6 15 0	8 0 0	11 0 0
25ft. by 10ft. ...	7 15 0	9 0 0	12 15 0

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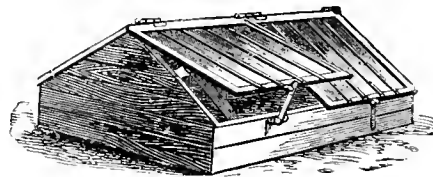
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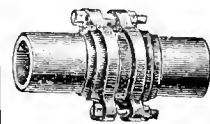
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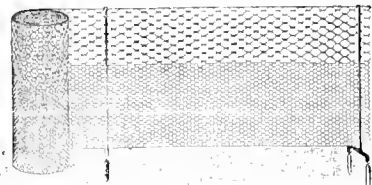
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**GARDENER (good SINGLE-HANDED, or where assistance is given)**.—Age 24, single; nine years' experience. Thoroughly understands Glass and all branches. Excellent references.—K. F., Mr. Deed, Newsagent, Prittlewell, Essex.

**GARDENER (SINGLE-HANDED, or otherwise)**.—Age 27; good practical all-round experience in all branches, Inside and Out. Steady. Highly recommended.—G. CADD, Evenley Hall, Brackley, Northants.

**GARDENER (SINGLE-HANDED)**.—Age 27; eleven years good practical knowledge.—**HERBERT MITCHELL**, 2, Brent Cottage, Hanger Hill, Ealing.

**GARDENER (SINGLE-HANDED, or where help is given)**.—Age 28, married, no family; life experience. Six years in present situation.—W. LAWRENCE, 46, Campden Street, Kensington.

**GARDENER**.—T. ROBINSON, Gardener to W. Lawrence, Esq., Elmsfield Gardens, Bollinghouse, Kent, can with confidence recommend his Foreman, A. RUSTON, to any Lady or Gentleman requiring a good and trustworthy man; experienced in early and late forcing.

**GARDENER**.—Situation wanted by young Man as SECOND, where four or more are kept. Present as Second under C. A. Westcott, Head Gardener to Earl Howe.—E. HAWKINS, The Gardens, Penn House, Amersham, Bucks.

**GARDENER**.—A. BALLARD, Gardener to Sir Joseph Bailey, Bart., Glanusk Park Crickhowell, wishes to recommend his Foreman, E. JONES, age 34, to any Lady or Gentleman requiring a thorough practical man. Life experience in all branches.

**GARDENER (SECOND or SINGLE-HANDED)**.—Age 24, single; good experience in the general routine of Gardening, Inside and Out; good character.—**DOMAN**, Thorpe Lea, Egham, Surrey.

**GARDENER (SECOND of three, or THIRD of four)**.—Age 20; seven years' good character; eight kept in last place; left own accord; disengaged.—F. HANSELL, North Elmham, near Dereham, Norfolk.

**GARDENER (SECOND)**, where two are kept; age 27.—J. W. REED, Gardener to E. Pettit, can recommend a good man. Has been with him three years.—Broadwater, Otlands Park, Weybridge.

**GARDENER (SECOND), or JOURNEYMAN** Inside and Out.—Well up in all branches. Highest references as to character and ability. Abstainer.—W. MURPHY, Hall Place Gardens, Harbledown, Canterbury.

**GARDENER (SECOND), or JOURNEYMAN (FIRST)**.—Age 27; twelve years' experience in good places, including five years at Ketton Hall, three years at Ripley Castle. Excellent references.—W. WGGLEY, Gardener's Cottage, Dalby Road, Melton Mowbray.

**GARDENER (SECOND), or JOURNEYMAN**, Inside and Out.—Age 25; eight years' experience. Abstainer. Good character from previous and present employer.—J. WARREN, The Gardens, Harewoods, Bletchingly, Surrey.

**GARDENER (UNDER)**.—E. BATES, age 19; four years in the gardens of the Right Hon. the Earl of Kimberley, K.G.—Address, Kimberley Gardens, Wymondham, Norfolk.

**GARDENER (Under Foreman in Houses)**.—Bothy preferred. Age 19; four years' experience; good character.—**SALMON**, Shrubbs Hill, Sunningdale, Ascot, Berks.

**GARDENER (UNDER), or JOURNEYMAN**.—Age 20; two years in present situation, four previous. Excellent character.—M. PAGE, Ward's Lane Cottages, Elstree, Herts.

**GARDENER (UNDER)**. Age 30, married; G well up in Kitchen and Flower Garden.—Mr. T. OSBORNE, Grove, Teddington, Middlesex, will be pleased to recommend E. BAIGENT as above; been with him six years; left through reducing hands.

**GARDENER (UNDER)**.—Single young Man, age 24, seeks situation as above; five years' good character.—**EDWIN SPEKE**, Valeswood, Nesscliffe, Shrawsbury.

**GARDENER (UNDER)**, married when suited.—Mr. OSBORNE, Gardens, East Sheen Lodge, will be pleased to recommend H. JOHNSON, who has been with him two years. Understands Kitchen, Flower Garden, and Pleasure Grounds.

**GARDENER (UNDER), Inside and Out, where two or three are kept**.—Mr. SNOWDEN, "Aberglaslyn," Amhurst Park, London, N., can strongly recommend a young Man (age 19), tall, strong, capable and willing. Abstainer.—T. WALKER, F. Snowden, Esq., as above.

#### To Florists.

**MANAGER, or FIRST-HAND**.—Young Man (age 28) desires engagement. First-class reference as to ability.—**ALPHA**, 41, Wellington Street, Strand, London, W.O.

**MANAGER**.—A hard-working, industrious man, well up in Cucumbers, Tomatos, Pot Plants, and Cut Flowers; good Propagator of Soft-wooded Stuff; excellent hand at Mounting Flowers, Wreaths, Bouquets, Sprays, &c.; used to Covent Garden Market, would take Management of Small Nursery or Private Place. Age 23; steady. Good references.—A. B., Mr. A. Mills, 740, News Agent, Leytonstone Road, Essex.

#### To Wholesale Growers for Market.

**MANAGER**.—Mr. G. BTHELL, Whiteley's Nurseries, Hillingdon, can confidently recommend a thoroughly experienced Man as above. Well up in Growing in quantity, Fruit, Cucumbers, Tomatos, Cut Flower Growing in every branch, Palms, Orchids, &c.; also erection and heating greenhouses, &c., and all requirements of the trade. Address as above.

#### To Nurserymen and Market Growers.

**MANAGER or GENERAL FOREMAN**, in large Market Nursery.—Well up in Growing in quantity Grapes, Strawberries, Cucumbers, Tomatos, Mushrooms, Roses, Carnations, Bulbs, Chrysanthemums, Cut Stuff generally; also Palms, Ferns, Orchids, &c. Twenty years' experience; first-class references.—**REX**, Mr. W. Goddard, Salesman, 10, Russell Court, W.C.

**MANAGER, or FOREMAN**.—Twenty years' practical experience in Market establishments, Growing Grapes, Cucumbers, Tomatos, Plants, &c. Thoroughly well up, and can make the above pay for Market purposes.—**T. S. TRENFIELD**, Bidford, Stratford-on-Avon.

**GROWER**.—Situation wanted by a first-class Grower of Palms, Ferns, Primulas, Cyclamens, Roses, Smilax, Carnations, Chrysanthemums, Azaleas, all Cut Flowers, and Bedding Plants. Also very well up in Wreath-making, and Decoration of all kinds. Age 27; fourteen years' experience.—H. R., 90, Leman Street, Aldgate, London.

**TO NURSERYMEN**.—Wanted by a young Man (age 27), situation as **GROWER**. Good general knowledge of market work; good reference.—J. GIBBAM, 50, Maygrove Road, Brondesbury, N.W.

**GROWER**.—Age 28; life experience; Ferns, Carnations, Stove, Softwood, general run of (first-class) Market, Pot and Flowering Stuff, Plants, &c. Good references.—**GROWER**, 41, Wellington Street, Strand, W.C.

**KNIFESMAN, Outside**.—Age 23; successful Budder and Grafter. Seven years' good character; twelve months in present situation at Mr. Charles Turner's, Slough.—Reply, stating wages, &c., to F. GRGOM, 69, Wellington Street, Slough.

#### To Nurserymen.

**NURSERY FOREMAN, PROPAGATOR, and GROWER**.—Eighteen years' experience in Soft-wood, Stove and Greenhouse, Ferns, and Orchids, Cucumbers, Tomatos, Forcings for Cut Flowers, Decorations, Wreaths, and Crosses, &c.—W. GREEN, 43, Denny Street, Balham.

**TO FLORISTS**.—Man, age 25; eleven years' experience, seeks situation as **FOREMAN** in small Nursery. Abstainer. Well up.—F. SMITH, Healdbourne Worthy, near Winchester, Hants.

**FOREMAN or JOURNEYMAN (FIRST)**.—Age 23; knowledge of House and Table Decorations. Eight years' good character. Highly recommended.—J. KILLING, The Gardens, Bolton Hall, Leyburn, R.S.O., Yorks.

**FOREMAN, age 25, in the Houses**.—Eight and a half years' experience in Plant and Fruit Houses; two and a half years in present place. Well recommended.—**THOS. MILNER**, The Gardens, Nostell Priory, Wakefield, Yorks.

**FOREMAN or JOURNEYMAN (FIRST) for the Houses**.—Mr. W. COOK, Compton Bassett Gardens, Calne, will be pleased to recommend W. PEMBERTON as above to any Gardener requiring a steady and reliable Man. Age 24; ten years' experience.

**FOREMAN requires a situation, Inside**.—Age 28; thirteen years' experience. Good references from last situation.—H. BARTON, Brooke, near Norwich.

**FOREMAN**.—Age 22; eight years' experience in fruit and plant houses, and general routine of gardening; good testimonials.—R. JONES, Eythorpe, Aylesbury.

**FOREMAN, or JOURNEYMAN (FIRST)**, Inside.—Age 24; ten years' experience. Good character. Bothy preferred. State wages.—T. HOWDEN, The Gardens, Dalham Hall, Newmarket.

**FOREMAN**.—F. BREWER, Worton Hall Gardens, Isleworth, W., wishes to re-engage as above; two years in Fruit department at Ketton Hall. Highest references as to character and ability; abstainer.

**FOREMAN**.—Age 26; life experience. Good knowledge of Orchids and Decorating. Eighteen months **FOREMAN** in present place; leaving for no fault. Good characters.—**CONINGSBY**, Radwin Hill, Arthington, Leeds.

**FOREMAN or JOURNEYMAN (FIRST)**, in a private establishment.—Age 25; eleven years' experience in all branches. Good testimonials.—G. SIMMONDS, Binfield Heath, Henley-on-Thames.

**FOREMAN**; age 26.—Mr. W. WARD, Longford Castle Gardens, Salisbury, will be pleased to recommend E. BETTON as above. Has been with him two years; ten years previous at Euston Hall, Draycot House, and Bodorgan.

**FOREMAN (Inside)**.—Age 25; eleven years' experience; good character.—T. DUNNING, Mount, Bishopstoke, Hants.

**FOREMAN, General.**—Age 26; life experience in all branches, Inside and Out, well recommended.—**WHEELER**, Blackmore Ead, Kimpot, Welwyn, Herts.

**JOURNEYMAN (FIRST).**—Age 23; six years' good character from present employers. Bothy preferred.—**T. WILLIAMS**, Hamptworth Gardens, Dowton, Salisbury, Wilts.

**JOURNEYMAN**, age 21, requires a situation in a good establishment.—Had six years' experience in large Gardens, including three years at Eastnor Castle. Can be well recommended from two last places. Tall and strong.—**W. D. SMITH**, Owlpen Park, Dursley, Gloucestershire.

**JOURNEYMAN**, Inside, age 18.—**Mr. F. JORDAN** can recommend H. Hora as above; nearly five years in present situation. Bothy preferred.—**Tilgate Gardens**, Crawley, Sussex.

**JOURNEYMAN.**—**Mr. GRAY** wishes to recommend **S. ADAMS** as above, who has had four years and a half experience Inside and Out.—**S. A. Leybourne Grange**, Maidstone.

**JOURNEYMAN (FIRST)**, in the Houses.—Age 23; nine years' experience; two in present place.—**Apply—G. BENNETT**, The Gardens, Roselands, Woolston, near Southampton.

**JOURNEYMAN (UNDER)**, in a good establishment.—**F. E. LANE**, Compton Lea Gardens, Horsham, wishes to recommend a young Man, age 19, as above. Four years' experience. Address as above.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 23; three years' good character.—**C. LAWRENCE**, The Gardens, Springfield, Cranford, Hounslow, Middlesex.

**JOURNEYMAN**, Inside, age 21.—**Mr. BAILEY**, Oirshy Manor Gardens, Lincoln, can with confidence recommend a hard-working, industrious young Man as above. Seven years' experience; two in present situation; abstainer.

**JOURNEYMAN (Inside, or Inside and Out).**—**HEAD GARDENER**, Weelsby Old Hall, Grimsby, wishes to recommend a young man (age 20) as above. Six years' experience.—Apply as above.

**JOURNEYMAN (FIRST)**, in a good establishment.—Age 22; nine years' experience Inside and Out; two years in present situation. Bothy preferred.—**F. LACEY**, The Gardens, Hayes Place, Kent.

**JOURNEYMAN**, Outside, or Inside and Out.—Age 20; four and a half years' experience, and can be well recommended. Bothy preferred.—**J. BRUMMELL**, The Gardens, Croxton Park, St. Neot's, Hunts.

**JOURNEYMAN**, Inside, in a private establishment.—Age 22; eight years' experience; three years as Journeyman; good reference.—**A. H. ALFORD**, The Boyes, Hanley Castle, Worcester.

**JOURNEYMAN.**—Age 21; seeks situation in the Houses. Good experience in all branches.—**THOMAS GARRATT**, Eaglehurst Castle, Fawley, Southampton.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 24; nine years' experience, good characters.—**E. GOULD**, 21, Broadwater, Worthing, Sussex.

**JOURNEYMAN**, Inside.—**H. FENNEL**, Gardener to Lord St. Oswald, Appleby Hall, Doncaster, wishes to recommend **E. DODSON**, age 22, who has been with him nearly two years, to anyone requiring the above. Nine years' experience.

**JOURNEYMAN**, age 20.—**A. PARRY** can with confidence recommend **F. ALLEN**. Has been with me six years in the Houses.—**The Gardens**, Out Edge, Halstead, Essex.

£2 to any Gardener obtaining situation as SECOND, or JOURNEYMAN (FIRST), for young Man, age 27. Thoroughly experienced. Three years' good character. State wages, &c.—**W. M.**, 34, King Street, Twickenham.

**JOURNEYMAN**, Inside, in good establishment.—Age 23; two years in present situation. Good references.—**C. HILL**, The Gardens, Sudbourn Hall, Wickham Market, Suffolk.

**JOURNEYMAN**, Inside and Out; age 20.—**R. HUBBARD**, Roffey Park Gardens, Horsham, wishes to recommend **J. ORTON**, as above. Seven years' experience. Excellent character.

**JOURNEYMAN (FIRST)**, in Houses.—Age 24. **J. MALTBY**, Denton Manor Gardens, Grantham, can with confidence recommend **WALTER BRADLEY**, who has been in the above gardens three and a half years, to any Gardener requiring a Journeyman under Glass, either Plants or Fruit, or both.

**JOURNEYMAN (good FIRST)**, age 23.—**Mr. LES**, Gardener, Bovingdon House, Hempstead, Herts, wishes to recommend **H. COTTERELL**, who has been here two years, chiefly inside; eight years' experience.

**JOURNEYMAN (UNDER)**, or GARDENER (UNDER), Inside and Out.—Age 21; five years' experience. Good character.—**J. WALKINGTON**, Keowick, Louth, Lincolnshire.

**JOURNEYMAN (FIRST)**, or FOREMAN, seeks situation. Two years in charge of Plant and Ornamental Department last place. Good character. Scotland referred.—**ELI FOOTE**, Sticklaod, Bradford, Dorset.

**JOURNEYMAN.**—Age 20. **Mr. R. HENDERSON** wishes to recommend **H. ORPIN** as above, who has been with him nearly three years.—**The Gardens**, St. Leonards, West Malling, Kent.

**JOURNEYMAN**, Inside.—**J. LAMBERT**, Powis Castle Gardens, will be pleased to recommend a strong, active, persevering young Man, age 20, as above.

**JOURNEYMAN**, Inside or Inside and Out.—Age 23; ten years' experience. Good references. Distance no objection.—**L. LUXFORD**, 122, Daleton Lane, London, N.E.

**JOURNEYMAN**, Inside, in a good Establishment.—Age 22; well up in Fruit and Plant Departments, and House Decoration. Good reference. Over two years in present place. Bothy preferred.—**A. HOBBS**, Pexton Park Gardens, St. Neot's, Hunts.

**JOURNEYMAN**, Inside (private place).—Age 20; seven years' good experience with Fruit and Plants. At present with **Mr. J. Coward**, Gardener to the Earl of Winchelsea.—**J. ENGLISH**, Haverholm, Sleaford, Lincs.

**JOURNEYMAN.**—**S. HAINES**, Colehill Gardens, Highworth, Wilts, wishes to recommend **F. WATMOUGH** (age 20), as above. Has been with him three years.

**JOURNEYMAN**; age 23.—**E. BENNETT**, The Gardens, Chilham Castle, Canterbury, will be pleased to recommend a strong, active, and persevering young man. Seven years' good experience, both Inside and Out.

**JOURNEYMAN**, Inside.—Age 22; six years' experience. Well up in Plants. Good character. Bothy preferred.—**J. WILKS**, Heaton Row, Ferncliffe, Bingley.

**JOURNEYMAN (FIRST)**, age 23.—**G. KIMMINS** wishes to recommend **F. Overill** as above, who has been with him three years.—**The Gardens**, Albury Hall, Little Hadham, Herts.

**JOURNEYMAN**, in good Establishment.—Age 22; seven years in present situation. Experienced in Fruit and Plant Culture. Well recommended.—**O. FOULSET**, The Gardens, Cutton Park, Norwich.

**JOURNEYMAN in the Houses.**—Age 21; two years' good character from present place, three years from previous one.—**T. COTTELL**, The Gardens, Hackwood Park, Basingstoke.

**JOURNEYMAN**, age 20.—**Mr. SIMS**, Bovingdon, Hemel Hempstead, would be pleased to recommend a young Man as above.

**JOURNEYMAN.**—Wanted a situation by a strong Youth, age 19, under a Foreman. Disengaged. Bothy preferred.—**ARTHUR BUXTER**, 84, Sheep Fair, Rugeley, Staffs.

**JOURNEYMAN (FIRST)**, in a good establishment, age 24.—**Mr. WEEKS**, Peooyre Gardens, Brecon, can highly recommend a thorough hard-working, sober, industrious Man as above. Nine years' experience in Plant and Fruit-houses, and useful all-round man. Three years excellent character.

**JOURNEYMAN**, Inside and Outside.—Age 21. **R. GREGG**, Earldiston Gardens, Tenbury, Worcestershire, wishes to recommend young Man as above. Four years' experience.

**JOURNEYMAN**, Inside and Out.—**G. FORTY**, Mount Gardens, Bishopstoke, wishes to recommend a young Man, age 23, as above; seven years' experience; bothy preferred.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 21; five years' present situation.—**A. SUNNUCKS**, 13, Tyley Road, Bromley, Kent.

**IMPROVER**, Inside.—Age 19; two years' good character from present situation; three and a half previous. Bothy preferred.—**T. PAYNE**, The Gardens, Bridgen Place, Bexley, Kent.

**IMPROVER**, Inside, in a large establishment.—Age 18; four years' experience. Eighteen months Indoors in present situation.—Apply to **G. GROVES**, Head Gardener, Temple House, Great Marlow, Bucks.

**IMPROVER.**—Young man, age 20, desires a situation to improve himself. Five years' experience, chiefly Outside. Strong, able, and willing to learn.—**A. STAINES**, Rigwood, near Dover.

**IMPROVER.**—Young Man (age 20), wishes to improve himself. Four years' good character.—**H. G.**, St. John's Cottage, Parks Road, Oxford.

**IMPROVER**, Inside.—**THOMAS GLEN**, Worth Park Gardens, would be pleased to recommend a young man (age 18) where gardening is carried on with spirit. Four years' experience. Bothy preferred.

**IMPROVER**, Inside, or Inside and Out.—**HEAD GARDENER**, Warneford, Highworth, Wilts., wishes to recommend strong, active, willing young Man, age 21, as above. Six years' experience. Apply as above.

**IMPROVER**, Inside.—Age 20; three years' experience in Market Nursery; Cut Flowers preferred.—**S. S.**, Mr. B., Curdridge Cottage, Botley, Hants.

**APPRENTICE.**—Wanted, to place a lad of 15 in Gentleman's Gardens or good Nurseries, as APPRENTICE. State premium required.—**W. MILLS**, 2, Rosemary Road, Peckham, S.E.

**TO LANDSCAPE GARDENERS.**—Young man, five years' experience in drawing of Designs, Measuring, Calculating, &c., wants place.—**F.**, 41, Wellington Street, Strand, W.C.

**WILSON SMYTHE**, The Gardens, Upwell House, near Wisbech, Cambs, wishes to find a situation for his son, age 15, in the Houses. One year in the gardens here.

**GARDEN LABOURER.**—**Miss M. CARRINGTON** recommends Garden Labourer, age 20. Strong, hard-working. Good character.—**Missenden Abbey**, Great Missenden.

**HEAD GARDENER** can well recommend strong Youth (age 17), used to Fires, Watering, &c. Bothy preferred. Two and a half years Inside and Out.—**T. ALEY**, Highams, Woodford Green, Essex.

**TO HEAD GARDENERS.**—Wanted place for strong Lad in good Gardens. Has had some experience. State particulars, and premium expected.—**G. PILLAR**, Pinley House, near Coventry.

**TO GARDENERS.**—**HEAD GARDENER**, Manor House, Shepperton, can highly recommend good strong willing Lad, age 18, for the Garden, has worked in the garden here two and a half years.

**TO GARDENERS.**—**H. OSMAN**, Brentry Gardens, Westbury-on-Trym, Bristol, recommends a young man (age 17) to help in the Houses, or Outside and In. Has had three and a half years' experience here.

**TO GARDENERS.**—Wanted by young Man, age 20, situation in Houses, under the Foreman; five years' experience in Plant and Fruit-houses.—**T. B.**, Routhall House, Tunbridge Wells.

**TO GARDENERS.**—Young man (age 20), desires situation. Four years in present situation, chiefly Outside. Inside and Out preferred. Strong, willing to learn.—**S.**, Walmer Lodge, Walmer, Kent.

**TO NURSERYMEN and OTHERS.**—A young Man wants situation, well used to the routine of a Market Nursery, or Fruit and Flower Growing Establishment. Good references. Distance no object.—**WELLARD**, 3, Willow Terrace, Eynsford, Dartford, Kent.

**TO NURSERYMEN, &c.**—A young Man (age 23) seeks situation in Market or Private Place. Five years' experience. Total abstainer. Bothy or otherwise.—**E. CUTBUSH**, 9A, Waldo Road, College Park, N.W.

**TO NURSERYMEN.**—A young Man, age 22, seeks a position of trust in a Nursery. Five years' experience in the Trade. Good references.—**ERICA**, 41, Wellington Street, Strand, W.C.

**TO NURSERYMEN.**—Young Man seeks situation as JOURNEYMAN. Age 20; good characters. Bothy preferred. Apply—**A. C.**, 15, Station Road, Worthing, Sussex.

**TO NURSERYMEN.**—Situation wanted by a young Man, age 24; strong, willing, and obliging; used to Ferns, Palms, and Soft-wood Stuff. Wages, 15s. to start.—**FERNS**, 70, Holmesdale Road, Reigate, Surrey.

**TO NURSERYMEN.**—Young man (age 21), seeks situation in Tomato or Cucumber House. Two years' experience, with reference.—**G. W.**, 32, Thoroton Street, Hertford, Herts.

**TRAVELLER**, with wide connection among Gardeners and Market Growers in the Midland and Southern Counties, is open to represent a good firm of Nurserymen or Sandrimeas. First-class references.—Address, **E. WILLS**, Caritoo Road, Harpenden.

**PAINTER and GLAZIER** on Gentleman's Estate.—Age 33, married; seventeen years' practical experience.—**Apply, G. GROVES** (Head Gardener), Temple House Gardens, Great Marlow, Bucks.

**CARPENTER**, on Gentleman's Estate.—Young Man, age 29, seeks promiscuity as above; willing to make himself generally useful. Good references.—**W. GREENAWAY**, Widford, Ware, Herts.

**SEED TRADE.**—Young Man seeks situation as above. Has had little experience; good knowledge of Plants and Flowers.—**J. W.**, 8, Kelsey Park Road, Beckenham.

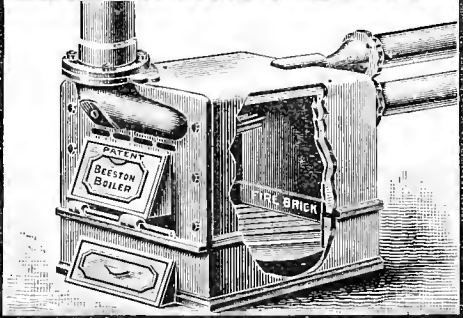
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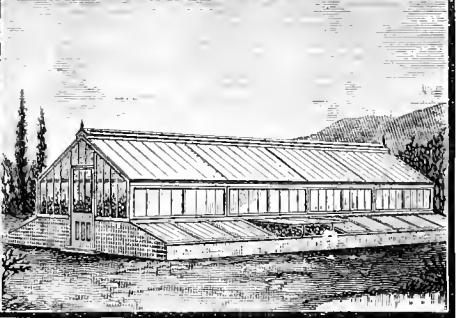
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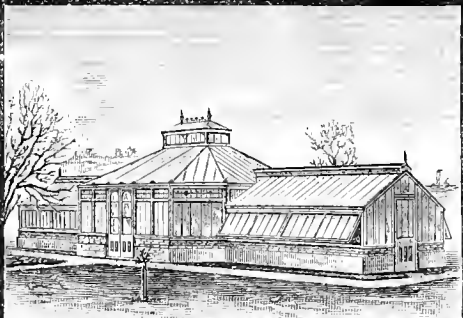
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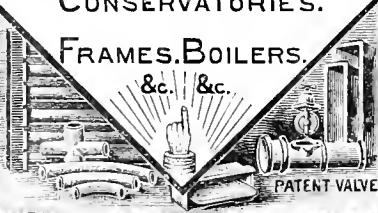
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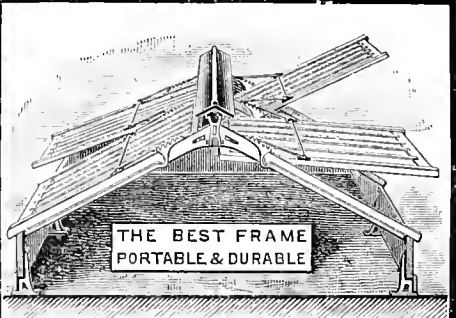
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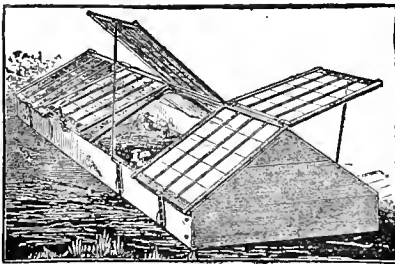
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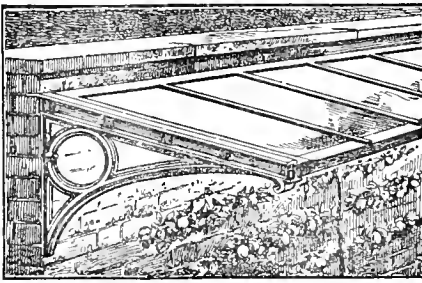
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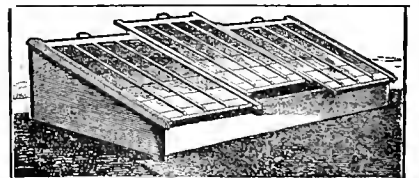
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# The GARDENERS' CHRONICLE

ESTABLISHED 1841.

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## CONTENTS.

Ancient Roses ...	229	Orchid notes and gleanings ...	230
Apple, a bush of Cox's Pomona ..	241	Orchids, natural hybrid Parsnip in tobacco pipe Pentstemon, the ...	242
Araucaria cones ...	243	Potting soil ...	245
Ascut of sap, on the ...	236	Poultry, our ...	245
Belgium, notes from ...	239	Primula, Carter's new ...	243
Books, notices of		Root pruning fruit-trees ...	243
An Introduction to the Study of Seaweeds ...	240	Royal Horticultural Society and the provinces ...	247
Wells' Book on the Culture of the Chrysanthemum ...	240	Rules for judging ...	242
Cactus Dahlias ...	243	Societies—	
Cœlogyne cristata ...	241	Brussels Orchidœenne ...	230
Cœlogyne flaccida ...	241	Ealing Gardeners' ...	238
Cypridium trimerousa ...	238	Edinburgh Botanical ...	241
Dafodils appearing blind ...	242	Horticultural Club ...	237
Dendrobium Wardianum ...	241	National Chrysanthemum ...	238
Ferns, hardy, in exposed situations ...	242	Scottish Horticultural Societ� Nationale d'Horticulture de France ...	238
Frost of 1895 at Kew ...	231	Spring flowers, early ...	238
Fruit drying, an experiment in ...	238	Thuis gigantes, timber of Weath-r in the North of Scotland ...	242
Fruit farming ...	242	Week's work, the	
Hamburg International Horticultural Exhibition, 1897 ...	239	Flower garden, the ...	234
Horticultural buildings Italy, the Royal Botanic Gardens at Portici ...	232	Fruits under glass ...	235
Jasmine, fruiting, the common ...	242	Hardy fruit garden ...	234
Kew notes ...	239	Kitchen garden, the ...	235
Klugia Notomiana ...	238	Orchid houses, the ...	234
Larch disease, the ...	243	Plants under glass ...	235
Obituary		Winter garden, the, of the Count de Kerchove at ...	231
Cheval, Joseph ...	244	Wright, S. T., Mr. ...	240
Farquhar, Robert ...	244		

## ILLUSTRATIONS.

Apple, Cox's Pomona, as grown at East Sutton Park ...	241
Farquhar, Robert, portrait of ...	244
Klugia Notomiana ...	237
Views in the Winter Garden of Count de Kerchove at Ghent ...	231, 233
Wright, Mr. S. T., portrait of ...	240

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

**CANNELL'S PRIMULAS** have been awarded more Prizes and Certificates than all others put together. Mr. H. CARLTON, Gardener to the Marquis of Ormonde, and Mr. J. SCOTT, Gardener to Lord Ardilaun, both state last week, "Your Primula 'The Lady' is perfection, and admired by all." They are quite pyramidal, 2 to 3 feet high. Seed, 2s. 6d. and 5s. per packet. CATALOGUE free. SWANLEY, KENT.

**"CYCLAMEN, and How to Grow Them."**—Second edition, giving valuable information for their entire Culture. Post-free, 1s. 3d. F. C. EDWARDS, Sholebroke View, Leeds.

**LARGE PALMS & DECORATIVE PLANTS.** Immense Stock. All sizes up to 20 feet for Sale or Hire. Inspection Invited. Prices on Application. B. S. WILLIAMS and SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

**CHOICE GERMAN FLOWER and VEGETABLE SEEDS.** CATALOGUES free on application. FRED. REMER, Seed Grower, Quedlinburg, Germany.

**STREPTOCARPUS.**—Veitch's strain, nice plants, 2s. 6d. per dozen, 25 for 4s. 6d., 100 for 15s. Seed, 3d. and 1s. per packet. Free by post for cash with order. J. HUBERT GROGAN & CO., Railway Nurseries, Worthing.

**SUTTON'S ASTERS.**—Sutton's half-guinea collection of Asters, containing a packet (mixed colour) of each of the following varieties: Sutton's Dwarf Bouquet, Sutton's Reading Beauty, Dwarf Phony Perfection, Dwarf Victoria, Dwarf Chrysanthemum-flowered, Sutton's Cockade or Crown-flowered, Comet, Sutton's Giant French, Sutton's Victoria, and Sutton's Quilled Victoria.

**SUTTON'S ASTERS.**—The Rev. A. Hawken, Laneast Vicarage, says: "My Asters this year are simply perfection. I have three beds containing between 600 and 700."

**SUTTON'S SEEDS, GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.** ALL FLOWER SEEDS SENT POST FREE.

**GLOXINIA "AIGBURTH CRIMSON."**—Matchless vivid crimson self variety, of great size, finest form and substance; reproduced quite true from seeds—the most brilliant variety ever raised. First-class Certificate. Per packet, 2s. 6d. from leading seedsmen, or post-free from the raisers.—ROBT. P. KER AND SONS, Basnett St., Liverpool.

**SUCCESSFUL GARDENING.**—If you wish success in keeping a Garden, or as a Competitor, procure a copy of Dobbie's Catalogue and Competitors' Guide, 180 pages, illustrated. Full Cultural Directions for Flowers and Vegetables. The Book free by Parcel Post for 6d. DOBBIE AND CO., Seed Growers to the Queen, Rothsay.

**SELECTED SEED POTATOS, all hand-picked tubers.**—For the best and most reliable varieties, see our Illustrated CATALOGUE OF GARDEN SEEDS, No. 459, post-free on application. DICKSONS, Seed Growers, CHESTER.

**ASPARAGUS.**—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH and CO., Nurserymen and Seed Merchants, Worcester.

**FINE SHOWY ORCHID, ONCIDIUM SPHACELATUM,** bears long, branching spikes of bloom. Specimen or smaller plants. Also some ASPIDISTRA LURIDA VARIEGATA, invaluable for indoor decoration; most enduring foliage plant. Price low, the room being required. Address H. B., Stedham Hall, Midhurst, Sussex.

**TOMATO PLANTS, Chemin Rouge, strong plants,** showing flower bracts in 60's, 20s. per 100; smaller plants, fit for planting out in 60's, 16s. per 100. W. WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

**AMARYLLIS.**—Special offer of strong flowering bulbs of our choice Collection of Seeding Amaryllis, prior to re-potting, at 24s. to 30s. per dozen. Can be sent by Parcel Post. B. S. WILLIAMS and SON, Victoria and Paradise Nurseries, Upper Holloway, N.

**Palms—Palms.** **WANTED, 1000 KENTIAS for Twenty-five Pounds** £25 cash, on delivery, (a sample dozen which will be paid for at same rate), carriage paid to Teddington Station, S.W.R. H. PAGE and SONS, Grove Nursery, Teddington, S.W.

**WANTED, large and fine specimen PALMS**—SEAFORTHIAS, KENTIAS, &c.—Quote size and price to Mr. L. LINDEN, Managing Director, L'Horticulture Internationale, Parc Leopold, Brussels.

**Dracanas Cooperi, Terminalis, & Terminalis stricta.** **WANTED, over-grown plants of the above,** also large pots of ASPIDISTRA VARIEGATA, in exchange for Orchids, Cœlogyne cristata or Cypridium insigne, or Cash.—TURNER BROS., Nurserymen, Garston, Liverpool.

**WANTED, 1000 ASPARAGUS PLUMOSUS NANUS,** fit for growing-on; also trailing variety.—H. HAYWARD, Shirley, Southampton.

**WANTED, MALMAISON CARNATIONS,** any varieties, must be healthy well-rooted layers. Cash, or Border Carnations or Palms in exchange. Sample price, and quantity to dispose of, to PRITCHARD and SONS, Florists, Shrewsbury.

**LINDEN'S ORCHIDS.**—SALES BY AUCTION, in London, are held on the First and Third Thursday in each Month, at Mr. J. C. STEVENS' Great Rooms, 38, King Street, Covent Garden, W.C. Catalogues on application.

**BARR'S SEEDS.—UNEQUALLED.** VEGETABLE SEEDS, best in the world for growth. FLOWER SEEDS.—Upwards of 2000 species and varieties. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridas, &c. PLANTS.—Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. DESCRIPTIVE CATALOGUES of above sent free on application. BARR AND SON, 12, King Street, Covent Garden, London.

**NOW is the TIME TO PLANT PEONIES and DELPHINIUMS.** Catalogue of KELWAY and SON, Langport, Somerset.

**B. S. WILLIAMS and SON** have a remarkably fine stock of extra strong IRISH IVY, with many shoots, in pots. Victoria and Paradise Nurseries, Upper Holloway, N.

Demy quarto, printed on fine paper, ingres, gilt top. Price, £1 11s. 6d. **THE ART and PRACTICE OF LANDSCAPE GARDENING,** By H. E. MILNER, A.M.I.C.E., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & CO., Ltd.

**THORN QUICK.**—Extra transplanted, and very strong, 5-yr., 25s. per 1000; 6-yr. 30s. Extra, extra strong gapping Quick, 40s. per 1000; 4-yr. old, very good, 16s. per 1000.—Apply to ISAAC MATTHEWS and SON, The Nurseries, Milton, Stoke-on-Trent, S.O.

**NEW HERBACEOUS PLANT CATALOGUE for SPRING, 1896,** now ready. All interested in good Hardy Plants are invited to send for a copy, post free. M. PRICHARD, Riverslea Nursery, Christchurch, Hants.

**NEW DAISY—THE BRIDE.—COMING PLANT.**—Flowers pure white, stalks 7 inches long; strong grower, free bloomer; for cut flowers an acquisition. 3s. 6d. per dozen. For illustration and full particulars, send for our new FLORAL GUIDE. CANNELL and SONS, Swanley.

**PHLOXES, PENTSTEMONS, ANTIRRHINUMS, &c.**—For the best and most complete collections extant of these deservedly popular high-class flowers, obtain FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 146 pages. Free on application. JOHN FORBES, Hawick, Scotland.

**50,000 EUONYMUS, Green and Golden,** all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in., at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, 5 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BRERSON, Bone Mills, St. Neot's, Hants.

**EWING'S MILDEW COMPOSITION.**—The original, certain, and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. Sold by all Seedsmen. GORRY & CO., Ltd., LONDON.

**MACKENZIE and MONCUR, Limited,** Hothouse Builders and Heating Engineers Edinburgh, London, and Glasgow. BY SPECIAL APPOINTMENT TO H.R.H. THE PRINCE OF WALES. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus, free. Splendid illustrated CATALOGUE. London Office: 8, CAMDEN ROAD N.W.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.



**SALES BY AUCTION.**

Monday Next.

**GREAT SALE of PERENNIALS.**

A Choice Collection of Carnation Pinke and Picotees. PHLOXES, PÆONIES, PYRETHRUMS, DELPHINIUMS, EXHIBITION HOLLYHOCKS, PRIMULAS, HELIANTHUS, POPPIES, CAMPANULAS, DICAMNUS, TRITOMAS, GAILLARDIAS, HEPATICAS, Double and Single PANSIES, &c. Also—

A Grand Lot of Iris, Germanica, Kämpferli, and other varieties. A great variety of GLADIOLI, ANEMONES, BEGONIAS, TIGRIDIAS, and MONTBRETIAS, &c. TEA, CHINA, and other ROSES, CLEMATIS and other Hardy Climbers, Pot-roots of CACTUS, Single, and Pompon DAHLIAS, NORTH AMERICAN and CALIFORNIAN PLANTS, and a Large Collection of Beautiful and Popular ENGLISH and FOREIGN LILIUMS.

An Importation from Holland, including well-grown RHODODENDRONS, LAURELS, IVIES, AUCUBAS, ACERS, HOLLIES, 300 LILIES, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, February 24, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

**WEDNESDAY NEXT.**

**ROSES & FRUIT TREES**

A fine Collection of well-grown

**ORNAMENTAL SHRUBS,**

From English and Continental Nurseries, in splendid condition for Present Planting.

Over 2000 English Standard, Half-Standard, Dwarf, CLIMBING, and other ROSES, from a leading Grower, including beautiful and popular sorts to name.

Standard, Half-Standard, Pyramid, and Dwarf-FRUITED FRUIT TREES, comprising APPLES, PEARS, PLUMS, PEACHES, CHERRIES, &c. Black and Bed CURRANTS.

A Large Collection of Border Plants.

Stove and Greenhouse Plants, Palms, Cool Orchids, FERNS, &c., LILIUM AURATUM, L. SPECIOSUM ALBUM and RUBRUM, L. MELPOMENE, L. LONGIFLORUM, and SACRED LILIES, just received direct from Japan, S. African and Pearl TUBEROSES, a splendid variety of choice GLADIOLI, NARCISUS and DAFFODILS, BEGONIAS, GLOXINIAS, DAHLIAS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 26, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

**Thursday Next.**

By Order of Messrs W. L. LEWIS & Co., Southgate, Grand IMPORTED and ESTABLISHED ORCHIDS, chiefly without Reserve, comprising—

ODONTOGLOSSUM (Hybrids) HUMEANUM ASPERSUM, &c., MACULATUM, anceps and Donniaum type, LÆLIA ANCEPS, from the same district from whence L. Amesiana, Dawsonii, Funckeniana, &c., emanate, PRESTANS.

" ELEGANS, the remaining five plants received from a Brazilian client recently deceased.

ODONTOGLOSSUM ROSSII RUBESCENS, specially fine varieties, selected, in flower.

EPIDENDRUM VITELLINUM MAJUS, together with other choice DENDROSES, LÆLIAS, ODONTOGLOSSUMS, ONCIDIUMS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 27, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

**The Somerhill Collection of Established Orchids.**

MR. J. C. STEVENS has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Torbridge, Glos. to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., towards the end of March, the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

Cattleya Mossie Reineckiana	Odontoglossum vexillarium
" Wagneri	Cobbanium
" exoniensis	Lycaste Skinneri Imperator
Dendrobium glumaceum	Cyclogyne cristata alba
vallidum	Dendrobium nobile albiflorum
Disa Veitchii	" Cooksonii
Vanda teres	Vanda Sanderiana (Goldsmid's variety)
Thunia Veitchii	Lælia tenebrosa (extra good varieties)
Lælia Gouldiana	" anceps (do do.)
Cyclogyne Dayana	Anthurium Le Flambeau
Anthurium Andreanum	" Laingii
" album	" rotundispatum
" Frierterense	"
Odontoglossum Uro-Skinneri	"
&c. &c.	&c. &c.

N.B.—Further particulars will be given in future Advertisements.

**Monday Next, February 24.**

100 AZALEA MOLLIS, 100 A. INDIANA, and 38 RHODODENDRONS from the Continent; 400 Standard, Half-standard, and Dwarf ROSES, 30 lots of Stove and Greenhouse FERNS and PLANTS, Double Chinese PÆONIES, American Pearl TUBEROSES, BEGONIAS, GLADIOLI HYBRIDS, LILIUMS in variety, SPIRÆA JAPONICA, ASTILBOIDES and COMPACTA.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, February 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

**Tuesday Next, February 25.**

IMPORTED and ESTABLISHED ORCHIDS, from Messrs. Fred. Horsman & Co., and Others.

MESSRS. PROTHEROE and MORRIS will SELL as above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, February 25, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

**Wednesday Next, February 26.**

A Consignment of—

**270 CASES of JAPANESE LILIES,**

comprising:—

17,485 LILIUM AURATUM	
1,870 "	PLATYPHYLLUM
690 "	SPECIOSUM RUBRUM
1,980 "	ALBUM

IMPORTATIONS of PALM SEEDS, comprising:—

44,800 KENTIA BELMOREANA	
86,000 "	FORSTERIANA
4,800 "	CANTERBURYANA
20,000 PHENIX RUPICOLA	
50,000 PALMIA ELEGANTIA, from Mexico.	

All in the finest possible condition.

**10,000 AMERICAN PEARL TUBEROSES**

Also 8000 choice GLADIOLI, Hybrids of GANDAVENSIS; 2000 Exhibition BEGONIAS; 200 Double CHINESE PÆONIES; 150 LILY OF THE VALLEY Clumps.

50 LOTS OF

**ORNAMENTAL and DECORATIVE PALMS, FERNS, &c.**

Including some large Plants, all clean, well-grown stuff.

300 Dwarf ROSES, 800 DAHLIAS, large-grown roots, comprising Single, Pompon, Cactus, and Mixed.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, February 26, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

**Thursday Next, February 27.**

AZALEAS, ARALIAS, BERBERIS, RHODODENDRONS, DRACÆNAS, GENISTAS, BOX, and Climbing ROSES from the Continent; Hardy BORDER PLANTS and BULBS, Hardy PERENNIALS in great variety, LILIUMS, SPIRÆAS, GLADIOLI, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, February 27, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

**Friday Next.**

SEVEN MAGNIFICENT LARGE PLANTS of the chaste and lovely snow-white

**CECLOGYNE CRISTATA ALBA.**

All well-grown, fine, healthy specimens, just coming into flower, as follows:—

A magnificent specimen with 56 pseudo-bulbs,	15 leads.
" "	50 "
" "	43 "
" "	35 "
" "	40 "
" "	35 "
" "	34 "
" "	30 "
" "	8 leads.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 28, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

**OLD CATTLEYA LABIATA**

MESSRS.

**PROTHEROE & MORRIS**

67 & 68, Cheapside, London, E.C.,

HAVE RECEIVED INSTRUCTIONS FROM

**F. SANDER & CO.**

To Sell a wonderful new importation of this unrivalled and unapproachable type of

CATTLEYA LABIATA,

**SWAINSON'S TRUE OLD TYPE,**

Producing the large brilliant varieties.

THIS WILL BE THE SALE OF THE SEASON.

FRIDAY NEXT, February 28, 1896.

**Friday Next, February 28.**

Great Sale of the

**OLD CATTLEYA LABIATA.**

MESSRS. PROTHEROE and MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 28, the whole of a large consignment of SWAINSON'S OLD CATTLEYA LABIATA.

Sander's Red and White Type,

Unrivalled and unapproachable, producing the large brilliant varieties.

The plants are in magnificent order, their condition could not be finer. The varieties are endless, the form and colouring superb, embracing white, rose, red, purple, maroon, and yellow. The plants are fully described in the Catalogue.

Also 40 Plants (established) of the Great White LÆLIA-LIKE DENDROBE D. JOHNSONÆ.

VANDA HOOKERIANA GIANTEA,

By far the finest form of this superb species; flowers white, rose and amethyst-purple lip, broadly fan-shaped, beautifully crested.

DENDROBIUM CRASSINODE, D. EBURNEUM? The plants were sent home by our Collector as being snow-white and vermilion flowered.

DENDROBIUM PHYCRANUM, D. DIXANTHUM, D. DENSI-FLORUM, and D. SPECIOS, from Upper Burma.

CYPRIPEDIUM SPECIES, from the Dokela Mountains, apparently a form of C. Parishii.

CYPRIPEDIUM SPECIES, from Burmese frontier, found growing with C. insignis and C. Charlesworthii, possibly C. Parishii, but more resembling C. levigatum; neither have been seen in flower. Also

THUNIA HENSONIÆ, &c., &c.

On view morning of Sale, and Catalogues had.

**"Rooklands," Torquay.**

SALE of the Collection of well-grown ESTABLISHED ORCHIDS, comprising about 450 Plants. Also the Glass Erection, &c. By order of the Executors of the late Morton Sparke, Esq.

WITHOUT RESERVE.

MESSRS. PROTHEROE and MORRIS are instructed to SELL by AUCTION, on the Premises, "Rooklands," Torquay (entrance in St. Michael's Road), one minute's walk from Torre Station, and one mile from Torquay Station, on WEDNESDAY, March 4, at Half-past Twelve o'Clock, the Collection of well grown

**ESTABLISHED ORCHIDS,**

Among which will be found the following:—

Cattleya exoniensis	Cyclogyne Massangeana
Cypridium Rothschildianum	Dendrobium nobile nobiliss
" Stonei	" densiflorum, extra fine
" Curtii	" Brymerianum
Cymbidium eburneum	Orammatophyllum Ellisii
" Mastersii	Lycaste Skinneri alba
" giganteum	Sobralia xantholeuca, 2 plants

Also the STOVE and GREENHOUSE PLANTS, in variety, three Greenhouses, 36 feet by 20 feet, 20 feet by 12 feet, and 30 feet by 13 feet; 830 feet of Hot-water Piping and the Brick-work; Galvanised Tank, Rockwork, Tubular Boiler and another; two Pigeon-houses, Hen-house, Tortoise Stove, Gas Stove, &c.

May be viewed two days prior and morning of Sale. Catalogues may be had of Mr. T. Brockbank, the Head Gardener, on the premises; and of the AUCTIONEERS, 67 and 68, Cheapside, London, E.C.

**WANTED, to Rent, with option of Buying,** small FLORISTS' BUSINESS in Provincial Town, within 50 miles of London.—FLORIST, 41, Wellington Street, Strand, W.C.

**WANTED, to Rent, GREENHOUSES or** Small NURSERY, with Glass. No Dwelling-house or Stock required. Terms and particulars to— JOHN HEEREMANS, Langley Burrell, Chippenham, Wilts.

**FOR SALE.—A compact FREEHOLD NURSERY,** consisting of 13 well-built Greenhouses, well stocked, 1½ mile from station. Full particulars, J. HOWELL, Hextable, Swanley, Kent.

**KENT, near three important Towns.—Valuable** FREEHOLD NURSERY, 23 acres; 29 modern Green-houses and Vineries, efficiently heated; 5 ditto, not heated; commodious Dwelling-house, Cottages, Stabling, and Out-buildings, all in excellent order. Price, £8000, or offer. Full particulars of PROTHEROE and MORRIS, 67 and 68, Cheapside, E.C. (Folio 8827)

**To Market Gardeners, Florists, and Others.** THE GREAT LODGE GARDENS.

(Within a mile of a Railway Station and Tunbridge Wells.) **TO BE SOLD, as a Going Concern, the BENEFICIAL INTEREST IN LEASE** in large WALLED and KITCHEN GARDENS of about 2 acres; good house, very low rent; together with hot-houses, horse, van, and other valuable plant, and seasonable growing crops of fruit, flowers, and vegetables, with right of usage to any amount of sewerage. Health the sole reason for disposal. As this is a most genuine concern, it is open to the strictest investigation of bona fide applicants. Full particulars given by RICHARDSON and GARRAWAY, Sole Agents, 33, Dudley Road, Tunbridge Wells.

**NURSERY GROUND with GREENHOUSES.**

—For Sale, in a town of 60,000 inhabitants, and less than two hours from Philadelphia or New York, a 32-acre Nursery, with 12,000 sq. feet of Glass. A Bargain to anyone, but more especially if buyer can hold the Land for advance in values. Houses in fair order; water-supply good; shipping facilities unrivalled. Located but 25 minutes from heart of city, and in a district which is fast appreciating in values. Price £5600, half down. A cash buyer can cut this figure. For full particulars, address, A. T. DE LA MARE, Publisher, Florists' Exchange, P.O. Box 1697, New York City.

**EXHIBITION.**

**WOLVERHAMPTON FLORAL FETE** in the Public Park, July 7, 8, 9. Schedules, &c., apply—**W. A. GREEN, JR.**, Horticultural Secretary.

**COMPACT NURSERY for SALE, a BARGAIN.**—Nine Glasshouses, well adapted for Fern or Palm Growing, all well stocked with Stove and Greenhouse Plants. Four houses very suitable for Orchids. Lease 21 years. Rent £15. Can be taken at once.—Full particulars of—**L. P.**, 319, King Street, Hammersmith, W.

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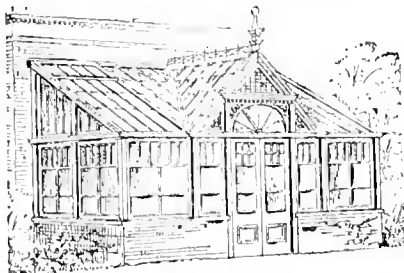
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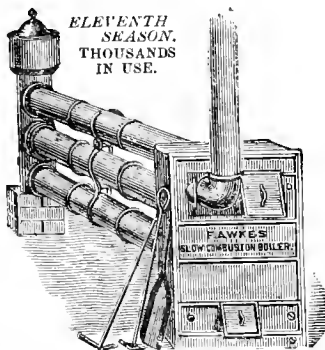
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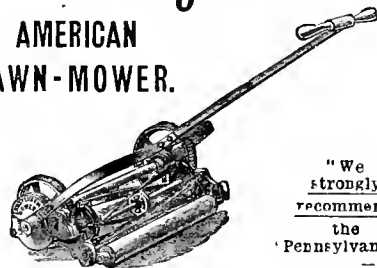
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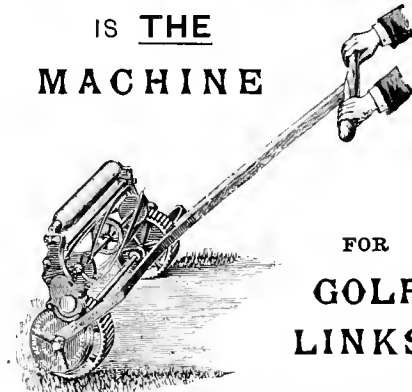
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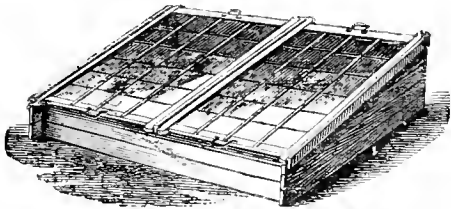
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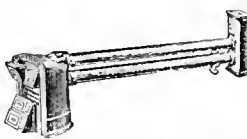
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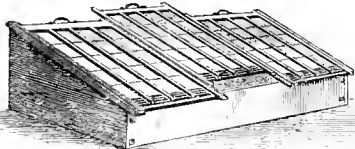
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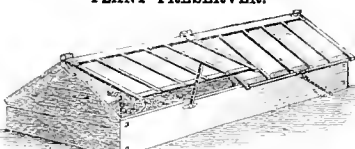
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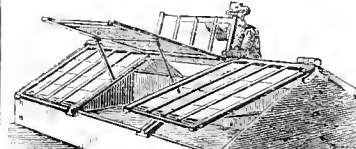
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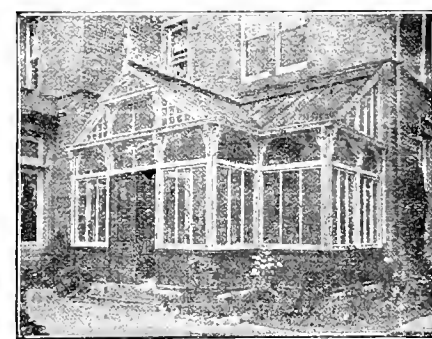
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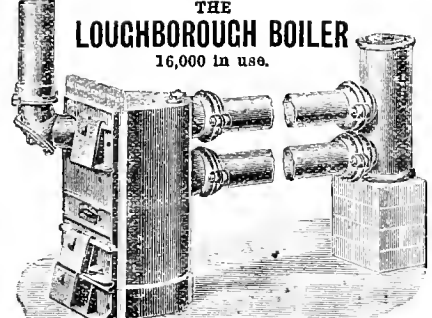
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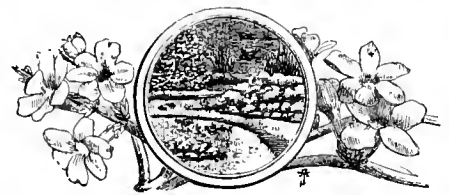
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THE

# Gardeners' Chronicle.

SATURDAY, FEBRUARY 22, 1896.

## ANCIENT ROSES.

WE dare say that it has often occurred to many a lover of the Rose, who remembers what is said of the profusion with which the flower was used at Roman festivals, and the praises which were so lavishly poured upon it, to ask, what were the kinds of Roses that were used or misused, as the case may be, on such occasions? or, again, when he turns to his, alas! too often neglected Virgil, what was the poet's meaning when he wrote in the Georgics the praises of the Pæstum Roses? Did they really have any hybrid perpetuals in those days? Could they have got up an exhibition? or was there anything that they had which is beyond our reach in these days? We know that we can never match the architects of Greece and Rome, nor produce any statues like the Venus de Medici, the Dying Gladiator, or the Laocoon; but was their Rose culture as successful? The whole question has been carefully entered into in a scholarly article in the July number of the *Quarterly*, 1895, written evidently by one who is not only a classical scholar, but a good Rose grower. It is, we believe, an open secret that the Rev. George Jeans, of Shorwell, in the Isle of Wight, is the author, and we must congratulate him on the able and thoughtful manner in which he has treated the whole subject, under the title of "Ancient Rose Growers." We have thought it well to draw the attention of Rose growers to it, and because we wish them to read it for themselves, must take only a cursory view of it. He is justly severe on writers who glibly quote Anacreon, Sappho, &c., of whose writings they have, perhaps, never read a word, and only follow what some preceding writer has said. We are so accustomed to regard the Greeks as our masters and teachers in so many things pertaining to art, that we might have hoped to have found something worth recording with regard to their efforts in the cultivation of the Rose; more especially as there is little doubt that we owe probably its introduction in our western gardens to Persia, or some neighbouring country. Here is what the essayist says on the subject:—"A Greek under the hot sun of the south, and living on the dusty limestone of Athens or Corinth, desired, above all things, in his pleasure-garden shady trees to walk or lie under; and there is nothing that the Rose abhors so much as hot raging tempests or biting frosts (within reason), as the dank shade and the greedy roots of trees. If he wanted flowers at all, it was probably only for a garland to tie round his head over his wine, as the budding Senior Wrangler ties the wet towel round his head over his green tea. The few flowers that he cared about having at all found their place, therefore, mostly in the unshaded kitchen garden; and a very odd passage in Plutarch throws considerable light on the state of Greek horticulture, by telling us of the juxtaposition



by good gardeners of their Rose and Violet beds with the rows of Leeks and Onions, which suggests, as Bekker says, "that both were equally wanted for cutting, not for garden decoration." But if it was so with the Greeks, it was very different with the Romans in the luxurious times of the empire, for, as the writer justly observes, grim old senators who moulded the destinies of the public, had no time to give to such trifles; but from all sides when the empire was established, and when luxury succeeded to the sterner republic, the whole case was altered. We have writers dwelling upon the culture, as well as others singing of the beauty of the Rose. Here is what the writer says:—"The luxury of the Roman Empire created the first great development of the cultivated Rose. Lower motives may lead to refined results, as Carlyle used to insist. The first wreath, which seems to have been to a Greek the final cause of Roses, is said to have been only a glorification of the tight string tied round the head to avoid the next day's headache! Thus, for example, the great Varro, though he was as omniscient as our own Bacon, and wrote most elaborately on cultivation, as well as everything else—*de omnibus rebus et quibusdam aliis*—still seem to think of Roses as propagated only by cuttings—that is, on their own roots; a method in which no great advance in the perfection of blooms is possible." It is somewhat curious thus to find that many of the practices which prevail amongst Rose-growers now can date back to those far-off times. Roses were budded then as they are now, the stock that was used being the Wild Rose, just as the Dog Rose was for a long time the only stock used amongst us. There were many fanciful attempts to make plants of other genera useful for this purpose, just as nothing would persuade some of the people in our country-districts that the dark-coloured flowers have not been obtained by the union of the Black Currant with the Rose. It has been an age for trying experiments, but we should imagine that ninety-nine out of every hundred of Roses have been budded on either the Briar or Manetti (quite a modern introduction). It is at this time of the Roman empire that we read of the extravagant use of Roses at Roman festivals, and the writer has some interesting statements upon this subject. We have wondered at the extravagance which could spend £1000 or more on Roses for a great occasion; but this fades into insignificance before the £30,000 spent at a banquet given to that horrible monster, the Emperor Nero—although the writer throws considerable doubt upon the whole passage in Suetonius, where this statement occurs. If it be in any way true, the market for cut Roses must have been tolerably active at Rome. And now comes the question: where were the Roses grown, how were they conveyed to the great city, and what were the sorts? With regard to the first, there were no doubt that many were grown in the neighbourhood of Rome itself, but what the essayist calls the Colchester of those days was Pæstum, to which reference is made by Virgil in the Georgics thus rendered in Mr. Blackmore's elegant translation:

"The beds where twice the Pæstian Roses blow,  
The Endive's joy to drink the rannel's flow;"

from whence it would appear that the Pans and Cants of those days were willing to combine the growth of vegetables with Roses.

Now Pæstum is situated on the S.E. of Italy, some distance from Naples; the soil is rich and unctuous, and although now the place is given up to marshes and malaria, it must have been an ideal place for growing early flowers for their own market. It is, alas! many years since we were there, and

then the wonderful ruins of the Doric temples which are the present glory of the place had far more interest for us than Roses; but we do not recollect seeing anything but ordinary wild Roses, and whatever were the kinds cultivated then, we find no trace of them now. You had better hear what the essayist pleasantly says on these points. "Any place obtains an immortality by being named by Virgil," and the peculiarity of this mention of "the twice blowing Rose Gardena" of Pæstum, has attracted considerable notice and speculation. The true explanation seems to be that long and skillful culture had developed the Lucanian Roses beyond those of the growers of other places—they were the hybrid perpetuals of antiquity. Lucania was the Essex or Hertfordshire of Rome, and Pæstum was its Colchester or Cheshunt. The question of their transportation to Rome, so as to be fit for the most ordinary purpose of decoration, is one of some difficulty. Cut Roses come up to our great city in abundance every day, but then they come from places only a few miles distant, and by smooth-going express trains; a very different matter to the method of conveying them from Pæstum and other places to Rome. This question is, of course, closely mixed up with that of the varieties grown. Was there any similarity in form and texture between the Roses of those days and those of the present time? we have several writers who enter on the subject of Rose growing such as Pliny, Varro, and Columella, but as a rule they give us but little clue to the varieties grown. Pliny, indeed, has one passage to which the writer of the essay attaches a good deal of importance, and we think with reason, as it indicates the continuity of the Roses of the present day with those of the past, and the link which he considered it to be is our dear old friend the Cabbage Rose, for he describes one which had sixty petals, corresponding very much with the name given to that variety, *Rosa centifolia*. This Rose with some reason, the writer thinks, travelled westward with a good many other things, and found a home for itself in the sunny and poetic province, Provence, in the south of France, and from thence was introduced into England somewhere about the sixteenth century.

Mr. Jeans indignantly scots the interpretation that of late years has been given to this name, for it is said by some that it ought to be Provins and not Provence; Provins being a small town in the neighbourhood of Paris, long celebrated for its Roses. But I think we shall adhere to the more poetical name of Provence, especially as the writer states that the Provins Rose is a single, and not the very double flower that the Provence is. But admitting all that has been said about it, it forms a comparatively slight link between the modern and ancient Roses. It is essentially a summer Rose, and therefore can have no affinity with the twice-flowering Roses of Pæstum.

There are many other interesting points in the essay, which will be new to its readers. Few have ever thought that Roses in the time of the Roman Empire were cultivated in houses, but it is quite clear that the indignation expressed by some writers against those who were thus turning winter into summer, clearly proves that this was the case.

We forbear to make further extracts from this most valuable essay. It breaks up entirely fresh ground, and gives us glimpses into the past, which are most valuable; and we think that our readers will thank us for directing their attention to it. *H. H. D'O.*

## ORCHID NOTES AND GLEANINGS.

### ORCHIDS AT PARKFIELD, WORCESTER.

A FEW very good subjects are in flower here at the present time, viz., in the Cattleya-houses a fine piece of the true long pseudo-bulbed variety of Cattleya exoniensis ×, with four leads and twelve flowers, which is making a good show. This plant has been here for several years, having been purchased at the sale

of the famous collection of the late Mr. J. Day of Tottenham, and last season it made some capital pseudo-bulbs. Cattleya Trianae alba is represented by a plant with five or six leads; the flowers are pure white, with the exception of a yellow blotch in the throat. Cattleya Trianae ampliata has two of its large flowers expanded; the sepals and petals thrown back, as though unable to support their weight; the very pretty Saccolabium bellinum is in flower in the same house. Epidendrum radicans, and E. J. O'Brien are growing and flowering freely; and a plant of Vanda teres Anura has opened several spikes of flowers. In the Mexican-houses there is a good show of *Colognea cristata*, *C. cristata maxima*, and *C. Lemniana*; some hundreds of spikes altogether, and making a good show. Lycate Skinneri alba has a splendid flower nearly 8 inches in width, making the ordinary form look very small by the side of it. In the East Indian-houses there are several varieties of Phalenopsis in flower; the rare and evidently free-flowering Dendrobium atroviolaceum, with four spikes of its curious-coloured flowers; the sepals and petals greenish yellow, heavily spotted with purple, and lip of a beautiful shaded blue; Dendrobium eucam leucopterum, a cross between D. nobile × D. endocharis, has several of its large white and purple flowers open. *H.*

### DENDROBIUM SPECIOSUM.

This species is both well grown and well flowered at Stoke Park, near Slough, where Mr. Kemp prides so ably over the gardens and estate generally. The treatment of this somewhat shy-flowering Dendrobia is evidently well understood by him, as the plants I saw there a few weeks ago bear witness. Two plants, in tubs, each about 2 feet in diameter, were flowering grandly, one of strong growth carrying three, and many others two, of their arching racemes of fragrant flowers. One of the principal points in the culture appears to be the thorough ripening of the pseudo-bulbs. After flowering now, they will be grown on in an ordinary stove till growth is completed for the season—scm-time in June, after which a gradual hardening off will be carried out, and the plants stood for the remainder of the summer in a span-roofed frame, and allowed as much air and light as possible, no shading being required. At the approach of frost they are transferred to a cool greenhouse for a time, and from thence to the stove to develop their flower-spikes in January. *C. H., D.*

### DENDROBIUM WARDIANUM LOWN.

Several notes have appeared of late in the *Gardeners' Chronicle* concerning the above charming species of Orchid. It may be of interest to state that there are four pieces here very well flowered; one plant is in an 8-inch pot, and possesses nine flowering growths, and 130 flowers. The height of the plant is 2½ feet. Another plant here of a very fine type of this species has seventy very fine flowers, some of which measure 3½ inches in width; and one fine growth has thirty flowers in about a length of 15 inches, the top of the growth being thickly studded with groups of blooms in threes. *J. Snell, Grimston Gardens, Tadcaster.*

## BELGIUM.

### MEETING OF THE BRUSSELS ORCHIDÉENNE.

The last meeting was particularly noticeable for the Cypripedium staged. Besides those which had been shown at Ghent may be mentioned a magnificent hybrid from M. Madoux, which some consider to be *C. × Gertrude Hollington*, and others as *C. Lauro-bellatulum*—the name was not written on the label. Two fine hybrids obtained high awards, but the jury differed as to their true parentage. *C. × Sénateur Montefiore*, already described here, obtained a First-class Certificate, as did also *C. memoria Moensi*; both plants sent by M. Madoux. M. Moens showed *C. × Véruve* and *C. × Albertianum*, a very fine variety; M. Madoux exhibited an interesting *C. insigne*, the standard of which is almost entirely dark

brown of a most unusual tint. A group of *C. Lawrenceanum*, from MM. Lucien Linden et Cie., were much admired because of the exceptional breadth of the standards, and the bright colouring of the flowers. There were many other *Cypripediums* that, ten years ago, would have been much admired; now, there are so many new hybrids, that we are more critical.

M. Pauwels showed some fine plants of *Odontoglossum*

*Cattleya Trianaei*, a thick clump with five clusters of bloom, the latter well coloured, especially the lip, won distinction for Mr. H. Knight, of the Royal Gardens, Laeken.

M. Van Imshoot was successful with the Orchids which he had, a week before, shown at Ghent. A plant of *Dendrobium atrovioleaceum*, with the divisions of the flower cream coloured, dotted with large purple spots, and the lip almost wholly of a

Charlesworthi (very fine), from M. Cahuzac; and a fine *Odontoglossum Rickerianum*, from M. Barbier, *Ch. D. B.*

FLOWERS AT THE MARRIAGE OF PRINCESS HENRIETTE OF BELGIUM.

At the wedding of Princess Henriette celebrated in Brussels at the Count de Flanders' Palace on February 12, enormous quantities of flowers were used. They appeared in the form of sheafs, baskets, cushions, lyres, and sachets. The cushions, round and square, were of brocade or plush; the sachets were silk adorned with white flowers, the baskets of varied sizes and kinds; there was even a handsome vase, all arranged with consummate taste. The flowers most freely used were, naturally, Orchids; *Odontoglossum crispum album*, *Laelia anceps alba*, *Lycaste Skinneri alba*, *Cattleya Trianaei alba*, and others; Lilies of the Valley, Orange-blossoms, Carnations, Lilies, Lilac, and other flowers also were largely employed. Among the floral arrangements may be mentioned a basket in the form of a fleur-de-lys (in allusion to the Orleans family), which was offered by one of the regiments; a lyre from the Brussels Cercle artistique et littéraire, composed of Carnations and Orange-blossoms; a cushion decorated with duchesse lace and Lilies of the Valley, with *Laelia anceps alba* and *Cattleya Trianaei alba*, offered by the students of the Military Academy; a large silk sachet decked with Orchids and Orange-blossoms from Mme. Arthur Warocqué; and a silvered basket filled with Lilies and white Lilac from the Princess de Chimay. *Ch. D. B.*

THE WINTER GARDEN OF THE COUNT DE KERCHOVE.

VISITORS to Ghent will remember that one of the sights of the old Flemish city, the scene of the famous quinquennial horticultural exhibitions, is the winter garden belonging to the Count de Kerchove. It is about 164 feet in length by 68 in breadth, and 42 in height, and consists of a central nave with a span-roof, and an aisle which surrounds the whole building. Two galleries, one on each side, allow access to the visitors and workmen. The heating arrangements and necessary offices are in the basement.

The interior is laid out in the picturesque style which some of our architects are now decriing; but we think if they visited this conservatory they might be induced to alter their opinions. One great feature is a colossal pile of rockwork at one end of the building, overgrown with climbing Aroids, Ferns, and lightened with brightly-coloured foliage Begonias. This forms a grotto, from which emerges a meandering streamlet, bordered with undulating banks, covered with *Setaginella*, and dotted with noble Tree Ferns and Palms.

Here, the owner, the genial and eloquent Count de Kerchove, the President of the Royal Agricultural and Botanical Society of Ghent, derived inspiration for his valuable *Monograph of Palms*, a book in constant use, and one which makes us wish that a similar one on cultivated tree Ferns and Aroids may in time follow. It is nothing to the point to say that the Count is already one of the hardest workers in Belgium. Experience shows that it is just such men who find time for extra work of the kind mentioned. Our illustration (fig. 29) is from a photograph taken by the Count's head-gardener, looking out from beneath the grotto into the house. In former volumes we have given such full details relating to the plants in this house, that on the present occasion the mere mention is sufficient.

THE GREAT FROST OF 1895 AT KEW.

(Concluded from p. 197.)

SHRUBS, &c.—As a rule, even shrubs, generally regarded as perfectly hardy, which had been transplanted the previous autumn, were much cut up by the frost, whilst the same species which had not been

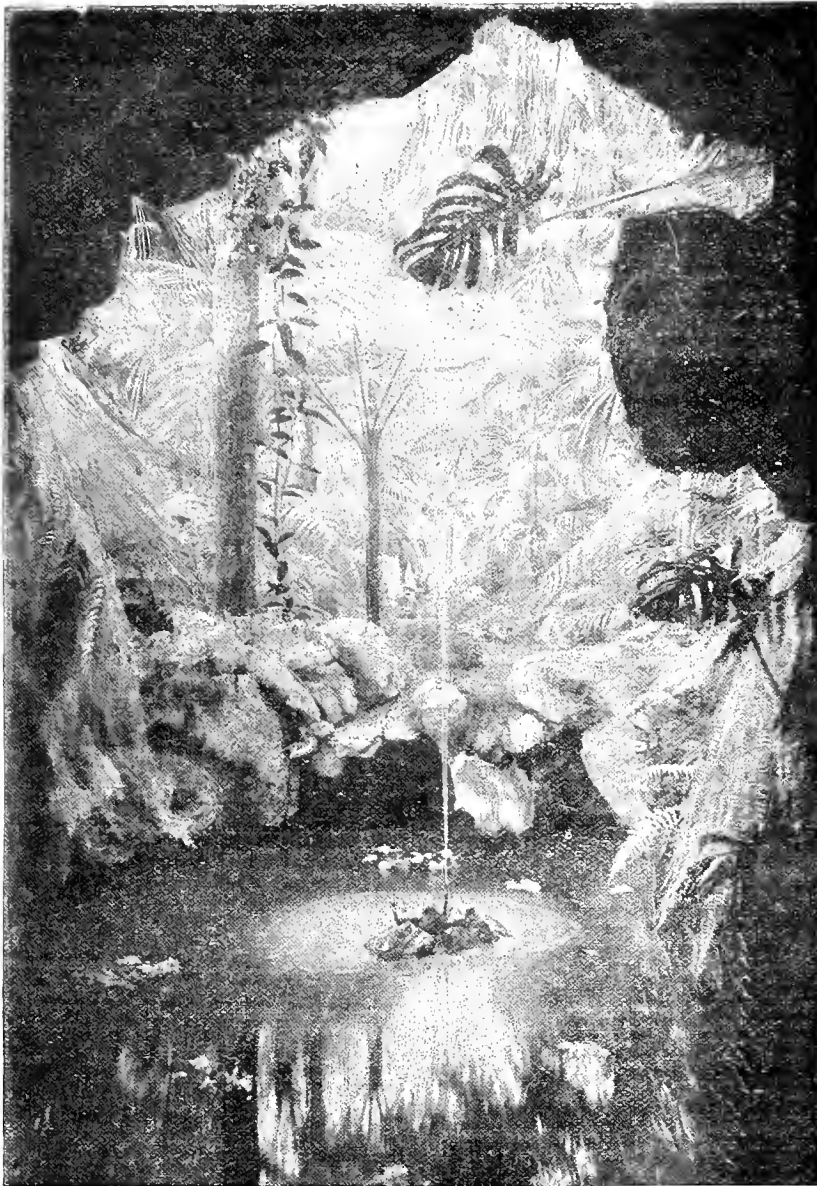


FIG. 29.—GROTTO IN THE CONSERVATORY OF COUNT KERCHOVE DE DENTERGHEM, LOOKING FROM WITHIN OUTWARDS.

*glossum Rossi majus*, one of which attracted considerable attention, and won a First-class Diploma of Honour, *par acclamation*. The two petals are almost wholly pale chocolate-brown, with, towards the edge of the zone, spots of dark carmine-red, the whole bordered with a pure white band; the three sepals are all spotted with the same colour as are the petals; the white lip is of medium size. *Phalænopsis Schilleriana*, sent by the same Orchid-grower, was noticeable for its dark colour. *Cattleya chocoensis alba*, a beautiful plant with six charming flowers, and leaves gracefully bent back; and

dark violet tint. He had also a series of natural hybrid *Odontoglossums*, of the genus *Wilckeanum*, won an award for MM. Linden. One of the latter plants bore a very large flower, well spotted, the petals white and yellow; another had a yellowish-white ground; a third was chiefly of a dull yellow-tint. M. Cahuzac obtained a First-class Certificate of Merit for an *Odontoglossum*—a natural hybrid of the Andersoni group, but of a very peculiar dark canary-yellow colour, delicately speckled with carmine. I must note also *Cattleya Trianaei alba*, from M. de Lombaerde; *Cypripedium*

removed were much less affected. Young plants of many species were killed, whereas older ones of the same species were only badly injured. Examples are *Azalea rhombica*, *Daphniphyllum*, variegated *Eragrostis*, and *Rhamnus alaternus variegata*. In a few cases, exactly the reverse has happened; as, for instance, *Berberis Darwini* and *Baccharis halimifolia*, old plants of which were killed back to hard wood and did not break again, whereas smaller ones broke freely. Double *Gorse* and *Ulex nanus* were both killed to the ground; even in rather sheltered spots the common *Gorse* suffered as much at Kew as it did on the commons in the neighbourhood of London. The Irish upright *Gorse* was quite killed. Amongst other Leguminosæ which may be mentioned are *Catalpinia japonica*, young plants of which were killed, whilst older ones were uninjured. Of the yellow Spanish Broom, fully 90 per cent. were quite killed; young plants of *Halimodendron argenteum* died, but older ones were unaffected. The South European *Coronilla juncea* was killed even against a wall.

Peat-loving plants afford some curious results. The common *Liog*, *Calluna vulgaris*, and some of its varieties, suffered so much that they have had to be destroyed. The only *Erica* which were killed outright are *E. mediterranea*, *E. codonoder*, and some of the varieties of *E. cinerea*. Old plants of the Cornish Heath, *E. vagans*, and of *E. cinerea* were crippled beyond recovery. *E. stricta* was damaged, but has since quite recovered. A large quantity of *Azalea indica*, raised from seed collected by Professor C. S. Sargent in Japan, stood out in the nursery, some protected, others not at all; and not one has been killed. The old single white hairy-leaved *Azalea indica* shows now no traces of the trial through which it has passed; and *A. amena* has shaken off the effects of the frost. Judging from the behaviour of the two last-mentioned plants at Kew, the former seems the hardier. *Dabeocia polifolia*: of all the stock at Kew only two plants were quite uninjured; the old plants were killed to the ground, and a few young ones killed outright—but on the whole, young plants have stood better than the old ones.

New Zealand shrubs have suffered much. In fact, *Plagianthus Lyalli* is perhaps the only one which has entirely escaped. *P. betulinus*, in the open, was quite killed, and *P. pulchellus*, against a wall, was killed to the ground. Most of the shrubby *Veronicas* were badly hurt. *Rubus australis* was killed against a wall. Large beds of *Olearia Haastii* were cut down to the ground, but are now breaking freely; young stuff was completely killed. *O. Traversi* and *O. macrodonta* were killed in the open; the latter even against a wall.

*Choisya ternata* in the open has stood well, as also against a wall; this is perhaps the only Mexican flowering shrub which can fairly be called hardy in the neighbourhood of London. Of *Ceanothus*, *C. cuneatus* is the only one at Kew which is absolutely untouched. The following species were completely killed, even against a wall: *C. papillosus*, *C. rigidus*, *C. Veitchianus*, and *C. dentatus*. The garden hybrids, such as *Gloire de Versailles*, &c., had their points killed in the open, but they broke freely, and have flowered abundantly. Some of the younger stock were also slightly cut back, although they were protected by dry leaves and Spruce branches. A covering of dry leaves kept from being blown away by Spruce or Cedar branches is the most effective winter protection for young or tender shrubs.

The only hardy *Escallonia* is *E. philippiana*, which we never attempt to shelter at all. All the other species, in spite of protection, were badly injured; some few were killed outright, others have since freely broken from the ground level. Other South-American plants which have suffered are the *Azaras*; the only one which has escaped in the open (where it was cut to the ground) is *A. microphylla*.

Of all the species of *Cistus* only one can be depended upon near London, viz., *C. laurifolius*, which passed through the winter unscathed, all the others being killed in the open. The shrubby

*Helianthemums*, such as *H. alyesoides*, *H. formosum*, &c., have mostly managed to survive.

*Corylopsis himalayana* is alive against a wall, but has perished in the open; the other species of *Corylopsis* have not been injured in any way. One Chinese member of the Witch Hazel family has succumbed in the open, *Loropetalum chinensis*; this makes a pretty cool-house bush, but it is useless trying to cultivate it in the outside garden. Of Californian shrubs all the young plants of the following have been killed in the open: *Carpentaria californica*, *Fremontia californica*, and *Garrya elliptica*.

Of the Holly family there is not much to be stated. None of the forms of *Ilex aquifolium* seem to have suffered, but the Chinese *I. cornuta* was badly cut (it is now, however, rapidly recovering); the Himalayan *I. dipyrrena* was injured in a less degree, and the South United States *I. Dahoon* was quite killed. *I. crenata*, like so many Japanese plants, has again proved its hardiness.

In previous severe frosts at Kew, *Laurustinus*, *Arbutus*, and the Bay (*Laurus nobilis*) have been killed wholesale. This year they escaped, notwithstanding exposure probably to a greater degree of cold, comparatively uninjured; nor did the evergreen Oaks, of which Kew possesses many exceptionally fine specimens, suffer any appreciable permanent injury.

#### BAMBOOS.

In the *Gardeners' Chronicle* (June 22, 1895, p. 762), Mr. Bean, the foreman of the Arboretum, has given an account of the behaviour of the outdoor collection of Bamboos during the winter. The following extract summarises the facts: "On New Year's Day the Bamboo garden at Kew looked practically in the same state as it had done in the previous August . . . of three dozen or so kinds, . . . not one has been killed outright. About half-a-dozen have scarcely been affected at all; perhaps twice as many more have suffered only a very temporary check. Of the remainder, some have been killed to the ground, whilst the others have had the old stems so severely injured that it is unlikely these particular stems will ever regain their former luxuriant leafage, although new leaves are pushing; most of them, however, are sending up strong new growths from the base, and with all, except one or two, the visible effects of the frost will have disappeared in a few months."

Our experience shows that in gardens with climatic conditions similar to those of Kew, the following species may be expected to pass through even the severest winters with no more injury than a very temporary disfigurement of the foliage, and in some instances not even that. These are, consequently, the kinds which should be selected for planting in districts new to the cultivation of Bamboos, and where it would be desirable to ascertain the suitability of the climate before planting extensively:—

- Arundinaria nitida*, Mitford (*A. khasiana*, Hort).
- Phyllostachys Henonis*.
- " *nigra*.
- " var. *Boryana*.
- " var. *punctata*.
- " *viridi-glaucescens*.
- " *flexuosa*.
- Bambusa palmata*.
- " *pygmaea*.
- Arundinaria japonica*.
- " *Veitchii*.

*Kew Bulletin, January.*

## ITALY.

### THE ROYAL BOTANIC GARDEN, PORTICI.

COLEUS.—This year, visitors have much admired, at the Portici Botanic Garden, the varieties of *Coleus*, which may perhaps be considered to form the most complete collection ever made of these beautiful Labiate, and certainly as the *non plus ultra* for size of the foliage and habit of the plants. This condition is due to the cultivation of the head gardener, Mr. P. Deluca, who justly merits the praise of all visitors.

There may be seen in this garden *Coleus* of the most varied dimensions; in fact, plants of all sizes, from the dwarf forms which measure a foot in height, and therefore look as if they were stemless, to the gigantic varieties measuring 6 feet in height, with a circumference of 9 feet at the top and 5 inches at the bottom of the stem. Good judges would certainly be astonished at some of the largest leaves, at their varied colours, and also at their dimensions, which, in some plants, reaches to 18 inches in length and 13 inches in breadth.

I think that *Coleus macrophyllus* of the above dimensions has only been obtained at Portici; this fine variety was, by one of the chief horticultural firms in Italy, named *Regalia*. Recently many different names have been given to it, and the confusion thus created caused amateur growers of such plants to buy the same variety again and again under different names.

The seeds were sown in small pots at the end of February, and were sheltered from cold in hot-houses; by the end of April, when the plants were still small, they were transferred to other pots filled with good garden soil. All the time the plants were in the hot-house they were frequently watered and manured.

Of the numerous varieties thus obtained, two small specimens are kept in the hot-house as original types, while the others are already transplanted into small pots. The plants thus kept in the hot-houses retain their leaves more or less throughout the winter according to the degree of heat and dryness therein maintained.

In order to make the plants attain their full development, sowing must be done in April, not only with the diligence and care which they received at Portici, but a liquid-manure should be used, varying in strength according to the age and development of the plants.

*Musa*.—At the entrance of the garden two magnificent specimens of *Musa Ensete* may be seen growing in the open ground. These plants are hardly four years old, and they have already attained the size of 6 feet in circumference at the base of the trunk, and about 4½ feet in height. The leaves measure about 9 feet in length, and about 28 inches in breadth.

These plants are protected from cold in winter by means of dry leaves; in summer they are manured, and the whole of each plant is daily watered, care being taken that the water remains in the base of the leaves, in order to maintain a constantly wet atmosphere. *Dr. Giovanni Mottareale.*

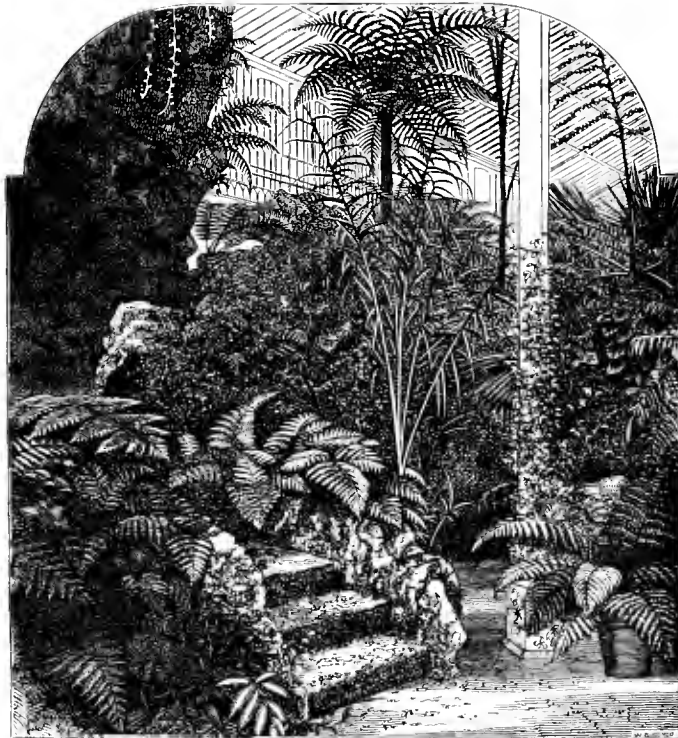
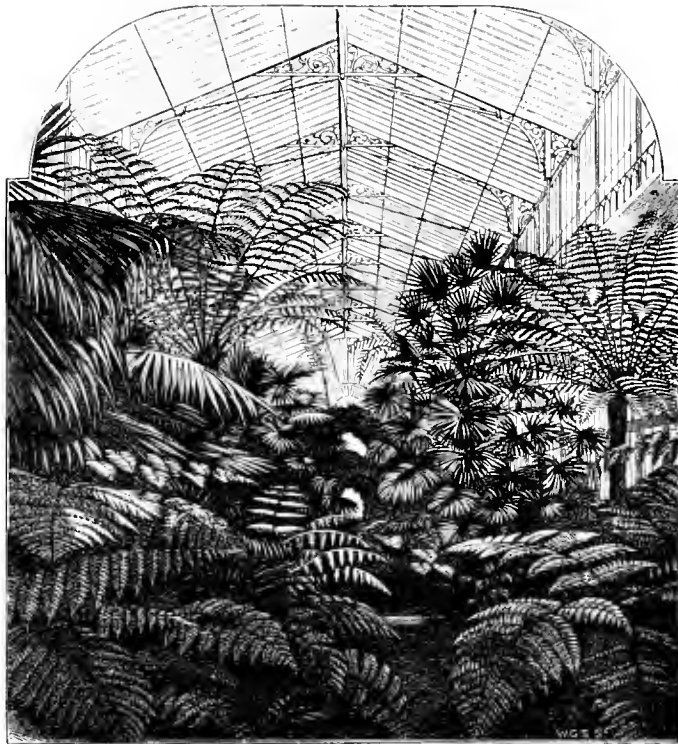
## NATURAL HYBRID ORCHIDS.

(Continued from p. 199.)

In 1868 *Miltonia × festiva* was described from materials sent by Mr. Stuart Low (*Gard. Chron.*, 1863, p. 572), when Reichenbach remarked:—"It is an old friend of ours, having been sent to us as early as 1865, by Mr. Lüdeman, of Paris. Yet we were not disposed to write on a single (two-flowered) withered peduncle, and it was put aside among our numerous doubtful Orchids, and labelled as '*Mil-tonia*, a hybrid.' If mere conjectures may be permitted, when proffered merely as such, we should venture to ask whether it is not a male between *Mil-tonia spectabilis* and *flavescens*?" The author then went on to point out its intermediate character. Immediately afterwards Mr. J. Anderson wrote that the same plant had appeared in the Meadowbank collection, having been purchased at Stevens' rooms in December, 1866, labelled *Mil-tonia spectabilis*, and observed, "I had made up my mind previous to reading the Professor's remarks, that the plant was a male, bearing some of the characteristics of *Cyrtoclitum flavescens*, and of *Mil-tonia spectabilis*, and I am glad to see the same view taken by one of our highest authorities. . . . It is a singular hybrid, altogether one from Nature's mint, brought about by insect agency" (*l.c.*, p. 600). Then follow some interesting remarks about the curious way in which the characters of the two parents are combined in the hybrid.

In 1868, also, *Odontoglossum × Andersonianum*,





FIGS. 30, 31.—VIEWS IN THE WINTER GARDEN, BELONGING TO COUNT REECHOWE DE DENTBERGHEM. (SEE P. 231.)

the first natural hybrid in the genus, was described (*Gard. Chron.*, 1868, p. 599), though its origin was not at first suspected. It appeared in the previous year in a batch of *O. crispum* sent by Blunt to Messrs. Hugh Low & Co., of Clapton, whence it passed into the collection of the late James Dawson, Esq., of Meadowbank, near Glasgow, being named after that gentleman's gardener, whose remarks about *Miltonia* × *festiva* we have just considered. Reichenbach, though describing it as a new species, remarked that it was one of those doubtful *Odontoglossum* so troublesome to the orchidist, and remarked that, at first sight, it recalled both *O. crispum* and *O. præstans*. Afterwards it appeared in the collections of J. Day, Esq., at Tottenham, and of Sam Mendel, Esq., at Manchester, when Reichenbach again wrote about it as probably a hybrid between *O. crispum* and *O. præstans* or *gloriosum* (*Gard. Chron.*, 1872, p. 41), adding that Mr. Harry Veitch at once had the idea of its being a hybrid between the two former, which is certainly correct. *O. præstans*, being a native of Peru, is obviously out of the question. It is interesting to note that it was Mr. Veitch who so shrewdly guessed the origin of this plant, for it shows that the results of the experiments in artificial hybridisation among Orchids initiated by Dominy in the Veitchian establishment in the early fifties were not thrown away; indeed, it is impossible to say how much of our present knowledge of natural hybrids is due to these experiments.

In October, 1868, a second hybrid *Odontoglossum* appeared, with Messrs. Hugh Low & Co. of Clapton, which was described immediately afterwards as *O. × mulus* (*Reh. f. Xen. Orch.*, II., p. 151, t. 160, figs. 1, 2). Its author pointed out that it was intermediate between *O. gloriosum* and *O. luteopurpureum*, in size, shape, and colour, and notably in the column wings and crests of the lip, while in the vegetative organs it most resembled the latter. The name proposed shows what Reichenbach thought of its origin. In 1872 three more additions to the ranks of natural hybrid Orchids were recorded, namely *Odontoglossum* × *Denisonia*, *O. × Coradinei*, and *Phalænopsis* × *Veitchiana*, and we may here anticipate matters a little by remarking that the former has since been produced artificially by crossing together the two supposed parents.

*Odontoglossum* × *Denisonia* flowered in the collection of Lord Lonsborough, and received a First-class Certificate from the Royal Horticultural Society, on January 17, 1872. It was named *O. × Denisonia* in compliment to Lady Lonsborough, and was at first thought to be a white variety of *O. luteopurpureum*; but Mr. Denning, the gardener, afterwards stated that it flowered in an importation of *O. crispum*, made by Messrs. Backhouse & Son, of York, three years before, and was secured by Lord Lonsborough (*Fl. Mag.*, 1872, t. 26). Mr. Denning considered it to be a natural hybrid between *O. luteopurpureum* or *O. hystrix* (a variety of the same) and *O. crispum*, on account of its intermediate character. In 1880 a plant flowered in the collection of M. Massange de Louvrex, of Baillonville, Belgium, which was acquired by Messrs. Hugh Low & Co., in 1878, among plants of *O. crispum*. Reichenbach, perhaps overlooking the earlier name, described it under the name of *O. × Wilckeanum*, as a natural hybrid between *O. luteopurpureum* and *O. crispum* (*Gard. Chron.*, 1880, i., p. 298). These two species were afterwards artificially crossed by M. Leroy, gardener to Baron Edmond de Rothschild, Armainvilliers, near Paris, and a seedling flowered in May, 1890, when five and a half years old, which was at first described under the name of *O. × Leroyanum* (Castle, in *Gard. Chron.*, 1890, i., p. 704), but this has since been referred to as a form of the present hybrid.

*Odontoglossum* × *Coradinei* appeared in 1872, when a plant flowered in the establishment of Messrs. James Veitch & Sons, in an importation of *O. crispum*. It was named by Reichenbach after one of the collectors who sent it home (*Gard. Chron.*, 1872, p. 1068, fig. 251), the author remarking that it was probably a hybrid between *O. triamphans* and some

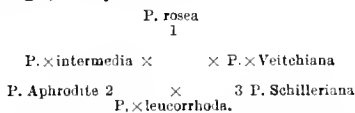


species of the *O. odoratum* group. It is now known, however, that *O. crispum* and *O. Lindleyanum* are the parents. I may here remark, that the history of this and other hybrid *Odontoglossums* has been treated in full in a series of articles in the *Orchid Review*.

*Phalaenopsis* × *Veitchiana* was the second natural hybrid in the genus. In describing it, Reichenbach remarked:—"It is a highly curious fact that there has appeared among the numerous *Phalaenopsis* in the possession of Messrs. Veitch, one that is highly probable is a natural hybrid between *P. equestris* (rosea) and *Schilleriana*," and he then went on to show how it combined the characters of the two species (*Gard. Chron.*, 1872, p. 935). One or two other plants have since appeared, and it is quite certain that they are natural hybrids between *P. Schilleriana* and *P. rosea*.

In 1875, a third hybrid *Phalaenopsis* appeared, among importations of *P. Aphrodite* and *P. Schilleriana*, received in the previous year by Messrs. Hugh Lox & Co., and this received the name of *P. × leucorrhoda* (Rehb., f., in *Gard. Chron.*, 1875, i., p. 301). It well combines the characters of the two parent species. Shortly afterwards, a second hybrid flowered out of the same importation, and was described by Reichenbach under the name of *P. × casta* (*Gard. Chron.*, 1875, i., p. 590). It is, however, only a variety of *P. × leucorrhoda*.

The facts representing these Philippine *Phalaenopsis* are graphically expressed in the following diagram, where the figures 1, 2, 3 represent the species, and the intervening crosses in the sides of the triangle, the hybrids:



It is interesting to note that every possible combination between these three species is now known, and that the origin of one of the hybrids (*P. × intermedia*) has been demonstrated artificially. It is quite certain that the insects which fertilise the flowers do not confine their visits to any one particular species. *R. A. Rolfe*.

(To be continued.)

## THE WEEK'S WORK.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Kollston Hall, Burton-on-Trent.

**PEACHES AND NECTARINES.**—Owing to the exceptional mildness of the season, the buds upon these trees are swelling fast, and pruning should, therefore, be done at once, and the training of the trees completed. Cut out all the old, bare wood, and thin the young growths to about 4 inches apart, sacrificing the most weakly shoots. Any that requires shortening must be cut to a wood-bud. These are easily distinguished, being more pointed than the bloom-buds. When the pruning is finished, give the trees and walls a good syringing with the following solution, soapy water 4 gallons, petroleum  $\frac{1}{2}$  pint, and sulphur  $\frac{1}{2}$  lb., which should be applied at a temperature of 120°, keeping the liquid well stirred during use. Clear away the old mulching from the borders, and sprinkle them with lime. If the trees require stimulating, apply a dressing of one of the many fruit-tree manures obtainable, lightly pointing same in, before adding a thin layer of half-decayed manure.

**GRAPE VINES** which are trained against walls out of doors should now be pruned by removing all old fruiting canes that have long spurs, and laying in their places young well-ripened canes. The laterals should be spurred back to a prominent eye. Mildew is generally the worst pest that attacks out-door vines, therefore, before fastening the rods, clean off any loose bark from the vines, and paint them with a mixture of water 1 gallon, soft-soap 6 oz., and sulphur 4 oz. Syringe the wall afterwards with the same mixture, and it will assist to keep red-spider in check during the summer.

**NUTS.**—The small, inconspicuous red-coloured female flowers are now beginning to show them-

selves. If any of the bushes are deficient in male catkins, some branches should be cut from those that have an abundance, and tied on to the top of the stems of the bushes that require them, keeping them well above the branches. When the weather is fine and dry, the stems should be tapped at least once during the middle part of the day. This will liberate the pollen, causing it to fall gently on to the branches. The present is a suitable time to effect what pruning is necessary. If the bushes are fully grown, all the gross wood should be cut clean out, and the laterals pruned back to a bloom-bud; the old fruiting-wood being cut back to within half an inch of their base, whence fresh laterals will grow which will fruit the next year. Young bushes require to have their leading shoots shortened to about one-third of their length, and the other branches treated similarly to those of older bushes.

### THE FLOWER GARDEN

By HEOLEY WARREN, Gardener, Aston Clinton, Tring.

**PRUNING THE ROSES.**—Owing to the mildness, some gardeners may be tempted to prune their roses, with the effect that the buds which are left will start into growth, probably to get cut by late frosts; but by allowing the young growths now appearing to remain for a time, injury in this way will be generally averted. In the southern counties the second week in March is early enough to prune roses which are planted in exposed beds, and in the midland and northern ones the end of the month is soon enough. Climbing roses on walls and in sheltered positions may, on the contrary, be pruned without further delay; retain as many of the best shoots of last year as possible, but removing all the weak, flowerless, and unripened ones, the idea being to keep the plants as vigorous as possible by encouraging the growth of the best shoots, which, if they are well ripened, will not fail to bloom well.

**PROPAGATION OF BEDDING PLANTS.**—The gardener must take heed that the various batches of plants are grown on without receiving any check; tender seedlings will need especial attention in watering, and in some cases it will be safer to plunge the seed-pots or pans up to their rims in a vessel filled with tepid water than to apply water overhead. This applies especially to seedling *Begonias*, *Gloxinias*, *Lobelias*, and others of small size. A gentle hot-bed frame is a useful appliance where many bedding plants have to be raised, for the latter being then near the glass, do not get drawn. It is, indeed, best to have several such frames, so as to be enabled to suit the various kinds of plants, and it is always prudent to keep up good warm linings to these frames, so as to make it an easy matter to give air without lowering the top-heat.

**MIMULUSES.**—The spotted varieties are amongst some of the most beautiful of bedding plants, and in many southern and western counties they are treated as hardy plants. If grown from seed, a great variety of colours may be obtained from a packet of seeds purchased of a trustworthy seedman. A sowing may now be made, and the seed-pans placed in a frame or pit having a temperature of 50° to 55°, adopting the same kind of after-treatment as that advised for similar plants in a former Calendar. Stock roots of *Marrieton's* or the common Musk may be placed in heat, for the production of cuttings.

**DAHLIAS.**—All beds or borders which it is intended to plant with Dahlias should be heavily manured and trenched, say extra outlay made in this matter being well repaid by the fineness of the blooms and long continued vigour of the plants.

**HERBACEOUS PLANTS.**—These are, in many parts, already making rapid growth, and any which were brought in last autumn, and have been standing in cold frames, may now be planted out, not omitting to label each one correctly when planted. All seasonable work in connection with herbaceous plants, and borders that may have been overlooked, should now be completed as rapidly as possible, and everything made neat and tidy.

**NICOTIANA AFFINIS.**—This fragrant white-flowered plant is useful in borders and beds, and if seeds are sown in heat at this date, and the plants, when large enough to handle, pricked off singly into small pots or boxes, they will make good strong plants by the end of May, which is quite soon enough to plant them in the open. *Nicotiana affinis*

makes a good dot plant in beds of other kinds of plants, and looks well in groups of half-a-dozen or more. A few plants distributed about the shrubberies in suitable places never fail to attract attention.

### THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorset.

**LÆLIOPSIS DOMINGENSIS.**—This rare Orchid, now in bloom, has flowers which are produced in a similar manner to those of *Lælia acuminata*, and they measure about 2 inches across, the colours being pale rose-mauve, with purple veins and markings. It should be found in all collections. Basket culture appears to suit its requirements, if it be planted in a very thin layer of coarse peat and sphagnum-moss. In order to obtain strong-flowering growths, the plant should be hung up on the south side of the East Indian or Mexican-house, being thinly shaded in the middle hours of the day when the sun is bright, but it is benefited by exposure to direct sunlight in the morning and afternoon. Whilst the plant is growing, water should be liberally afforded, and water will be needed almost every day, owing to its high and dry position. When the new pseudo-bulbs are full-grown, water should be sparingly applied—only as much as will keep them plump.

**ANÆCTOCHILUS.**—Judging from the rarity of this genus in most collections of Orchids, it is doubtless considered by growers to be almost worthless. Certainly, the insignificant size of the flowers renders them of no value; still, *Anæctochilus* deserves more extended cultivation, chiefly because of the marvellous beauty of their leaves. In many instances it has been found very difficult to keep the plants in good condition for any considerable length of time. My own failures have taught me that they will grow and increase satisfactorily for a few seasons, after which, without there being any alteration in treatment, their leaves have become spotted, and the succulent stems decayed. This would show that the treatment was wrong, and that light and air whilst growth is being made were insufficient for the needs of the plants, and rest at the proper time inadequate. Orchid-growers who admire *Anæctochilus*, and possess the proper conveniences for growing them, but who have been deterred from attempting their culture under the belief that there was no chance of success with them, should at least make an attempt to cultivate them. They should, if possible, get imported rhizomes to commence with, or established plants from some nurseryman in whom reliance may be placed that the plants have been fairly treated, and not grown in a stifling, over-warm atmosphere. *Anæctochilus pstola* being the least difficult to manage, might be the first variety taken with which to make a beginning, and if success eventually followed, other beautiful varieties could be added to the collection, such as *A. Dawsonianus*, *A. Lowii*, *A. Roxburghi*, *A. striatus*, *A. setaceus*, &c. These plants make good roots in a mixture of sphagnum-moss, chopped up finely, a liberal quantity of coarse silver-sand, and some small, clean crocks. As regards pots, use those of 2 or 3 inches in diameter, planting two or more pieces of the rhizomes in each, afterwards plunging the pots as closely together as possible in a pan filled with fresh sphagnum-moss. When first potted, they should be stood in a shady part of the East India-house, and a bell-glass with a hole at the apex placed over them. This hole should be stopped with a cork, so that till the plants begin to grow they may, during the greater part of the time, be kept close. The compost used should be kept in a moist but not wet state, and the interior of the bell-glass wiped dry occasionally. When the roots are seen, and the young leaves commence to unfold themselves, the bell-glass may be tilted a little, and the cork removed during the daytime, so as to afford air, but at night the glass should be closed. The kind of shade afforded must not be of too heavy nor too slight a kind whilst the sun is on the plants, and the better practice is to shade one side of the glass only. After the plants cease to grow the dower-spikes push up, and being of little value in a decorative sense, they may be pinched off, and the plants stood in a warm corner of the Cattleya-house, there to be rested. Whilst here, the plants must never be allowed to get quite dry, but the compost should be kept always slightly moist. If the plants make good growth, the space within the bell-glass will soon be filled, and the leading growths, as soon as young roots appear, may be divided and repotted in the manner described for imported pieces, and the right season for doing this is during the present month or in August.

## PLANTS AND THEIR CULTURE.

B. J. McINTYRE, *Gardener, Woodside, Darlington.*

**CODIÆUMS.**—These plants, as *Crotone*s should now be called, succeed in the best manner if they have a house to themselves, requiring, as they do, a special kind of treatment to bring out their colours to the greatest degree of perfection. Where there exists but one stove, I would recommend that these plants be kept altogether at one end of that house. Propagation of *Codiæums* is effected by seeds and cuttings, the former method being resorted to when the object is to obtain new varieties. Autumn striking is preferable, but equally successful results are obtained from spring striking; the one great advantage of autumn propagation being that the plants, provided they have been well cared for during the winter, make nice stuff early in the month of February, and are at that time in a fit state to re-pot, especially if required of small size for dinner-table decoration or grouping. Doing this, gives perfect plants at an early part of the season; and it is a method I have followed for many years. Plants struck in autumn and grown on, if made much use of, begin to lose their bottom leaves and become unsightly. In September I "ring" them well up the stems, cutting the bark right round, apply some sphagnum-moss to the part, tying it on with matting, and keep this moist till roots appear; then cut off the part above the ringed spot and pot-up in flower-pots of 3 or 4 inches diameter, according to size of tops, and plunge in a bottom-heat of 75° or 80° until they are well established. In this manner nice plants can be obtained in a very short space of time, and without running any risk of losing the foliage. The plants from which the tops have been cut, provided they are kept rather dry at the root, will break freely and afford cuttings that may be used in the spring. The present time, and, indeed, any part of February is a good time, to strike cuttings to furnish plants for use in the autumn. A good sort of house for growing *Codiæums* is one with a span-roof, and whose length runs north and south. It should be roofed with large panes of glass, so as to be as light as possible, sunshine being of the greatest importance. Except in the very hottest weather, no kind of shading should be used. In the season of growth, ventilation on all favourable occasions should be freely afforded, so long as a temperature of 75° or 80° is maintained, closing the house early in the afternoon, and at all times maintaining a moist atmosphere. When these conditions are afforded, thrips and red spider seldom infest the plants, but mealy-bug will do so; and brown-scale attacks plants which are grown in houses having too little warmth. If red-spider be noticed on the plants, the regular use of the syringe and water at the same temperature as the house will clear them off, unless very numerous, when it may be advisable to use flowers-of-sulphur, thoroughly mixed with the water. Thrips succumb to fumigation with tobacco-paper, on which cayenne pepper is sprinkled; and when the plants are not too large dipping in Fowler's Insecticide may be resorted to. For the destruction of mealy-bug, Fir-tree oil may be used, applying it with the syringe, or the plants may be dipped into it at a temperature of 90°. The soil for potting *Codiæums* may consist of two parts rich loam to one part good peat, with sufficient silver-sand added to make it of the desired porosity. Having been successful myself in the cultivation of these plants, I recommend this mixture as being that which I have found the best. In the case of specimen-plants, the materials should not be used in a finely broken-up condition, and charcoal in good-sized pieces may be added to the compost, as it is very beneficial in the case of these large plants. The present is a good time to shift those specimen-plants which require it, and top-dress any others. It should be remembered that much pot-room leads to redundant growth, and a consequent loss of colour in the foliage; the cultivator should, therefore, aim at well-coloured foliage and moderate-sized plants, rather than the reverse. When plants are freely growing, some kind of artificial manure may be often afforded, and if it be not used of too great strength, it is always advantageous. If evaporating pans are fixed on the hot-water pipe, they should be kept filled with liquid-manure.

## FRUITS UNDER GLASS.

B. J. POPE, *Gardener, Highclere Castle, Newbury.*

**POTTING PINE-APPLES, AND THE SOIL FOR THE SAME.**—The compost for the first potting of the year should now be prepared, and afterwards placed under cover ready for use. The loam should be, if possible, from some rich pasture, full of fibre,

not much decayed—that is, it should not have been in stack for longer than one year. This should be pulled in pieces, the finer portions being removed, and only the lumpy, fibry portions made use of. To every wheel-barrow-load of loam an 8-inch potful of bone-meal may be added, and if the loam is stiff and adhesive a small quantity of charcoal in a fine state, or coarse sand, may be mixed with it. Suckers should come into 6 and 7-inch pots, according to their size and strength, the soil being pressed very firmly, and afterwards plunged them in a bottom-heat of 90°, and afford no water to the soil for ten days or a little longer period, by which time roots will have begun to be made. The early autumn-potted suckers, whose pots are well filled with roots, may now be shifted into their fruiting-pots, i.e., 11 or 12 inches. These pots should be clean and well-drained, and have a layer of the roughest of the compost placed over the crocks, the plants being placed low down in the pots; the fresh soil, previously made warm, must not be too moist, and should be made firm around the old ball, ample space for water being left. Unhealthy plants should have the soil shaken carefully from the roots, and be re-potted. In very bright weather some light shading may be given for an hour or two during the hottest part of the day, and a slight dewing with the syringe every other day till the roots begin to work in the new soil. After this has taken place, the water-pot should take the place of the syringe for a time. Any stools of varieties that throw suckers sparingly, such as the Smooth Cayenne, should be retained after the fruit is removed, stripped of their leaves, and laid in some warmed soil, leaf-mould, &c., with a bottom-heat of 85°, when suckers will usually be produced in sufficient abundance, which can be taken off and potted from time to time as they become large enough.

**EARLY VINES.**—Continue to give close attention to stopping, tying, and thinning, as the Vines grow, removing bunches when too numerous as early as possible, allowing as much extension of foliage as is consistent with the space command, and beyond this point stopping the shoots closely. Some fresh short stable-manure may be used as a mulch, and guano placed in the evaporating troughs, if there are any attached to the hot-water pipe. Ventilate carefully, and close early in the afternoon with plenty of moisture about. Muscat Vines approaching the flowering stage should have a night temperature of 65° to 70°, with a rise of 10° or 15° in the daytime, closing theinery at 85° in bright weather. As fast as the flowers open, each bunch should be fertilised with pollen of the Black Hamburgh. Attend to the dis-budding of the Vines in succession vineries, and tie down the shoots carefully before they touch the roof. The syringing of all Vines should cease when the bunches can be seen at the tips of the shoots, and a moist air obtained by damping the paths, &c. If the borders need water at this stage, afford a good supply at once.

## THE KITCHEN GARDEN.

B. J. HERRIN, *Gardener, Droghda, Maidenhead.*

**THE BORDER OF FLOURISHING HERBS.**—A good supply of pot herbs being a matter of some importance in most country gardens, it is necessary at this season to make a thorough examination of the plants, and if the stock of some plants is below what it should be, to take means to supply what is deficient. Those herbs which are increased by division, may be taken up and divided. Of these Tarragon is one of the more important, the young shoots being in demand in most kitchens the whole year. A portion of the stock of roots should be lifted, divided, and planted in another part of the border, reserving the portion left undivided for forcing next winter. Re-plant the small divisions made with two or three shoots each in lines at 1 foot apart each way, treading the soil firmly about the roots. As Tarragon is starting into growth early this season, the replanting should be carried out forthwith. Common Sorrel is treated in the same manner. The French or broad-leaved Sorrel, *Rumex acetatus*, is sometimes used in this country as a substitute for Spinach, but it is intensely acid, and its only recommendation is, that it stands dry weather well. The Sorrels may be raised from seed sown in March. Seeds may also be sown sometime late in that month of Chervil, common Thyme, Fennel, Borage, Winter Savory, Pot Marjoram, Basil, Lavender, Sage, and Rosemary. The last three may be also increased by cuttings or slips taken off with a heel of old wool and inserted firmly in the border, which soon make strong plants. Sweet

Basil and Sweet Marjoram are best sown in boxes of light soil placed in a hot-bed frame or warm house, and the plants afterwards pricked-off into the border late in May or early in June. All the beds of herbs should be weeded and cleaned, the plants, if loose, made firm in the soil by tramping around them, and the soil afterwards stirred with the hoe or hand-fork slightly, and top-dressed with some fresh soil. The roots of Spear Mint may be lifted and placed in boxes of light soil, and put into a forcing house for furnishing green shoots. The easiest method of increasing this useful herb is to dibble cuttings into the open border in April, which soon root if shoots of 3 or 4 inches in length be employed. These young plants, if the land be good, soon make plants capable of furnishing a good supply of tops late in the summer.

**PARSLEY.**—A sowing should be made on a warm border or open sunny position in the quarters; and it should be sown in sufficient quantity to afford a full supply after the plants now in use have run to seed. Owing to the weather, Parsley has needed no protection, but it will be prudent to reserve that which was planted in a sheltered position or in frames for late use, as we may yet get hard weather.

**ONIONS.**—Although it is somewhat early to sow the main crop of Onions in northern or cold localities, in the southern and midland counties seed may be sown whenever the state of the soil admits of its being trodden on without being spoiled. It sometimes happens that a week or two of fine dry weather is experienced in February, followed by stormy weather in March, and if the first chance be not taken, a long time may elapse before another favourable opportunity occurs for sowing Onion seed. Up to the present time, but little rain has fallen this month, and fine weather seems likely to continue, therefore if the soil is in a thoroughly workable order, the seeds may be sown forthwith. At the time of writing, the moderately light soil here is in first-rate order. If the Onion-ground has been manured and trenched as advised some time since, and left in a rough state, a heavy dressing of wood-ashes and soot in about equal proportions should be spread over the plot, and worked into the surface with a wooden rake, breaking down all the clods, and roughly levelling it. The land is then in a fit condition for being trodden all over, after which large stones, &c., should be raked off it, and the surface made smooth and level in readiness for the drills being drawn, which should be about 3-inch deep and 1 foot apart. The seeds, if new and well harvested, should be sown thinly and evenly in the drills, and covered-in with the feet. The ground should afterwards be trodden all over both in a line with, and across the drills; and finally raked in the direction of the drills, leaving a fine and even surface. Where the soil is heavy, it is advisable to postpone the sowing till it is dry enough to be broken down finely, and in other ways prepared. If Onions must follow Celery, the ground should be deeply dug with the fork, and manure added if it be required, and then left till the surface dries before it is sown. Onion plants raised in boxes should be gradually exposed to the light as soon as germination has taken place, and kept for a week or two near the glass, in a temperature of 45° to 50°, and then slowly hardened off, finally coming into the cold frame some weeks before they are planted out.

**GENERAL REMARKS.**—The site of the current year's stock of Saakals for forcing next winter should now be determined, which should be open, and well exposed to the sun, and if not already prepared, it should now be heavily manured and deeply dug, the manure coming between the first and second spits, if it is trenched or bastard-trenched. Let it lie rough till planting-time. The positions of the principal kitchen garden crops of the year should now be decided upon. All tallgrowing varieties of Peas are advantageously sown in rows at distances of about 11 feet apart, which will allow of four or five rows of Potatoes or Cauliflowers, or a greater number of rows of Parsnips, Beet, and Carrots, being sown between them.

**BRITISH BATTLES ON LAND AND SEA.**—By JAMES GRANT, (Cassell & Co., London, Paris, and Melbourne).—This publication is a wonderful example of the amount of information which can nowadays be obtained for a penny a week. Each issue contains over thirty pages, various illustrations and maps, and is calculated to stir the youthful mind to patriotic fervour. The subject-matter is interestingly written, and brought fully up to date. This publication is issued in monthly parts as well as in weekly numbers.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETINGS.

SATURDAY,	FEB. 22	Royal Botanic Society meet.
MONDAY,	FEB. 24	National Chrysanthemum Society. Annual Meeting at Anderton's Hotel, 7 P.M.
THURSDAY,	FEB. 27	Kew Guild, Annual General Meeting in Gymnasium, 7.30 P.M.

## SALES.

MONDAY,	FEB. 24	Continental Plants, Roses, Ferns, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	FEB. 25	Imported and Established Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	FEB. 26	Consignments of Japanese Lilies, Palm Seeds, Tuberoses, Gramineal and Decorative Palms, Roses, &c., at Protheroe & Morris' Rooms.
THURSDAY,	FEB. 27	Continental Plants, Lilliums, Spiræas, &c., at Protheroe & Morris' Rooms.
FRIDAY,	FEB. 28	Orchids, from Messrs. F. Saender & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40° 3'.

On the Ascent of Sap.\*

THE problem of the ascent of sap from the roots of trees to their summits has been investigated over and over again. Many experiments have been made, and many if not more theories advanced to account for it; but to the present hour the problem is probably not considered to be completely solved by any biologist. There are two primary questions:—What is the path followed by the water? and what drives it up? With regard to the former question, we must first know whether it travels up through the interior of the cells, fibres, and vessels, or does the water pass up in the cell-walls? The general opinion has always been the former until SACHS started the theory that it passed up the walls. Botanists, however, are not now inclined to follow that eminent physiologist's view. Thus, Messrs. DIXON and JOLY, who have lately added their contribution towards the solution of the question, say:—"STRASBURGER'S experiments have eliminated the direct action of living protoplasm from the problem of the ascent of sap, and have left only the tracheal tissue, as an organised structure, and the transpiration—activity of the leaf, wherein to seek an explanation of the phenomenon."

With regard to the second question, HALE'S experiment, made in the last century, of cutting off a Vine stem near the ground, showed that there was a powerful upward pressure from the roots, inducing the well-known feature of the

"bleeding" of out or injured Vine-stems. Physiologists now call this "root-pressure." It is explained in the text-books as due to the absorption of water by root-hairs, and its subsequent transmission inwards, from cell to cell of the cortical layers till it reaches the vessels, the cell-walls being pervious to water, but not porous. A simple experiment will illustrate the effect of root-pressure, viz., of putting an inverted tumbler over some turf at night, when drops of water will be seen on the tips of the blades of grass in early morning. The next question is, how far up the stem of a tree can root-pressure act in forcing the water? The idea that it can drive it to the very top of the tallest trees—about 400 feet in the case of the giant Gum trees of Australia—is not readily acceptable. One next turns to the phenomenon of transpiration, which is always going on from all green surfaces as long as daylight lasts. Enormous quantities of water are given off under the influence of light; and we know from garden herbs that if the supply of water at the roots by absorption be insufficient when transpiration is excessive, the leaves become flaccid and droop; but how is the water supplied by the stem and branches of a tree to avoid this result in the leaves above, if the root-pressure cannot effect it? Messrs. DIXON and JOLY would confine the process of the ascent of sap to transpiration alone, for they thus write:—"Whether the draught upon the sap established at the leaf during transpiration be regarded as purely capillary or not, these experiments lead the authors to believe that it alone is quite adequate to effect the elevation by direct tension of the sap in tall trees. Explanations of the lifting of the sap from other causes prove inadequate." Again, they add elsewhere that it is their "assumption that evaporation at capillary water-surfaces is mainly responsible for the elevation of sap."

This "direct tension," to which they attribute the ascent, is elsewhere called a "tensile stress," i.e., a sort of stretching of the column of water in the vessels under the influence of transpiration; and they have to explain why the column of water is not broken in the stretching process. They attribute its coherence to the stable condition of the water, due first to "the internal stability of a liquid when mechanically stretched," and secondly, to "the minutely subdivided structure of the conducting tissue." The authors then describe their laboratory experiments to test the stability of a column of fluid subject to direct tension. Although it is not quite easy for one unfamiliar with such physics to follow them, the authors, at all events, satisfy themselves that the column of water does not get broken, under a tension of even  $7\frac{1}{2}$  atmospheres; so that under the influence of transpiration they consider the sap coming up from below to supply the place of the loss of the leaf-surfaces, to be subject to a direct tension or, so to say, a pulling force induced, we suppose, by the tendency of transpiration to form a vacuum above. This coupled with capillarity of the tracheal tubes or minute spiral, reticulated, and other sorts of vessels, is considered sufficient to explain the whole process.

Of course, experiments conducted in the laboratory may afford sufficient illustration of what goes on in Nature; but one would like to ask how does transpiration cause this supposed tensile stress; for in the experiments the authors say:—"The establishment of tensile stress is effected in the usual way, by cooling the completely-filled vessel." In Nature, however, there is no "cooling;" so it must be effective, if at all, by some other way. Consequently, one still feels doubtful

as to the power of transpiration and capillary action acting together being capable of producing this tensile stress. Is there, then, no other means of driving the sap forward in the stems and branches of trees?

Now, we cannot help thinking that KRAUS' investigations on the tensions of tissues may have something, if not a great deal, to do with the ascent of sap. A single experiment will show to what tensions a shoot is always subjected. If the outer surface be cut off in one piece from a few inches of a herbaceous stem, by splitting it down one side, and peeling it off, it will be found that, if it be fitted on again after a short time, that the central column will have not only elongated but expanded, so that the superficial piece is now too short, and its vertically out edges will not meet. Moreover, a strip of the rind tends to curl backwards, as may be also seen if a Dandelion stalk be cut into strips. This means that the outer surface has been in a state of stretch, and now contracts on acquiring freedom. Those results show that the tissues of stems are normally under great tensions. As this is intensified by turgidity, it is readily conceivable that if the turgidity be relaxed through the loss of water by transpiration above, the elastic cell-walls will contract, and tend to expel the water from cell to cell along the lines of least resistance, i.e., to the vessels, thence the water acquires a free passage upwards.

Now, as root-absorption and root-pressure continue at night in summer, when there is no transpiration going on—and again, during winter, till the leaves are formed in spring—so that a slow accumulation of water takes place, it seems to be a safe conclusion that when transpiration at the surface is resumed, a relief follows lower down, and the elastic contraction will tend to keep up the flow of water, somewhat like an india-rubber scent-spray. The tissues which get charged with water are the pith, the medullary rays, inner cortical tissue, and the young wood, up which latter the tracheæ or vascular tubes pass. The former act as reservoirs to supply the vessels or main channels of the current of sap. As absorption is always going on and transpiration also, as long as there is light, the cells of these tissues can never be absolutely at rest, but must always be expanding or contracting according as they receive or expel water.

Whether, therefore, we are justified in accepting Messrs. DIXON and JOLY'S conclusion, that "tensile stress" is all that is wanted, it is difficult to see how we can escape from those squeezing processes, as they might be called, exerted by the outermost layers of the cortex. And if the pressure upon the water passing from the cortical tissues of the root into and up the vessels be there called "root-pressure," the analogous force in the cortex and vessels of the stem and branches—which is always going on within them, constantly assisting in the upward flow—may be called "stem-pressure."

However, the problem does not seem to be by any means altogether solved; so that we must still wait for its further and complete solution.

KLUGIA NOTONIANA.—Klugia, writes Mr. W. Watson, is a genus of Gesneriaceæ, and a near ally of Cyrtandra and Streptocarpus. There are four species known, three are natives of India, and one of Mexico. *K. Notoniana* is a common plant in the Deccan and in Ceylon, at an altitude of 2000 to 5000 feet. It is a quick-growing herbaceous annual, and it is easily kept from year to year by means of cuttings. It has been grown at Kew and in other botanical gardens for many years, but owing to unavoidable treatment, it failed to attract attention until about a year ago, when, thanks to a hint from Mr. Nees, Superintendent

\* On the Ascent of Sap, by HENRY H. DIXON, B.A., Assistant to the Professor of Botany, Trinity College, Dublin; and J. JOLY, M.A., Sc.D., F.R.S. (Abstract from the Proceedings of the Royal Society, vol. lviii, 1894)

of the Hakgala Garden, Ceylon, it was tried at Kew in a greenhouse instead of a stove. The improvement in health was at once apparent, and in a few months we had plants a yard in diameter, with

half-an-inch long and wide, but those at Kew are three times larger. The stem of the plant is very succulent, and it is peculiar in having lines of hairs running down from the old leaf-scars. The form of the

uncommon plants. According to Mr. Nock, it is as abundant in some parts of the hills in Ceylon as Nettles are in England. It is made use of by the natives in curries, and as an ordinary vegetable when cooked.



FIG. 32.—KLOUIA NOTONIANA: FLOWER BLUE, WITH A SULPHUR COLOURED THROAT.

(The figure at the bottom of the illustration shows the habit of the plant; and the flower shown in the middle is double the usual size.) (See p. 235.)

leaves 8 inches long, and numerous racemes of Gentity-blue flowers, with a sulphur-coloured throat, which in appearance suggested the flowers of *Utricularia*. In the botanical descriptions of this plant, the flowers are said to be

shining green foliage and habit of the whole plant are shown in the illustration (fig. 32). The plants at Kew flowered from January till well into the summer. Treated as a greenhouse plant, it is of the easiest possible culture, and it is worth a place among choice,

**THE ROYAL HORTICULTURAL SOCIETY AND THE PROVINCES.**—When the Society took up its quarters in Victoria Street, various schemes and projects were brought forward; on the same principle as that in virtue of which six omnibuses abreast could not be driven through Temple Bar, some of these projects had to be abandoned for a more convenient season. One of these schemes was the establishment of local committees, and the appointment of local secretaries in various parts of the country. The United Kingdom was duly mapped out, and some progress was made towards indicating committees and secretaries. The records must surely exist in the society's archives, and would still serve as a basis for securing that co-operation with the provincial societies which is so much to be desired. The societies should send two or three representatives, or as many as would come, to each meeting of the Royal Horticultural Society, to attend the committee, confer with the council on important matters; and once a year there might be a general meeting of provincial and metropolitan horticulturists to discuss matters concerning the progress of horticulture in its various aspects. The need of a proper horticultural institute and exhibition-hall would then be so strongly felt, that its realisation would then surely come within the scope of practical schemes.

**SCOTTISH HORTICULTURAL ASSOCIATION.**—Syllabus for session 1896:—Feb. 4, "Points in Judging Vegetables," Mr. M. Temple, Carron House, Falkirk; March 3, "Notes on Floral Decoration," Mr. Alex. Mackenzie, Warriston Nursery, Edinburgh; April 7, "The Culture of the Maréchal Niel Rose, and Remarks on Exhibiting Roses," Mr. T. Fender, Cultoquahy, Crieff; May 5, "Daffodils," Mr. R. Shillington, Valleyfield, Penicuik; June 2, "The Hybridisation of Violas," Mr. J. Fraser, *Gardening World*, London; July 7, "Fungi," Mr. D. McIntyre, Royal Botanic Gardens, Edinburgh; August 4, "The Evolutionary Theory and Plant Life," Mr. Samuel Johnstone, Sillerbithall, Hawick; Sept. 1, "Manures and their Relationship to Plant Life," Mr. A. E. Stubbs, Ipswich; Oct. 6, "Peach and Nectarine," Mr. A. Henderson, Fullarton, Troon; Nov. 3, "Stove and Greenhouse Plants, and Structures most Favorable to their Growth," Mr. J. McIntyre, Woodside, Darlington; Dec. 1, "A Review of Scottish Horticulture during the Last Forty Years," Mr. Robertson Munro, Langeside, Glasgow. 1897: Jan. 12 annual general meeting. The meetings are held at No. 5, St. Andrew Square, Edinburgh, at 7.30 P.M. (prompt).

— The usual monthly meeting was held on Feb. 4 at 5, St. Andrew Square, the President, R. W. E. MURRAY Esq., in the chair. Mr. TEMPLE of Carron House, Falkirk, read a paper on "Points in Judging Vegetables," which, on account of the interesting nature of its contents, excited some discussion. As showing the abnormally mild conditions of weather prevailing in the north, Mr. M. CHAPMAN, Easter Duddingston Lodge, exhibited a collection of twenty-four distinct species of spring flowers:—*Lonicera fragrantissima*, *Skimma oblata*, *Andromeda floribunda*, *Berberis japonica*, *Cryptomeria japonica*, *Daphne Mezereum album*, Hazel, common; *Laurustinus*, *Pyrus japonica*, *Jasminum nudiflorum*, *Rhododendron*, two species; *Saxifraga luteo-viridis*, Winter Heliotrope, Wallflowers, Winter Aconites, Hellebores in variety, *Galanthus Elwesii* and *nivalis*; Heaths, Primroses, Crocuses, *Anemone hepatica*, and Scillas in variety.

**HORTICULTURAL CLUB.**—The twenty-first annual dinner took place on Tuesday evening, the 11th inst., and was in every respect a most successful one; there was a large attendance of members and visitors. The chair was occupied by Sir J. D. T. LLEWELYN, Bart., M.P.; and amongst those present



were Mr. Harry J. Veitch (vice-chairman of the Club), Messrs. G. Paul, Nicholson, Harbet, Bunyard, Turner, Monro, Assbee, Hogg, Becker (of Jersey), C. Pearson, Laing, and Crowley. The tables had been handsomely decorated with flowers and plants from Messrs. Veitch & Son, and with a collection of Roses by Messrs. Paul & Son, among them being that exquisite little garden Rose *Laurretta Messing*. The dessert consisting of Pine-apples kindly sent by Mr. Assbee, Grapes by Mr. Geo. Monro, Apples and home-grown Oranges by Mr. T. Francis Rivers, and Apples by Messrs. Bunyard & Sons, Maidstone, gave the tables a rich and pleasing appearance, and was much appreciated by the members. Mr. Geo. Bunyard had kindly provided for a selection of vocal and instrumental music, which was given during the evening, including solos on the concertina by Mr. Harry Turner. Mr. A. F. Barron was the special guest of the Club, and his health was proposed by Mr. Harry J. Veitch, and was very warmly received by the company.

**EALING GARDENERS' ASSOCIATION.**—A crowded audience gathered in Victoria Hall, on the 11th inst., S. A. SEWELL, Esq., being in the chair, to listen to an excellent paper by Mr. FARR, gr. to A. PEARS, Esq., Spring Grove House, Isleworth, on "Strawberries and their Culture." A good discussion followed the reading of the paper, and Mr. FARR was accorded a hearty vote of thanks.

**TRIMEROUS CYPRIPIEDUM.**—Mr. STEINMETZ, of Bruges, obligingly forwards us a flower of *Cypripedium Harrisonianum*, in which there are three sepals (the two lower being detached one from the other), two lateral petals, and a lip. The column, which is the most remarkable feature, has three shield-like staminodes, representing the outer stamens, A1, A2, A3, of Darwinian notation; and three perfect anther-bearing stamens, corresponding to the inner row, viz., A1, A2, and A3. In a paper on the "Floral Construction of *Cypripedium*," communicated to the Linnean Society in 1886 by the present writer, numerous cases of unusually-formed *Cypripeds* were noted and figured, but none exactly like the present one. We may look on this flower as a reversion to an earlier type, when all six stamens were present.

**CYPRIPIEDUM.**—Those interested in the botany of the genus will read with pleasure the paper by HENRIETTA G. FOX, in the publication known as *Minnesota Botanical Studies*, November 20, 1895. The article deals specially with the species native to Minnesota. The entire list of American species is as follows, *C. aristatum*, *C. Reginae*, *C. candidum*, *C. irapeanum*, *C. californicum*, *C. passerinum*, *C. hirsutum*, *C. parviflorum*, *C. montanum*, *C. acule*, *C. guttatum*, *C. fasciculatum*, *C. pusillum*. The structure, classification, literature, and life-history are all treated of, and there are plates of five of the species. In the same publication Mr. McDUGAL treats of the irritating effect on the skin of *C. spectabile* and *C. pubescens*. The irritation depends on the secretion of the glandular hairs.

**SHIRLEY AND SURROUNDING DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting of this body was held at the Parish Room, Shirley, Southampton, on Monday, the 17th inst., when Mr. B. LADRAMS, F.R.H.S., presided over a good attendance. Mr. J. JONES, The Gardens, Terrace House, gave an exhaustive paper on the Peach, giving the treatment for the year as regards pruning, and touching on the planting and the diseases of the tree.

**DRIED RASPBERRIES.**—Fifteen hundred tons of Raspberries are dried on the average each year in Western New York, says Prof. L. H. BAILEY. In one county alone there are 2,200 fruit evaporators.

**NATIONAL CHRYSANTHEMUM SOCIETY.**—A meeting of the general committee was held on

Monday evening, the 17th inst., at Anderton's Hotel, Mr. B. WYNN presiding. The schedule-revision sub-committee laid the schedules of prizes for the September, October, and December exhibitions on the table, the alterations and amendments being of a slight character. The revised rules and regulations were also adopted, one main amendment being that for the future three blooms of a new variety will be required to gain a Certificate, while two only may be Commended. A draft report and financial statement were submitted and adopted for presentation at the annual general meeting on the 24th inst. The latter shows the financial position of the society to be highly favourable; and the report sets forth that 161 members had been elected during the year, and ten societies admitted to affiliation. On this occasion thirty new members were elected, and the applications from twelve societies for affiliation were acceded to. The proceedings closed with a vote of thanks to the chairman and secretary.

**FARQUHAR VIOLET.**—This, as we learn from *American Gardening*, is an American novelty, exhibited by Mr. MCKAY at the Horticultural Rooms, Boston, on January 4. The exhibitor is a grower of repute at Boston, and he exhibited on this occasion *Violeta Marie Louise* and *Lady Campbell* as well as Farquhar, all in excellent form, and grown under the same conditions. The exhibitor stated that he found the Farquhar very distinct in habit, much more prolific than *Marie Louise*, and remarkable for producing stems frequently 9 inches in length. It originated at Roselindale, and is supposed to be a sport.

**AN EXPERIMENT IN FRUIT DRYING.**—Mr. WILFRID POWELL, British Consul at Stettin, in his supplementary report on the trade of that place, says he has been informed by the manager of a Government peat-moor near Stettin of an interesting experiment that that gentleman had made with some fruit. Wishing to keep some Apples and Pears during the winter months, he thought he would try packing them in "mull"—that is to say, the dust obtained from the dry moss litter when being torn up by the "Wolf" machine. In this mull, or dust, he packed a number of Pears and Apples, enclosing the whole in a wooden case, and pressing the mull well down, taking care that the fruits were kept a little distance apart from each other. At the end of three months he found the Pears and Apples perfectly dried and as sound as those prepared for commerce by the more elaborate methods, while on being placed in warm water they began to swell out again to their former proportions. Mr. POWELL thinks that if further experiments should be satisfactory, there is a possible future in the process. Mull, he adds, sells in Germany at about 1s. 3d. per cwt., and as it is exceedingly light, one hundredweight would dry a large quantity of fruit, while it can be used again many times over, has no smell, and does not convey any taste to the fruit. It merely absorbs the moisture which the fruit contains, at the same time hermetically protecting it from the air. *Times*.

**AXMINSTER GARDENERS' IMPROVEMENT SOCIETY.**—An interesting lecture on "Parks and Gardens" was recently given under the auspices of the Axminster Gardeners' Mutual Improvement Society. The chair was occupied by the Rector (Rev. T. NEWMAN), and the lecturer was Mr. F. W. MEYER, landscape gardener to R. VEITCH & SON, Exeter. A powerful lantern, supplied by the County Council, was well manipulated by Mr. WILMOTT. Mr. MEYER exhibited about sixty capital slides, illustrating the progress of the art of landscape gardening from the earliest times.

**THE PROGRESS OF SPRING.**—But few flowers are yet to be seen in gardens near London, although the weather is distinctly less severe than

at the same date of season last year. The *Hellebores* have been given a better chance than they often have of perfecting their blossoms; and we have seen some very fine ones in the open, that in less kindly seasons must have been produced under protection, if at all. Snowdrops and Crocuses have been in bloom for some little time past, but Wallflowers and Primroses, though we saw them freely blooming in Kent a fortnight ago, are exceedingly rare nearer London. A visit to Mr. THOS. S. WARE'S hardy plant nursery, near Tottenham, showed a week ago that the *Leucojums* were as fully out as the Snowdrops; and a patch of the newer *L. carpaticum*, which is a variety or form of *L. vernum*, clearly indicated the decided superiority of the variety over *L. vernum* for creating a floral effect. The flowers are larger, and, like *L. vernum*, they are pure white, save the green markings common to these species. It differs from the type also in the height of the foliage, being much taller and more robust. The Snowdrops are less showy than the Snowflake, but not a whit less pretty; and it is interesting to see several species of *Galanthus* flowering side by side at this place. How little most of them appear to differ from each other, yet the variations are to be seen by close inspection. The new *G. Ikarie* has very broad foliage, and appears to have a robust constitution. Bulbs of this species were received from Asia Minor about two years ago. A form of *G. Elwesii* named *F. Fell* has larger flowers than the type. On the rockery, there was *Anemone (Hepatica) angulosa* in bloom, and various other early flowering plants approaching that stage. Plants of *Eremurus* species could be seen about a foot through the soil, and growth in other herbaceous plants was discernible. The bulbous *Iris* in frames were lovely. Amongst them we noticed *I. reticulata*, and the varieties *purpurea* and *sophononis*; in the last-named variety, the fall is very beautiful, and the whole flower more effective than the type. But one of the most charming of all was *I. Bakeriana*, a species that Professor MICHAEL FOSTER describes as "growing on the mountains above Mardin, on the confines of Armenia and Mesopotamia." The same high authority says that the flower closely resembles *I. reticulata*, but differs chiefly in colour, the distinctive feature being that the deep violet blade of the fall bears a central patch of creamy-white or yellow, sprinkled with dots, or crossed with veins.

**"THE COUNTRY HOUSE."**—The scope of this magazine may be guessed from its title. The articles deal with various kinds of indoor and outdoor sports and pastimes, and they are well illustrated. Among them is one on the "Essex Forest and Fairlop Oak." Now that recreation has become so much of a business, such a journal as this should find many readers. It is published at Dacre House, Arundel Street, W.C.

**SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE.**—Particulars are now to hand of the forthcoming Congrès d'Horticulture to be held at Paris under the auspices of the Société Nationale d'Horticulture de France. The meetings of the Congress will be held in the Society's Rooms, 84, Rue de Grenelle, Paris, on Thursday and Friday, May 21 and 22, at 2 P.M. The subjects noted for discussion include:—1, Grafting Potatoes; 2, Apparatus for warming greenhouses with wood, charcoal, petroleum, gas, &c.; 3, Electricity in connection with vegetation; 4, The influence of selection in budding; 5, History and cultivation of *Cattleya* and *Laelia*; 6, Practical digest of conditions favourable to vegetation; 7, Choice of trees most suitable for avenues, &c., in towns. The congress is open to other than members of the Society upon certain conditions. Communications should be directed to the President of the Society, at the above address. The organising body is composed of M. H. de Vilmorin, President; M. Ernest Bergman, Secretary; and MM. Ballair, D. Bois, Chargeraud, Honoré Dufresne, Léon Duval, Alex. Hébrand, Huard, P. Lebouf, Muesat, and A. Truffaut, members. The general secretary is M. A. Chataenay; the president, M. Léon Say.

**THE WEATHER IN THE NORTH OF SCOTLAND.**—An Aberdeenshire correspondent, writing from the shores of the Moray Firth, tells us that vegetation is very forward thereabouts; Primroses and other spring flowers are in bloom, and in the gardens Crocuses are fully blown. Snowdrops are in flower in the greatest abundance at Cullen House, while the fields are taking on their spring garb. Comparatively speaking, except in the Highland glens, there has been no "thickening mantle," and Nature has failed this year to supplement the work of the plough and harrow of the husbandman by sending frost to pulverise the stiff clays of the arable land. It need hardly be added, that there is not a little perturbation existing at present in the minds of husbandmen at this abnormal state of matters.

**GERMAN CYCLAMEN.**—The statements made by our German correspondents as to the superiority of their strain of Cyclamen, were received here with much surprise, especially by those more or less familiar with the continent. Last Tuesday an opportunity was afforded of putting the matter to the test. Some flowers of German origin, and others from an English source but grown in Germany, were shown by the side of some of the fine collections staged on Tuesday last. I should be remembered that the German specimens were cut flowers which had undergone the long journey from Berlio, and that they were taken from plants which have been continuously in bloom since November. But making all necessary allowances, it was still obvious that the specimens sent were far behind those exhibited by the home growers.

**THE ESSEX SCHOOL OF HORTICULTURE.**—The January number of the *Journal of the Essex Technical Laboratories* for January, contains an illustrated article on pruning, which might profitably be read by all young gardeners. The three weeks' instruction in horticulture for young gardeners, comprises lectures, laboratory work, work in the greenhouse, and visits to nursery establishments. The students are kept at work from 9 in the morning till 8.30 in the evening, with intervals for meals. The first week's instruction is particularly devoted to the propagation of plants, the second week to fruit culture, the third week to flower culture. Three weeks is a fractional period of time to be devoted to teaching horticulture, but the course of practical work with explanations and demonstrations is long enough to give pupils an idea of how to work, and what to work at. In most cases, students are overwhelmed with the amount of study expected from them—they do not know how or where to begin. A little judicious help, such as is given by this practical class, will greatly diminish these difficulties and enable the pupils to "run alone."

**COLTSFOOT.**—We observed expanded flowers for the first time this year on February 12. In former years the dates were as follows:—1890, January 24; 1891, February 15; 1892, February 10; 1893, February 13; 1894, January 26; 1895, February 15.

**CORNELL UNIVERSITY.**—The special advanced students who are fitting themselves for professional horticulturists, meet weekly at Professor BAILEY'S residence, Ithaca, for the purpose of discussing in a social and informal way the current events of horticultural importance, or matters of history and criticism. There has never been such a gathering of mature and trained men for explicit horticultural study in the United States as is now in attendance at Cornell. Lately the gathering discussed "The Emphatic Points in New York Pomology." Another time the topic was "The Lindleys, their Times and Work." Other reflective topics for the term are "The Rural Life of Thomas Jefferson," "The Downings," "Sketches of the Life and Times of Arthur Young," "Jethro Tall, and the Tillage of Land," "Thomas Andrew Knight." The students comprising the social seminary are mostly professors of the State colleges, or qualifying for such positions.

**WYE COLLEGE.**—It is gratifying to see the progress that is being made in this and similar establishments. The *Journal of the South Eastern Agricultural College* shows that a healthy influence is at work, and we cannot doubt that influence will deepen as well as spread as time goes on, and by-and-by we shall come up with our American and Continental friends.

**INTERNATIONAL HORTICULTURAL EXHIBITION AT HAMBURG, 1897.**—It is the intention to celebrate the sixtieth anniversary of the existence of the Hamburg-Altona Societies, by holding a general horticultural exhibition next year, at Hamburg. The exhibition committee have the power to elect its own members as occasion may require, and the formation of sub-committees in other German as well as foreign states and towns, is under consideration. The exhibition will cover the entire field of horticulture, and represent plant cultivation of every kind; and it will be open to everyone, of German or non-German nationality, to participate. All questions relevant to the classification of articles for exhibition rests with the committee for decision; but all articles of a purely horticultural nature will, on principle, be freed from all entry charges, and charges for standings; whilst it is proposed to make charges for manufactured articles. The permanent exhibition opens May 1, and remains open, if the weather will permit, till October 1. Forming part of this permanent section during spring, summer, and autumn, there will be planted in the open air, trees and shrubs, avenue trees, collections of deciduous shrubs and trees, Conifers, evergreens of all kinds, Rhododendrons, Azaleas, herbaceous perennials, annuals, &c. The permanent exhibition in the buildings begins on May 15, and will consist of plants in pots and beds, cut flowers, fruit, to which particular attention will be paid; vegetable, garden plants, tools and implements, seeds, so far as these exhibits must be brought under cover. There will be special exhibitions in the spring, lasting five days; in the summer, lasting eight days; and in the autumn, lasting eight to ten days. The State has been approached on the subject of granting the land lying east of, and near to Heiligegeistfeld, between Millerthor and Holtenhor, as the site for the exhibition buildings, and permission to make use of this land is looked for with confidence.

**PRIMULA "BOUQUET."**—Messrs. CARTER & Co. send us flowers of a variety of Chinese Primrose, which they are sending out under the name of "Bouquet." Any one who looks at the calyx of a Chinese Primrose will see that it is of a markedly leafy character. Exaggerate this tendency till you have a calyx nearly 4 inches across, elegantly lobed and fringed, and some idea of Messrs. CARTER'S Primrose may be obtained. The corolla is 1½ inch across, white, flushed with rose, and with overlapping deeply-fringed petals. This leafy condition of the calyx is of frequent occurrence—instances of it have been figured in our columns, and we have urged our growers to "fix" the peculiarity. This, Messrs. CARTER assure us, they have now done. The habit is good, it is a robust grower, flowering freely in the early part of the season as single blooms, and later on in large trusses.

**SUNDERLAND GARDENERS' SOCIETY.**—A meeting of the members of this Society was held at the Café, Fawcett Street, on Wednesday, the 12th inst., Mr. J. T. RICHARDSON presiding. Mr. USHER, gardener, Somerleyton, read an interesting paper "On the Culture of the Azalea indica," giving its history, propagation by seeds, cuttings, and grafting, the best time for potting, suitable soils, &c.; pruning and training; also dealing with insects which infest them, and the means for their destruction. Considerable discussion took place, to which Mr. USHER replied; and a hearty vote of thanks was given him for his valuable paper.

**FLOWERS IN SEASON.**—We have before us a few flowers of varieties of *Primula sinensis*, received from Messrs. JAS. VEITCH & SONS, Royal Exotic

Nursery, Chelsea. They represent a strain that is being selected for seed-saving purposes, and notwithstanding the excellence of *Primulas* generally at the present time, the blooms are worthy of remark. One of the most distinct is Veitch's New Salmon, a comparatively new shade of colour in *Primulas*; Chelsea Rose, Chelsea Scarlet, Gigantic Red, Superb White, and Chelsea Blue, are good flowers of the respective colours, and there are semi-double varieties in red and rose.

**PUBLICATIONS RECEIVED.**—*Bulletin of Miscellaneous Information*, Royal Botanic Gardens, Trinidad, for January, including articles and notes on *Adrua* (*Cyperus articulatus*); *Pennisetum orientale* as a fodder-grass; *Lantana burbonica*, fibre from *Acrocomia sclerocarpa*, botanical notes, &c.—From the Cornell University Agricultural Experiment Station: Horticultural Division; *Bulletin* 95, Winter Muskmelons, by L. H. BAILEY; *Bulletin* 96, Forcing-house Miscellanies, by L. H. BAILEY and E. G. LOEMAN; *Bulletin* 97 (Botanical and Entomological Divisions), Studies in Artificial Cultures of Entomogenous Fungi, by R. H. PETTIT; *Bulletin* 99, Blackberries, by L. H. BAILEY; *Bulletin* 100, Evaporated Raspberries in Western New York, by L. H. BAILEY; *Bulletin* 101, The Spraying of Trees, by L. H. BAILEY; *Bulletin* 102, Respecting the Care of Fruit-trees, by L. H. BAILEY; *Bulletin* 103, Soil Depletion in Respect to the Care of Fruit-trees, by J. P. ROBERTS; *Bulletin* 104, Climbing Cutworms in Western New York, by M. V. SLINGERLAND; *Bulletin* No. 106, Revised Opinions of the Japanese Plums, by L. H. BAILEY.—*Insect Life; A Short Account of the Classification and Habits of Insects*, by F. V. THEODALD (METHUEN & Co.).

## PLANT PORTRAITS.

APPLE, PRÉSIDENT BEBUYCK, *Bulletin d'Arboriculture*, &c., January.

CYPRIPEDIUM INSIGNE LUCIANI, apparently approximates to the variety known as *Sanderi*. *Illustration Horticole*, t. 49.

DRACENA RIGOUTSI, De Bouschère, *Illustration Horticole*, January 30.—A variety of *D. australis*. Leaves striped with yellow.

HELICONIA ILLUSTRIS VAR. RUBRICAULIS, *Revue Horticole*, January 16.

HEPATICA TRILOBA, *Mechan's Monthly*, February.

HIMELASTRUM BRACHYANDRUM, *Garden*, Jan. 11.

## KEW NOTES.

**ANTHURIUM CHAMBERLAINI.**—The only examples of this plant are at Kew and in the garden of Mr. Chamberlain at Highbury. Hitherto, it has refused to ripen seeds, but there is now a fine fat spadix rapidly approaching maturity on the Kew plant, and I saw a likely looking spadix on the Highbury plant a weeks ago. Mr. Chamberlain has succeeded in crossing *A. Andréanum* with *A. Chamberlaini*, at any rate he has a number of seedlings in which the leaf characters are a combination of these two species. One of these seedlings is now in the Kew collection.

## ANTHURIUM GUSTAVI.

This is the largest-leaved *Anthurium* known, and a fine specimen of it may now be seen in the Victoria-house bearing four leaves, with petioles 3½ feet long, and cordate blades 4 feet long, and 3 feet wide. It is in flower, the spathe and spadix being 11 inches long, erect, and of a black-purple colour. A figure of this species was recently published in the *Botanical Magazine*, t. 7437. It is a native of Colombia, and has been cultivated at Kew since 1887. The large specimen here noted was presented by Messrs. F. Sander & Co., two years ago.

## THE ORIGIN OF THE GENUS CINERARIA.

The "hybrid" shown by Messrs. J. Veitch & Sons at the Drill Hall on the 11th inst., under the name of *C. langleyana*, is an interesting contribution towards the solution of the question whether the garden *Cineraria* is of hybrid origin, or the result of cultivation and selection from one species, namely, *C. cruenta*. Messrs. Veitch crossed the last-named species with the garden varieties, and obtained what

they call *C. langleyensis*; a similar cross was made at Kew with identical results, as may now be seen in the conservatory there. It is impossible to distinguish these crosses from ordinary garden *Cinerarias*, except that they are a little taller than the most approved strains, and the flowers looser. Any one ignorant of their origin would unhesitatingly dub them an inferior strain of the ordinary *Cineraria*. On the other hand, we have at Kew crosses between *C. Heritieri* and the garden *Cineraria*. It will be remembered that those who favour the hybrid theory with regard to the origin of the garden *Cineraria* say that *C. Heritieri* is one of the parents. But the crosses between these two are very different from any garden *Cineraria*; moreover, they are undoubtedly perennial. The conclusion forced upon one by these crosses is, that if *C. Heritieri* was ever used by the early breeders of garden *Cinerarias*, it was soon bred out, and that the relationship between them and *C. cruenta* is so close that no breeder would hesitate to accept the latter as the sole progenitor of the garden *Cineraria*.

#### DENDROBIUM SARMENTOSUM.

Mr. Rolfe has given this name to a new species, which flowered at Kew in May last, and is in flower again at the present time. It has proliferous, thin, pseudo-bulbs, not unlike those of the thin form of *D. Falconeri*; the flowers are freely developed on the leafless pseudo-bulbs singly or in pairs from the axils; they are 1 inch across, with equal sepals and petals, a short, nearly straight spur, and they are white, with a yellow blotch on the throat, and a few red lines on the lateral lobes. Their principal charm is in their odour, which is as powerful and pleasant as that of *Viola*s. The species is a native of Barma. A figure of it will be published in the *Botanical Magazine*. Messrs. Low & Co. showed a plant of it at the Drill Hall last week under the provisional name of *D. fragrans*.

#### DENDROBIUM RUCKERI.

Plants of this Philippine *Dendroba* are now in flower at Kew, where they were received some time ago under the name of *D. amœnum*. The habit is that of *D. luteolum*; indeed, these two species might be mistaken the one for the other when out of flower. The flowers are axillary on the newly-matured pseudo-bulbs, singly or in pairs,  $1\frac{1}{2}$  inch across, pale yellow, with a few faint lines of rose colour on the side lobes of the lip, and a prominent hairy ridge down the middle of the central lobe. The plant was named by Dr. Lindley in 1843, when it flowered in the collection of Mr. Sigismund Rucker, at Wandsworth.

#### ÆAÏDES VANDANUM.

This plant is a success only when grown in the cool-house, at any rate, this is the case at Kew, where it has been grown several years in a shaded corner of the *Odontoglossum*-house, and that it enjoys this treatment is shown by its branched, long stems, well furnished with leaves springing from a sphagnum-moss cushion, attached to a piece of tree-fern stem. It is now bearing fourteen perfect, white, curiously-formed flowers.

#### ADONIS AMURENSIS.

Plants of this new introduction are now in flower in the rock-garden and the herbaceous-ground at Kew. It is a native of Northern China; but, according to a Japanese work, it has long been a garden-plant in Japan, and is known to vary considerably in the size and colour of its flowers. It has the habit of *A. pyrenaica*, and yellow Buttercup-like flowers  $1\frac{1}{2}$  inch across. A figure of it will be published in the *Botanical Magazine*.

#### TRIAS PICTA AND T. VITRINA, &c.

the latter a new species last year, are now crowded with flowers. I may note that *Selenipedium Sargentianum* has a scape  $2\frac{1}{2}$  ft. long, bearing a yellowish-green, red-margined flower, and showing a very close relationship to *S. Lindleyanum*. *Dendrobium Hildebrandi*, with flat pseudo-bulbs, 2 feet long; leathery leaves, 4 inches by  $1\frac{1}{2}$  inch; and clusters of dull pale yellow flowers, does not in this form deserve to rank with first-rate *Dendroba*s, *W. W.*

### MR. S. T. WRIGHT.

We have pleasure in presenting a portrait of the new superintendent at Chiswick, from a photograph executed last week for this purpose. Mr. Wright commenced his horticultural career in 1870, in the gardens at Snelston Hall, Derbyshire, under the late Mr. Macpherson, and upon the decease of that able gardener, remained two years under his successor, Mr. Allan. On leaving Snelston he entered the well-known gardens at Alton Towers, Staffordshire, under the late and much-respected Mr. Rabone. Mr. Wright left these gardens to take the position of foreman at Woodseat, near Uttoxeter, with Mr. Neer, and afterwards with Mr. Hollingworth, now gardener to Lord Tredgar, near Newport, Monmouthshire.

After nearly three years' service at Woodseat, he was appointed gardener to C. B. Kingdon, Esq., Edgaton Lodge, Derby, a position which he retained for six years. Mr. Wright then left Edgaton to take over the management of the gardens of C. Lea



MR. S. T. WRIGHT,  
Superintendent of the Royal Horticultural Society's  
Gardens, Chiswick.

Campbell, Esq., Glewston Court, Ross. How he succeeded in developing the suitability of these gardens for first-class fruit culture is now well known, but it may be added that during the ten years he was there he won upwards of 700 prizes at exhibitions in Great Britain, and these were principally for fruit and vegetables. It will be remembered that in his prize essay upon "The Commercial Aspect of Fruit Culture in England," read at the Royal Horticultural Society's fruit show at the Crystal Palace, Mr. Wright gave astonishing figures, which proved that for Apples and Pears of the highest quality, first-class prices were regularly obtained. Mr. Wright, therefore, takes to Chiswick an abundance of practical experience upon the cultivation of fruits and vegetables; and combined with this a genial, unobtrusive disposition, that will assist him greatly in the rather peculiar and prominent position he has now to fill. We believe he will prove a worthy successor to Mr. Barror.

## NOTICES OF BOOKS.

WELLS' BOOKS ON THE CULTURE OF THE  
CHRYSANTHEMUM. (W. Wells, Earlswood,  
Redhill, Surrey.) Price 1s.

This is a small, concise guide to the cultivation of the *Chrysanthemum*. Other good works upon the same subject have been published, but the

author believes that the present one will be acceptable on the ground that it is more general in its treatment of the subject. Information upon the best culture of the plant for decorative purposes, and hints to amateurs or cottagers, we are told in the preface, have not been previously given. Nevertheless, the exhibition spirit runs through the work, and the culture of exhibition blooms, best methods of preparing, staging, and even of judging them, are given according to the author's experience. In the preface, and in a "Free Chapter not Charged for in the Book," there is an attempt to explain the author's position in regard to the competition he has entered into with gardeners during the past two years at exhibitions. His "object being to write this book," he wished to obtain experience in that matter. The explanation was unnecessary, inasmuch as the exhibits were made in open classes. Readers of the book are asked to excuse trifling grammatical errors that may be found, on the ground of the author's horticultural rather than literary education. As far as methods of cultivation are concerned, the work is thoroughly practical, and the information afforded is eminently trustworthy. Various other subjects, such as the best to select of the many varieties now obtainable, the qualities and points of the different forms of the flower, and other matters, are discussed, and the opinion of the author upon each is given. With some of this debatable matter we cannot agree. For instance, while accrediting the National Chrysanthemum Society with the sole right to award Certificates to new varieties—and thus questioning the title of the Royal Horticultural Society to deal with such matters—the author is not prepared to trust the National Society to declare to which section a new variety may rightfully belong. If the society is not capable of the latter work, how can it be of the former? A humour of a certain kind breathes through the whole of the matter, and the reader will learn what is meant by a "tickle" with the syringe, and a "flick over" with the watering-can. When the author speaks of stimulants, we are told that "farm-yard (manure) is real food, like beef-tea;" "but nitrate of soda is only stimulating like whisky to a tired man."

There are upwards of a dozen photo reproductions, several of which are instructive, whilst it is difficult to see what end can be served by some of the others. The book is cheaply got up, but the type is clear and easily read.

AN INTRODUCTION TO THE STUDY OF SEA-WEEDS. By George Murray, F.R.S.E. (Macmillan & Co.)

The study of Sea-weeds possesses peculiar fascinations. Their beauty and variety, the localities in which they grow, the interest attaching to collecting them, invest these plants with special interest. That interest is wonderfully enhanced when the collector becomes a student, and traces out for himself the details of their structure and life history. These, in many cases, show him structures reduced to its simplest elements, and function unobscured by secondary processes or complications of conformation. In this way these plants often foreshadow the structure and physiological arrangements of the higher plants, and, indeed, lead to the inference that the latter may be the lineal descendants of the *inutile* *Alga*. Mr. Murray is well fitted to undertake such a work. He has had much experience both in the herbarium and on the coasts of various countries; he has the resources of the Natural History Museum at his disposal, and, above all, he has the critical faculty and a carefully-trained judgment. The introduction is particularly interesting to the student desirous of obtaining a general view of the subject, and as it is followed by a select bibliography, further information is easily obtained if desired. There are numerous original illustrations, which are really what they purport to be, and which are well executed. The coloured plates are not so satisfactory as the others. We cannot in these columns enter into

details as to the details of classification of a series of plants that have relatively little interest for gardeners. The comparative uniformity of the conditions under which these plants exist in the several climatal areas of the globe supplies suggestive hints for the general cultivator—hint, of course, of even greater value to those who have the management of aquaria. "In the culture of Sea-weeds in aquaria, it has been found that forms from deep water are peculiarly susceptible to rise of temperature and undue illumination, so much so, that merely for their transport it is necessary to choose a cloudy day, especially if in summer, and the use of ice is almost always advisable. A cool chamber from which direct sunlight is excluded is a condition of success in the culture of most Sea-weeds. One way in which these plants may be killed by too much care is in the attention paid to the aeration of the water. Very little is necessary, since the air so introduced

on retiring from business, resided at Colbrook Lawn, near Slough. The bush of Pomona, the subject of our illustration (fig. 34) is growing in the gardens of East Sutton Park, Staplehurst, the residence of Thomas Oliverson, Esq., and the photograph from which the figure was prepared was kindly sent by Mr. W. Lewis, the gardener at that place.

CULTURAL MEMORANDA.

DENDROBIUM WARDIANUM.

In reply to "Anxious," (*Gardeners' Chronicle*, February 1), I cannot say that my treatment varies materially from that followed generally by gardeners. I advocate teak baskets in lieu of pots or pans for this particular species, placing the plants in small rather than large baskets, crocking

temperature and a drier atmosphere. The temperature during the resting season should be 50° to 55°, as I find they flower better than when subjected to a low temperature. The foliage should be kept for as long a time as possible, as so doing retards second growth very materially. No syringing is needed until the growths are 1 foot in length, and then only lightly spraying. If this practice be adhered to, no growths will rot off; and I have never known a single instance of their doing so. *James Hobden, Welham Hall, Retford, Notts.*

CÆLOOYNE CRISTATA.

This beautiful winter-flowering Orchid is, as is well known, easy of cultivation, either in small or large pots, shallow pans, or wooden baskets. In the latter it is useful for hanging about in apartments, where it may remain for a considerable length of time without injury, provided much water be not



FIG. 34.—APPLE COX'S POMONA: AS GROWN AT EAST SUTTON PARK.

has been found to carry off too much carbonic acid. A sudden change of water is also mischievous, and added water (whether fresh water to make up for evaporation, or salt water) should be supplied drop by drop."

A BUSH OF COX'S POMONA APPLE.

As most of our readers know, Cox's Pomona is a showy, late autumnal variety, good for culinary, and not unfitted for dessert purposes, and cropping heavily in favourable seasons—at least, in the southern parts of the country. The fruit is rather above the middle size, somewhat oblate, angular at the sides, with protuberances round eye cavity. The skin is yellow, streaked with crimson, and fully-exposed fruits are entirely of the latter colour, marked with patches of darker shade. The flesh is white, tender, juicy, and of pleasant acidity. The habit of the tree is rather sparse and erect, making it an admirable tree for orchards under grass, which are fed off by horned stock. The raiser of this variety and of Orange Pippin was a brewer named Cox, who,

with fairly large crocks and charcoal, and three parts peat and one of sphagnum-moss, firmly wedging in each plant. If any plant does not thrive after flowering, re-basket it. I re-basket the worst of mine every year, and reap the benefit of so doing. Those of my plants re-basketed in 1894 made almost double the length of growth in 1895 that they had done previously. It is essential that the growths should all hang over one side of basket. Put two wires across the corners of the basket to suspend the baskets, and the growths will then hang down as in their native habits. The temperature during the summer should be about 65° to 70° Fahr. Watering is of vital importance, and soft water should always be used. Little moisture is required in the early stages, but as growth proceeds gradually increase the quantity, affording aid to growth by weak liquid-manure made from cow and horse-dung, and occasionally weak soot-water. It is impossible to give the plants too much light; ventilation on the other hand should be carefully applied, and shade afforded by means of roller-blinds. As growth finishes up, reduce the supply of water at the root, and stimulants also by degrees gradually hardening off the plant to a cooler

afforded. When large 60-sized pots are used *Cælooyne*s are useful for dinner-table decoration, or for filling small vases. As cut flowers, there is nothing more valuable for the making of bouquets, their large showy blooms being easily wired and manipulated, and they will withstand the heat of a crowded room for a considerable time without drooping. I find that their cultivation demands, during the summer months, the temperature of the Cattleya-house, but they will grow with other plants in an intermediate-house; and during the early winter months, a temperature of from 55° to 60° must be afforded them. After the new year, they will benefit by being placed in a higher temperature, so as to bring them early into bloom. When grown in large pots or pans, care should be taken to have plenty of drainage materials in the form of clean crocks, and a potting compost of good fibrous peat and sphagnum-moss.

CÆLOOYNE FLACCIDA

should be grown in pots or baskets, the form being handy when the plants have to be employed in apartments. Like *C. cristata*, a native of the lower



zone of the Himalayan range, and discovered by Wallich, it is a mountain plant, indigenous to Nepal, liking plenty of heat during the summer months, and cool treatment during the early winter months. *C. flaccida* grows well in a mixture of fibry Orchid-peat and sphagnum-moss. The racemes are of considerable length, pendulous, and many-flowered. I have found the flowers either on the spikes or wired of use in the making of bouquets, but their odour is rather against them. *B. W.*

## HOME CORRESPONDENCE.

**JASMINE FRUITING**—I have had here a similar experience to Mr. A. Batcher (see p. 205) respecting the fruiting of this old garden plant. A large bush growing on the south side of my house produced several bunches of fruits in 1893, a time when its fruiting was new to me. But fruiting again in 1895, I concluded it was more common than I had imagined, and that I must have overlooked the fact in previous years. The fruits are of oval shape, and quite black, darker even than a fully-ripe black Currant. The greatest number of fruits on any truss was three, but there was no general fruiting of the plant, only a cluster here and there. *E. Jenkins, Hampton Hill, Middlesex.*

**DAFFODILS GOING BLIND.**—It seems to me as if your correspondent "A. D." has misread the mark concerning Daffodils going blind. My previous note was intended to show that the term "blindness" is quite a misnomer, because experience has proved over and over again that no matter what is the treatment the bulbs receive, indoors or out, the flower in some form or another will come out, if it exists within the substance of the bulb. The term "blind" has been used by unscrupulous dealers as a sort of defence for an inferior article failing to flower at all. But if the flower germ had ever been in the bulb, it must come out somehow, for it cannot evaporate into this air. And this same law applies with equal force to a perfectly or imperfectly formed bud, for when growth begins, the bud will follow. It is only the inexperienced who try to rush these bulbs into flower by placing them in a strong heat, and the chief result of it is not blindness, or anything akin to it, but the heat has retarded the flowers, particularly such varieties as are not suited to hard forcing, e.g., the common Lent Lily, *Narcissus biflorus* and ornatus, when put in heat too soon. This is always obvious when at length the flower-spikes come away as the stem is usually crippled. What "A. D." erroneously terms a malady, has nothing to do with disease whatever, and is purely imperfect bud formation, which may occur in the healthiest bulbs when these are under a seed. Most of the largest growers when forcing these Daffodils, put them first into a cold house, having full air on, and then by degrees the house is closed, and eventually heat is applied. The heat is increased when growth is well started. This system has more to recommend it than moving a few tons of soil and bulbs from house to houses twice or thrice. And well-managed market-growers' houses have crops usually marked out for them in advance. *J.*

**FRUIT-FARMING**—I think farmers wishing to try fruit-culture must be somewhat puzzled to know how to proceed, and I cannot agree with either "A. D." or "W. P. R." as to planting. It is no use advising a man how he is to invest his money when he has not any. In the first place, if the capital is non-existent, how can he obtain the labour to gather in his crops? And the next question is—How far is the land from a railway station? If the land suits both, I should plant top-trees, with bushes between, at 5 feet apart, the top-trees being 15 feet apart. Apple trees of three years old, with every root cut back, very rarely form tap-roots; and the removing of some varieties, not only stops all growth for a season, but the fruits which come are deformed for several years in some instances. With Plums the case is different, and I prefer lifting to root-pruning them. On heavy land, instead of digging holes and filling up with good soil, I should prefer to plant nearly on the top, and use the good surface-soil to cover the roots with. In most cases the steam-cultivator should be used to break up the land, it being the best and cheapest implement. Two, or at most three, varieties of Apples, three of Plums, two of Gooseberries, are enough to plant, and I strongly advise Pears being left out. I have found Gooseberries to pay the best

of all kinds in the long run, and manuring to be the more effectual if applied as soon as the fruit is gathered. *W. C. Smythe.*

—I do not think "W. P. R." can have had much experience in lifting four-year-planted fruit trees, and re-planting them, doing so carefully, or he would not assert that the next year they would bear no fruit; as that is so very wide of my experience, if the trees have previously set fruit-buds. If they have not, no other treatment will induce them to produce fruit next season. Such a careful lifting and re-planting done early in the autumn, forms the very best methods of root-pruning. But again, "W. P. R." seems to be just as much at sea with respect to the objects of root-pruning. In this case the work needs to be performed only when the trees make gross growth and become fruitless. To check that exuberance, lifting is the best corrective, re-planting immediately; or when that is not practicable, then systematically root-pruning. But to assume that such root-pruning is furnished by the opening of a deep trench between the rows of trees for Celery, turning into it a specially heavy body of manure, finally earthing-up the plants, and then cutting down a smooth perpendicular trench of soil 3 feet from the trees, and above all things, during the particular season of root-activity, is indeed a strange proceeding. Why, the effect is to drive the tree roots deeper into the soil, and to send them beneath the trench thus made by the Celery earthing, to feed grossly, too, on the manure under the Celery plants. Again, what becomes of such assumed root-pruning after the Celery is removed, and the soil levelled? Why, the roots redouble their feeding force, and the last care of the trees is far worse than the first. Plant Strawberries or sow Spinach, or other shallow-rooting vegetable crop, if you will, but spare the trees such extraordinary treatment as is found in the root-pruning through the aid of Celery culture. *A. D.*

**RULES ON JUDGING**—We, the gardening fraternity, are much indebted to the committee of the Royal Horticultural Society for the effort put forth in framing a code of rules for judging, and suggestions to exhibitors-makers for adoption by horticultural societies. Promoted under the best auspices, and formulated by men of the greatest eminence in horticulture, such a code ought to be accepted, and its rules universally honoured and obeyed. That this happy consummation might be reached, the committee have invited suggestions of improvement, and the correction of errors, which in the initial circumstances, could scarcely be avoided. Granting me a very small space, I would draw the attention of the committee and others interested to paragraphs 49 and 50—judging miscellaneous collections of fruit. The relative importance of the various kinds is set forth in a scale ranging from ten to three points, these figures being the maximum number of points a lot is in competition for a perfect dish of its kind, with the exception of Grapes, which I notice further on. I find no fault with the proportion relatively between the kinds, but I fail to see how the value of the two factors could be allocated during a judication. If all the opposing dishes in competition consisted of the same kinds and varieties, it would be a simple matter to accord full value to each if perfect; but how few dishes do we find in collections in that condition! Then anything short of perfection—a term not easily defined—would be reduced by, say, one or two points, and no person but the judge would know whether the reduction was due to a defect in cultivation or to his estimate of relative value. Cultural and natural or relative value, being two distinct elements should be estimated separately, and the value recorded in different columns. That the skill of the cultivator be appraised at its proper worth, the relative value should be estimated at a mere fraction, say, one-quarter, one-fifth, or one-sixth of the cultural value. In my opinion, the committee have failed in settling a most important and pressing question, which has been a trouble to exhibitors and judges for many a day. In dealing with single specimens of vegetables, plants, and flowers, relative value is strongly in evidence—too much so for some people—for what is "quality," "intrinsic worth," and "difficulty of cultivation" but some of the factors which constitute relative value? In regard to the Grapes, Muscat of Alexandria is allowed ten points—how much of this is relative value? other white and black Grapes nine points, thus placing the best varieties of black on an equality with the coarsest varieties of white. This

is certainly an oversight. Hamburgh and Madresfield are of far more value relatively than Trebbiano or White Nice, and a list of the varieties generally cultivated, with their relative importance, is an omission which no one would have anticipated. I think the general opinion will be in favour of a revision of the method of judging, and a standard of relative value fixed, especially applicable to mixed collections, where it is most needed; then we may expect to see judgment administered according to law. *Judea.*

**FREESIAs.**—Mr. Gumbleton writes:—"After more or less patient waiting for nine years, some bulbs sent me by Professor Foster as *Freesia refracta*, true, the type form figured by Redouté in vol. vii. of *Les Liliacées*, t. 419, as *Gledicius refractae*, are at last going to bloom with me for the first time, much to my joy, as I really hardly ever expected to see them. From the picture, the flower is most certainly a *Freesia*, but the foliage is much more narrow, and altogether different in appearance to that of the ordinary *F. Leichtlinii* form, or any other I know, and I think I have now in my collection all the varieties that are in cultivation, or that I have ever heard of—some eleven or twelve in number. The Professor's plant also differs from all other *Freesia*s in its slowness of increase, as when any other kind, of which six bulbs sent me in '87 would by now have stocked at least a dozen pots for me; of this, I have still but the original one pot, the bulbs having slowly increased in size, but hardly, if at all, in number. The white *Freesia* is commonly known as *refracta alba*, but has, I think, no right to the name of *refracta* at all, being only an albinism of *F. Leichtlinii*."

**TIMBER OF THUIA GIGANTEA.**—Your correspondent (p. 200) is wrong in supposing that the timber of the giant *Arbor-vitæ* has not been introduced to this country. Further—thanks to Professor Macconn, I was enabled to compare home-grown with imported timber at the late Colonial and Indian Exhibition, a full account of which was given in the *Gardeners' Chronicle* at the time. *A. D. Webster.*

**PARSNIPS AND PIPES.**—I send you a photo of a Parsnip that was grown in co. Armagh. You will perceive that the seed must have settled upon the bowl of a clay tobacco-pipe in which there was a hole, which allowed the roots to pass into and through the bowl. The Parsnip is now, of course, much shrivelled, but when it was fresh it was much swollen above and below the pipe. *Thos. Carroll.*

**POTTING SOIL.**—So great is the quantity of this material consumed in some of the large plant-growing establishments, that it is difficult for townfolk at times to find suitable soil. Sometimes builders drop upon good stuff in excavating for buildings on an old pasture, but very much depends on the texture of such soil. I saw recently at one of these establishments a heap of some 300 loads of what seemed to be a perfect yellow loam, the furves 6 inches thick, and full of fibre. This was an unusually good piece; but it so very frequently occurs that the soil though full of fibre, is yet very loose or sandy, and has little cohesion. Still, the best has to be made of everything, and nothing is wasted. Soil is often used over again; what has served for *Chrysanthemums* or other soft-wooded plants after lying for a year or more in a hop-biog mixed with one-third fresh soil and some well-rotted manure, is used again for *Petuniums*, *Tomato*, or other things. Soil from *Roses* or other hard-wooded plants that may have been in use too long, serves for top-dressing, but it is poor stuff for re-potting. The requirements of an ordinary private garden seem hard to meet, but what must be the demand when the glasshouses cover vast areas, filled with plants, whose numbers are reckoned by hundreds of thousands—and where cut flowers are extensively produced, and the pots are large also. It is also not one, but hundreds of these market establishments within easy distance of the metropolis that have to be served with good soil. What hope is there that over any material can become a proper substitute for good yellow tarry loam? *A. D.*

**HARDY FERNS IN EXPOSED POSITIONS.**—I have read with much interest the extracts from Mr. J. D. Nares' paper on "Wild Gardens and Pleasure-Grounds," which appeared on p. 107, in which I was very glad to see that he recognised the value of hardy Ferns in that connection. I cannot help thinking, however, that a slip of the pen has occurred in the sentence, "There is no place

too bleak or exposed for them." True, we find many species holding their own in bleak and exposed situations, and thriving there in a certain rugged fashion, just as we may find old walls covered with *Cerastich*, *Scelopendrium vulgare*, and several species of *Asplenium* by the sides of wind-swept and dusty roads, and subjected to conditions of drought which render their existence there a marvel. If, however, we turn into a shady, sheltered lane, where precisely opposite conditions obtain, instead of small stunted plants with little or no beauty to recommend them, we shall find even the sun-loving *Cerastich* twice or thrice the size, while the Hart's-tongue will be represented by grand specimens, with fronds a foot or two long; *Asplenium*, *Adiantum nigrum*, a foot high, and every other species we may have observed enhanced in beauty as well as in size in a similar fashion. Passing along a nondescript moorland path we shall probably find robust clumps of *Luzula* and *Athyrium* lining the wayside in profusion; and as regards vigorous health, I grant there may be no fault to find, but wait until we come to a secluded glen, roofed in by trees, and even in the roughest gale, the home of nought but gentle zephyrs. It is here, and here alone, that the lady and male Fern, broad mountain Buckler Fern, Hard Fern, and others are seen in their true beauty and full development. The same observations apply with equal force to exotic hardy Ferns, since the whole family, with such few exceptions that they may be ignored in this connection, revel in shady nooks and conditions of constant aerial humidity, which even in the more favoured spots in our British Isles, a "bleak and exposed position" debars. If, then, this be Nature's teaching, in connection with the normal forms to which Mr. Nancarrow's observations apparently refer, and which, as a rule, are more robust in structure than the varieties, how much more does it apply to such wonderfully delicate forms as are many of our best plumose and crested types, which are no more fitted to stand bleak winds or exposed positions than a lady's ball-dress is suited for a cross Channel passage in a south-westerly gale—rags and tatters in both cases would be the result. "Nothing," as Mr. Nancarrow truly says, "can be more graceful or refreshing to the sight than a collection of healthy Ferns, and one need never tire in admiring the individual beauty peculiar to each separate variety," but to arrive at this we must supply conditions to fit, and those, according to my experience, are essentially such as ensure constant protection from bleak winds and exposure to the sun. *Chas. T. Drury.*

**CACTUS DAHLIAS.**—Your correspondent, "A. D.," p. 131, says that Cactus Dahlias are scarcely effective as garden plants—a statement which is scarcely correct; whereas, they are in my opinion the most elegant of the Dahlia family. It is true that some varieties, having delicate and beautiful colours, hide their flowers in the foliage, such as Countess of Goring, Countess of Radnor, Delicate, Kynerith, and others of that type, but there are plenty of varieties which throw up their flowers on strong foot-stalks, after the manner of *Matchless*. Most of the varieties named by your correspondent have good points, but some of the older and less expensive varieties are equally good as decorative plants, and for furnishing flowers for cutting, vases, &c. Among the best that I myself have grown are *Juarez*, *Mrs. Hawkins*, *Lady Matham*, *Marchioness of Bute*, *Apollo*, *Gloriosa*, *Kaiserin*, *Matchless*, *Duchess of York*, *Canon Hole*, *Crasley Gem*, *Beauty of Epsford*, *Bertha Mawley*, *Lady Penzance*, and *Sir Roger*; which latter, of the type of *Bertha Mawley*, has a small flower set on a stiff foot stalk, admirably adapted for filling flower-vases. New varieties of the type of *Matchless* are not plentiful, and can be obtained only by a long course of selection running through many years. The fine autumn of 1895, so favourable for crossing and seed production, should afford some advances in the decorative section of Dahlias. *R. M., Newbury.*

**THE PENTSTEMON.**—I saw a very fine strain of *Pentstemon* last summer in the gardens of Barford Lodge, Dring, the residence of Sir Trevor Lawrence, Bart. Mr. Bain was very proud of his bed, and he certainly had much reason to be so. They were, to all appearance, plants which had stood out all the winter, the soil being fairly dry, and the position a somewhat sheltered one. Or the plants might have been grown on from cuttings struck at the end of the previous summer, though I should think, from their size and vigour, they were seedlings. In the middle of July they were in full bloom, and it is no cause for wonder that they attracted a great deal of attention from visitors. The naming of fine varieties of *Pentstemon* is still followed in

Scotland and in France, but seminal varieties from a good strain are now so fine that there is scarcely a necessity for naming. Anyone contemplating raising seedlings would do well to obtain, say, half-a-dozen good named varieties. Secure some seed from these and raise seedlings, and it is certain something very fine will come from them. Seed may be sown in heat in the early part of February, and as the seeds quickly germinate, plants are soon obtained, and these, if pricked off into boxes and kept in warmth until established, and placed in a cold frame in April and May, may be planted out in a well-prepared bed in July. A few of these would probably bloom the same season, and if the plants came through the winter in safety, they would bloom very finely in June and onwards. And not only is the *Pentstemon* free of bloom, but it is also remarkably continuous. The main spike is the first to be lined with blossoms, and in the case of well-grown plants it is long, dense, and striking; and then the side shoots follow suit, thus maintaining a succession. The *Pentstemon* does well in a good sandy loam, provided it is not too moist, as then the plants are apt to suffer from frost, as they certainly did in the heavy, moist, sandy loam at Bedford, which is on the verge of the Thames Valley. Last winter played havoc with many strong plants, the frost being very severe when they were in a soft, green state; so, for this reason, I recommend a fairly dry position in preference to a wet one, and, though drought would probably affect the plants somewhat, they can be kept in vigour by watering them. Propagation of any particular variety of the *Pentstemon* can be done by dividing the roots of a strong plant, though when such divided plants bloom, they are rarely so effective as are seedlings or those obtained by means of cuttings. Cuttings may be made from shoots put up from the roots at the end of the summer, as these do not, as a rule, flower the same season. If placed in pots of well-drained sandy soil, and kept in a cold frame, they make roots, and when potted-off in early spring, soon grow into a good size for planting out. I have got small plants of rooted cuttings from Scotland in May, and with a little attention they have made fine plants by the end of the summer. A good start can be given to rooted cuttings kept through the winter in store-pots, by potting them singly into small pots, and affording them a start in a gentle heat. It is also possible, as a matter of precaution, to lift in the autumn some of the finest seedlings, potting them, wintering them in a cold frame, and then by placing them in gentle heat in the spring, young growths can be secured for making cuttings, which strike freely in a moist heat. In some parts of the country *Pentstemons* are exhibited as cut flowers, though it is only rarely one sees them forming a clump of themselves. But a bunch of spikes of a good variety has a bold and striking effect in a collection of bunches of hardy flowers, and is often found there. The variety employed should be fine in quality, the spike long, and well furnished; the corollas standing out nearly or quite horizontally from the stem as those of some of the milder varieties do—and then a good effect is secured. The *Pentstemon* is deservedly one of the most popular of our hardy perennials. *R. D.*

**BOXES FOR USE ON THE GREAT EASTERN RAILWAY.**—In the *Gardeners' Chronicle* of February 8, p. 165, "D. T. F." speaks very highly of the "cheap" boxes as supplied by the Great Eastern Railway Company for supplying the public with garden produce, &c. Will he be kind enough to say what kind of produce anyone would be likely to send in such frail boxes? I have seen them, and should not like to trust anything very valuable in them. The No. 4 size—length 16½ inches, breadth 11½ inches, depth 5½ inches—are made with the ends half an inch thick, the sides, bottom, and lid, only one-eighth of an inch thick, with bottom and lid in two pieces. This will give most people an idea of the stoniness of these boxes; and they must not be corded, simply nailed down—but anyone, I suppose, may have boxes made stronger, but they must keep to the size; therefore, they would be useless for almost any kind of fruit that required packing. I doubt if they would be even safe enough to send such things as Asparagus. It is no doubt a step in the right direction; but some information from the real growers and packers would prove useful to other companies who may contemplate trying the scheme. *J. H.*

**THE LARCH DISEASE.**—The following from Mr. A. C. Forbes' letter in your issue of February 8,

p. 167, col. c, is somewhat misleading:—"The disease, *per se*, is no more harmful than dozens of other parasitic diseases which we rarely hear mentioned, though common enough. There is probably scarcely a single plantation of Larch in the United Kingdom which does not also contain *Peziza Wilkommii*, the only difference being that where the conditions are favourable to the healthy growth of the trees the disease keeps in the background; where the conditions are unfavourable, the disease spreads rapidly, and gets the upper hand. We have been informed that the disease is unknown in Ireland." You may be surprised to learn that there are some foresters and nurserymen who do not know the real Larch disease when they see it, but I would not have supposed that Mr. A. C. F. was one of these; yet the above passage makes me doubt. There is no timber tree disease in this country which causes such wide-spread and wholesale destruction as the Larch disease (canker), and in that respect it may be compared to the Potato disease among vegetables. That culture and situation cannot prevent the Larch disease, nor greatly modify it, as Mr. A. C. F. suggests, has been proved beyond dispute. I had the very same argument sent me by a well-known nurseryman only the other day, and by return of post referred him to one of the very worst examples of the disease in England in a plantation made from his own nursery under the most favourable conditions possible. The Duke of Athol's woods are referred to by your correspondent. I knew the late forestry factor there well, Mr. John Macgregor, and he told me what he told the Forestry Committee, as given in the Blue-book, that there was hardly a Larch plantation in Scotland of recent planting but was badly diseased; and that Larch was now quite unsafe to plant. Will Mr. A. C. F. name one single disease in timber trees that can compare with the Larch disease for general destructiveness? If there be "dozens," he should surely find one. The Larch disease has often been confounded with several other ailments of the Larch that are not particularly common or destructive, hence such statements as the one quoted above. Veitch's recently published *Manual of the Conifere*, professes to deal with diseases, and of the Larch disease there described he says, "it is quite possible to prevent;" and I strongly suspect this is Mr. A. C. F.'s Larch disease also. But, unfortunately, Veitch's Larch disease is not the true destructive Larch disease at all—pp. 31 and 128. The disease there described is called "Larch rot," which "destroys the heart-wood," and "is generated on the roots of felled trees, whence it spreads to the roots of the living plants." That is not the Larch disease, nor is it a very common complaint, whereas the true disease is everywhere. I had a letter quite recently from a nobleman and extensive planter in Wales, who writes that the real disease is so bad on his estates, and others, as to have practically "paralysed Larch planting;" and if Mr. A. C. F. thinks he can assist him, I can give him his address—I have given it up. As to substitutes for the common Larch, they do not seem to have been earnestly sought for yet. What about the Japanese Larch? The descriptions given of it hitherto are wrong, and no one seems to know anything about it. What about the American Larch—two noble varieties—which do so well on the cold elevated regions of the eastern states and in Canada, and the timber of which is un surpassed? The existence of these trees is practically unknown to our forest-tree raisers, who, nevertheless, continue perseveringly to sow diseased Larch, and try to "stuff" their customers with the tale that the disease is a mere matter of culture and situation, and not at all so general as it is said to be, &c. I have read three communications. The disease is as bad in Ireland as in England. *J. S. W.*

**HARDY RHODODENDRON.**—As evidence of the very mild weather experienced this winter, I noticed, on a visit to Wingerworth Hall, Chesterfield, on February 7, two large bushes of Scarlet Rhododendrons in full bloom, each carrying about three dozen trusses; the flowers were perfectly developed, and formed a remarkable contrast with the surrounding leafless trees. The bushes were planted in the shrubbery, and not more protected than their neighbours. I was informed by Mr. Burke, the head gardener, that he decorated the dinner-table with flowers cut from the same trees in the middle of January this year. *J. Clayton.*

**ARAUCARIA CONES.**—Enclosed you will find a photograph of a cone produced last year (1895) by a fine specimen of *Araucaria imbricata* growing in

the grounds of my sister's house. Wansfell Holme, Windermere. Her gardener, Mr. Rothery, forwarded the cone to me, and informed me that it was one of a pair, and he seems to think that this is the first instance of the *Arancaria* producing female cones in the district. Both cones have been carefully examined for fertile seeds, but none could be found. No doubt this infertility has arisen from the fact that no male catkins were visible on the tree. The tree which bore the cones is a peculiarly distinct-looking variety, as it has extremely broad foliage, and is a very handsome specimen, being about thirty-five years old, and upwards of 65 feet in height. *O. O. Wrigley*. [The production of such cones is not very uncommon in the south. Fine specimens were figured at p. 593, November 22, 1890, vol. viii., and Supplement for same date. En.]

## HORTICULTURAL BUILDINGS.

THE erection of vast areas of glass-houses for horticultural purposes, especially market-garden pursuits, which has taken place during the last few years in many parts of the country, and in the London district particularly, must have caused a large extension in the horticultural timber trade, beside creating an increased demand for glass. We were reminded of this recently by an inspection of the establishment of Mr. W. Duncan Tucker, in the Lawrence Road, Tottenham. A development has apparently taken place in this business almost or quite equal to that which has occurred in that of the market growers, and to which we have frequently called attention. In December, 1894, there appeared a small paragraph in the *Gardeners' Chronicle* to the effect that the business works had suffered from a fire, which practically destroyed them. The business was afterwards carried on upon temporary premises, and no time was allowed to pass before energetic measures were taken to erect new works upon the site of the old ones. These have been completed during the present winter, and in such an efficient manner, than an outsider might be disposed to think a destructive fire was not without its compensations. The following brief notice of the principal details may be interesting. The main building is 150 feet long by 100 feet wide, and along both sides are galleries upon which the doors, &c., are put together, and various light work carried out. By means of a platform at one end, a tour may be made round these galleries, which are lighted from glass doors which run along the extent of the building. The whole area is covered by a capital iron roof which is said to have involved the use of nearly 100 tons of iron. It is splendidly lighted, and as fire-proof as such a place can be made, and the boiler-house has been advisedly kept apart from the building. To drive the machinery, there are two engines of 25 h. p., and these are fed by two Cornish boilers capable of working at 90 lb. pressure. All the shafting is underground, and at one side where the chips of wood fall from the machines, an ingenious arrangement ensures their prompt removal to the point nearest to the boiler-house. There are three distinct entrances to the saw mill, and at the main inlet the transfer of logs to the table is facilitated by an overhead traveller. The newest machines have been obtained, and every possible device for labour-saving adopted. There are immense facilities for storage, and no excuse, therefore, for using unseasoned wood. The visitor may see operations going on in the various stages of the manufacture of doors and window-frames for greenhouses, sash-bars, end and division rafters, end and side plates, pitlights, bottom and top rails, ridges, eilées and seats, and various other "parts," according to the work of the moment. These are chiefly made from pitch Pine, a wood which Mr. Tucker thinks the most suitable for the purpose. The extension of the business has been mainly in the working and supplying of timber for horticultural purposes, and in the erection of glasshouses and conservatories, but a trade is also done with general builders and contractors. Some large nurserymen, such as Mr. Thos. Rochford and others, who have always to keep a certain number of skilled hands upon the place, prefer to erect their houses themselves, and are the

customers for "parts" only. The supply of these to the different firms of Rochford for some years past has been almost a business in itself. Others, and, of course, the majority, purchase the houses completed, and in these cases they are first erected at the works, and then sent in parts to their destination. We were informed that it is intended to yet further develop the branch dealing with the erection of ornamental hot-houses in private gardens, now that the works have been rendered so efficient. The growth of the work may be calculated when it is known that Mr. Tucker, who in 1881 took to the business originated by his grandfather, at first employed but little labour, and that since that time he has frequently had as many as 250 pairs of hands in his service. In estimating the importance of horticulture, its beneficial effects upon allied trades should never be overlooked.

## Obituary.

ROBERT FARQUHAR.—Many of our readers will regret to learn of the death, at Aberdeen, which took place on the 12th inst., at the age of seventy-five



years, of Mr. Robert Farquhar, late head gardener at Fyvie Castle, Aberdeenshire. Mr. Farquhar was a well-known and highly respected man. A native of Aberdeen, he served his apprenticeship as a gardener at Cluny Castle, Aberdeenshire. After serving the usual three years he came back to Aberdeen, and entered Messrs. Roy's nurseries. From this he went to Thainston. His next place was at Woodhill, Aberdeen. He then engaged as chief gardener to Mr. George Forbes of Springhill, whence he went as journeyman to Caenwood in Middlesex, the seat of the Earl of Mansfield. After staying there for some time, Mr. Farquhar returned to Aberdeen, and acted as head gardener to the late Mr. Charles Runcy, Millbank, where he remained five years. His next situation was at Aden, Old Deer, the residence of the late Mr. James Russell. On leaving Aden he went for a second time to Millbank. Subsequently Mr. Farquhar was appointed head gardener at Fyvie Castle, then the property of Mr. William Cosmo Gordon, where he remained continuously for forty-three and a half years, serving under five different proprietors. During that time the number of greenhouses increased from one to twenty. In all matters relating to hor-

ticulture he took a keen interest, and as an exhibitor at shows his name was well and favourably known over a wide district. On account of failing health, he retired from his post at Fyvie Castle, in 1890. Mr. Farquhar had a high opinion of America as a field for young gardeners, and it was his wont to render every assistance in his power to young men desirous of emigrating thither. Three of Mr. Farquhar's sons are now the owners of one of the largest seed businesses in Boston, U.S. An autobiographical notice of Mr. Farquhar appeared in these pages on July 31, 1875, to which we would refer those of our readers who may be interested in the career of a very excellent gardener and estimable man. Our portrait of the deceased depicts him as he appeared at that time.

JOSEPH CHEAL passed away on the 18th inst., in his ninety-sixth year. In October last, when we had occasion to visit the nurseries of Messrs. J. Cheal & Sons, near Crawley (of which the deceased gentleman was founder), we had the pleasure of a few words with this patriarch among nurserymen, who could talk of men and customs in connection with farming and horticulture comparatively unknown to the present generation except as related history. His genial presence had a peculiar fascination, and his manner was intelligent and pleasant. It surprised us greatly to observe that although he had been unable to get about much latterly, many of his senses were still unimpaired, that of hearing being particularly good. Mr. Cheal was a wonderful man at such an age, and during the greater part of a very long life he was an energetic and upright business man, of temperate and industrious habits. The business has long since been controlled by the deceased's two sons.

## SOCIETY.

### EDINBURGH BOTANICAL.

FEBRUARY 13.—A large number of members of this society met at 5, St. Andrew Square, Edinburgh, on the evening of Thursday, the 13th inst., the chair being taken by Dr. W. CRAIG.

MR. R. STEWART MACDOUGALL, B.Sc., exhibited larvae of *Sirex juvenus* (the Pine-wood wasp), also imago and larvae of *Rhagium bifasciatum*, with specimens of timber damaged by them. Mr. Macdougall gave a very interesting account of the life histories of these pests, and the large amount of damage they were capable of doing. An account of Australian and other foreign trees and shrubs, cultivated in Arran in the open air without protection was read by the Rev. David Landsborough. This gentleman, who has from time to time communicated notes upon this subject for many years, mentioned a large number of plants of temperate regions capable of being grown in Arran, pointing out those that had been injured by the severe frosts of 1894 to 1895. In this communication it was stated that the temperature at Lamash during the above years showed on comparison of February 9, a difference of 22° F. from that of Glasgow; while in summer, the temperature in Glasgow rose 3° higher than that at Lamash. *Chamaerops* (*Trachycarpus*) *excelsa*, *Dicksonia antarctica*, *Cyathea dealbata*, *Rhododendron arboreum*, and many others were uninjured by the severe frosts of last winter. *Dicksonia squarrosa*, *Edwardsia grandiflora*, and others were killed, some others losing their leaves, or being more or less injured.

MR. LINDSAY (Curator) gave his report on vegetation in the garden, referring to the remarkably mild weather experienced during January. The meteorological observations carried out at the Royal Botanic Garden by Mr. A. D. Richardson contained the following items:—Barometer at 32°. Highest, 30.985 inches, at 9 A.M. on the 9th; lowest on the 15th, being 28.848 inches; mean, 30.137 inches, or 0.398 inch above the average for January for five preceding years. Thermometer (protected):—Highest, 54.1°, on the 27th; lowest, 22.8°, on the 23rd; mean of the month, 41.3°, being 5.7° above the average for January for five preceding years. Frost occurred on six days.

The highest point registered by the radiation thermometers in the sun was 87.7° on the 28th; lowest on grass, 10.8° on the 23rd. Frost occurred on the grass on thirteen days. Total amount of sunshine recorded for the month was thirty-five hours twenty minutes. Not any was recorded on fourteen days. Rainfall: rain fell on seventeen days. Total rainfall, 0.790 inch, which is 0.497 inch below the average for January for five preceding years. The greatest fall, 0.170 inch, was on the 26th.

MR. R. L. HARROW read the usual notes on plants of interest that flowered during January, and exhibited *Madeoallia Hinckeliana*, *M. leontoglossa*, *Saccolobium bellinum*, *Brassavola grandiflora*, *Tecoma Smithii*, and other plants from the greenhouse of the Royal Botanic Garden.

OUR POULTRY.

By HARRISON WEIR.

(Copyright.)

(Concluded from vol. xxiii., p. 784)

The Dorking may also be crossed with the Malay, especially with those of a light colour, some of which have white or nearly white legs. Generally, the Malay is too long in the leg and coarse in bone, but put with very short-legged Dorkings, several of the chickens will prove to be good table-fowls though others less so, for it must be clearly understood that in all cross-bred fowls there is a great variation, some chickens taking after one parent, and some the other, while a few will represent both. The produce of this cross is fairly hardy, but as a table-fowl it is no gain on the Dorking.

A useful and handsome fowl may be got by crossing the golden or silver Wyandotti with the Dorking. In this case it is best to use a cock of the former with a hen of the latter breed, the cock one year and the hen two years old. Of course, the bones are larger and the offal more than in the Dorking pure and simple, but generally the chicks are hardy, rich coloured, with white legs and feet, and they mostly have five toes. I prefer this cross to that with a B.rahm, being of a finer quality of flesh, and generally a fuller breast, with a thinner skin, and they come to maturity somewhat sooner than the Dorking. This cross lays tinted eggs.

Next, the well-known Bramah cross is worth attention, from the fact that they are often ready for the fattening-pen earlier than the last, and are found suitable for market purposes in consequence. Many of the "so called" Sussex and Surrey fowls are bred in this way. They are large in bone, and though fattening quickly, still there is much waste in the way of internal fat and large abdomen. They generally have white legs and feet, and the bones are not so fine as those of the Dorking. Bramah hens and Dorking cocks are mostly used.

Also in some districts many of the small farmers keep a rough kind of buff Cochins, square and with very short legs, to cross with a Dorking cock. There are two reasons for this: one is, that the Cochins lay all the winter months a saleable richly-coloured egg, and, as a rule, wants to sit early in the year, thus producing early chickens, which, for market purposes, is by far the most profitable; and another point in their favour is, the chickens are hardy, and the hens good mothers. They fatten readily, though mostly deficient in breast meat, while the legs are large and coarse, and there is much inside fat. Many of the Heathfield, Waldron, and Uckfield "crammed" market fowls are of this kind. I am certain that when the public understand what a really good table-fowl is, there will be "no sale" for such as these. A far better cross as regards firmness of flesh and proportionate shape, may be got by using an old English white-legged game-cock instead of the Dorking. This cross produces a handsome bright coloured bird, and an early one, though not so good in breast-meat as the pure Dorking.

Some market poultry-breeders prefer white Cochins to the buff, being of opinion that they are thinner-skinned, and thus present a better appearance; but the difference in this respect is very little. The chickens of the Dorking and Cochins cross do not feather very readily, but those crossed with the old English game are the quickest and more hardy.

Again, where coloured eggs are in request, the pure Langshan hens are kept, being very excellent winter layers, now surpassing the Cochins, and the eggs often being of a rich mahogany colour, varying to a pinkish buff. With these, the coarse long-legged varieties should be strictly avoided, as they are not nearly so profitable, fertile, or of such early maturity as those with medium or short legs. I much prefer what is termed the "Cobby" square-made birds, and those of Miss Croad, of Poling, Arundel, to any, being of the pure breed from imported birds; and it is of great importance in "a cross-breed" that both parents should be "pure-bred," otherwise, your chickens may come of many shapes and colours. With these Croad

Langshans I have crossed the old English game-cock with much success as table-birds, thus getting the dark-shelled eggs with the fine white-meat breast of the Langshan, and the excellent proportions and qualities of the game in the chicken. I have a couple of pullets of this cross now; they are not large, but very plump and good, though not quite white legs. One cockerel bred this way has white legs. I do not believe in the long-legged, storky Langshans, as patronised by the Langshan Club, and have withdrawn from being a honorary member of it, as I cannot uphold such as representing the useful, well-made Langshans, imported by Miss Croad and others, but either cross-breeds, or wrongful selections.

The Langshan crossed with the so-called Indian game, makes a good table-fowl, but the breast-meat is dryer, and shorter in texture than that of the old English game-cross, this latter "finishing" better, not having so much inward fat and offal. But as an all-round, dark-legged, brown-egg layer, with good white flesh, there is none that I know of to beat the pure Croad Langshan, as got direct from the importer.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.				No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.		
	Above (+) or below (-) the Mean for the week ending February 15.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.					Below 42°, difference from Mean since December 29, 1895.	Miles (+) or less (-) than Mean for the Week.
0	7 +	21	3 +	53 -	185	7 +	36	9.5	4	8
1	8 +	28	4 +	40 -	128	5 -	24	2.1	14	20
2	7 +	27	3 +	41 -	124	4 -	18	1.4	10	15
3	4 +	30	17 +	28 -	119	4 -	21	1.8	29	18
4	5 +	31	11 +	45 -	146	5 -	18	1.3	23	16
5	4 +	29	11 +	31 -	121	5 -	17	1.3	24	15
6	7 +	29	0 +	59 -	136	7 -	30	4.9	13	12
7	5 +	37	4 +	70 -	145	4 -	23	2.9	17	14
8	4 +	32	5 +	48 -	88	8 -	20	2.3	28	19
9	5 +	27	1 +	68 -	116	6 -	26	3.4	12	15
10	3 +	34	7 +	78 -	93	8 -	21	3.1	34	18
*	3 +	40	0 +	63 -	59	6 -	22	1.9	51	23

The districts indicated by number in the first column are the following—  
 0, Scotland, N.; 1, Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.; 6, Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending February 15, is furnished from the Meteorological Office:—

"The weather was fine and dry over the Kingdom as a whole, but some fog or haze was experienced at times. In the extreme north and north-west of Scotland, however, rain was rather frequent, and at times heavy. Thunder and lightning occurred at Gilerux (near Maryport) on the 10th.

"The temperature was much above the mean, the excess ranging from 3° in the Channel Islands and Ireland, S., to 7° in 'Scotland, N. and W. and in England, N.W.,' and to 8° in 'Scotland, E.' The highest of the maxima were recorded either on the 11th or 12th, when they ranged from 59° in the Channel Islands and England, S.W., to 58° in 'England, S., Scotland, W., and Ireland, S.,' to 54° in 'England, N.W.' The lowest of the minima were registered on rather irregular

dates, and varied from 27° in the Midland Counties and England, S.W., to 34° in 'Scotland, E. and the Channel Islands,' and to 37° in 'England, N.E.'

"The rainfall was considerably more than the mean in 'Scotland, N.,' but, much less in all other districts. Over the greater part of 'England and Ireland' the fall was scarcely appreciable, but, at many stations measurable quantities of water were deposited in the gauge by the humid fog which prevailed at intervals.

"The bright sunshine was more prevalent generally than during the preceding week, but, was as a whole, below the mean value. The percentage of the possible duration ranged from only 4 in 'Scotland, N.,' 10 in 'England, N.E.,' and 12 in 'Ireland, N.,' to 29 in 'England, E.,' 34 in 'Ireland, S.,' and 51 in the Channel Islands."

MARKETS.

COVENT GARDEN, FEBRUARY 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Ferns, various, doz. 5 0-12 0
Arum lilies, per doz. 6 0-9 0	Ficus elastica, each 1 0-7 6
Aspidistra, per doz. 12 0-30 0	Foliage plants, doz. 12 0-24 0
—epicema, each 5 0-15 0	Hyacinths, per doz. 6 0-9 0
Azalea, per plant ... 2 0-3 6	Lilium Harrisii, per dozen pots ... 18 0-36 0
Cineraria, per dozen 6 0-10 0	Marguerite, p. doz. 6 0-12 0
Cyclamens, per doz. 9 0-15 0	Mignonette, p. doz. 6 0-9 0
Daffodils, per 12 pots 6 0-9 0	Palms, various, ea. 10 6-34 0
Dracæna, each ... 1 0-7 6	—various, doz. 12 0-24 0
—various, p. doz. 12 0-24 0	—specimens, ea. 10 6-34 0
Ericas, various, doz. 9 0-24 0	Primula sinensis, per dozen ... 4 0-6 0
Evergreen Shrubs, in variety, doz. ... 6 0-24 0	Tulips, doz. pots ... 6 0-8 0
Ferns, small, doz. ... 1 0-3 0	Spiræas, per doz. ... 9 0-12 0

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Aiums, p. 12 blooms 2 0-4 0	Orchids:—
Azalea, 12 sprays ... 0 6-9 0	Cattleya, 12 blms. 6 0-12 0
Bouvardias, per bun. 0 6-1 0	Odo. longissim. 3 0-6 0
Carnations, 12 blms. 1 0-3 0	—crispum, 12 blms. 3 0-6 0
Daffodils, double, doz. bunches 3 0-6 0	Pelargonium, 1st, per 12 bunches 4 0-6 0
—single, 12 bunch 4 0-12 0	—per 12 sprays ... 0 8-1 0
Eucharis, per dozen 3 0-5 0	Polyethrums, 12 bun. 2 0-4 0
Gardeois, per doz. 4 0-8 0	Roses, Tea, per doz. 1 0-3 0
Hyciothis (Roman) 12 sprays ... 0 4-0 8	—coloured, p. doz. 2 0-4 0
—per doz. spikes 2 0-4 0	—pink, French, doz. 3 0-4 0
Lepageria, 12 blms. 0 6-1 6	—yellow (Maréchal), per doz. 4 0-9 0
Lilac, French, p. bu. 3 0-5 0	—red, per dozen 6 0-9 0
Lilium Harrisii, bu. 4 0-6 0	—Saffrao, French per doz. 2 0-3 0
Lily of the Valley, per doz. sprays ... 0 6-1 0	Securidrops doz. bun. 0 6-9 0
Maidenhair, Fern, per 12 bunches ... 4 0-8 0	Stephanotis, 12 sps. 6 0-9 0
Marguerites, per 12 bunches ... 3 0-6 0	Tuberose, 12 blms. 0 8-1 6
Mignonette, 12 bun. 4 0-6 0	Tulips, various, doz. 0 6-1 0
Narcissus, White, French, 12 bun. 1 6-2 6	Violeta, 12 bunches 1 6-2 6
—Various, per 12 bunches ... 0 9-1 6	—Parma, French, per bunch ... 3 0-4 0
	—Czar, do. ... 2 6-3 0
	—Mimosa or Aca-cia, dn. ... 1 0-2 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples from Nova Scotia, per barrel, 14 0-22 0	Grapes, Alicante, 1st quality, p. lb. 3 0-3 6
—Wellington, 1st quality, per bushel ... 6 0-8 0	Nectarines, Cape, per box ... 5 6-6 6
—Wellington, 2nd quality, per bushel ... 3 0-4 0	—extra quality ... 9 6-10 0
Cobs, per 100 lb. ... 25 0-30 0	Peaches, Cape, per case containing 4 doz. ... 12 0-14 0
Grapes, Gros Colmar, 1st quality, lb. 2 6-3 0	Pears, Cape (Williams), containing 20 to 24 per box ... 9 0-11 0
—Gros Colmar, 2nd quality, per lb. ... 2 0-2 3	Pine-apples, St. Mi-obael, each ... 2 6-4 6
	Strawberries, per lb. ...

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Asparagus, 1st size, per bundle 6 0-7 0	Mint, per bunch ... 0 6-0 8
—2nd size, do. ... 2 6-3 0	Mushrooms, per lb. 0 8-0 9
—(sprue), do. ... 0 8-0 9	Onions, Eog., cwt. 5 0-6 0
Beans, Chacool Islands, per lb. 1 9-2 0	Potatoes, Channel Islands, per lb. 0 5-0 6
—Madeira, p. bas. (8 to 10 lb.) ... 4 6-5 0	Seakale, per punnet 0 9-1 3
Cauliflowers, p. crate (6 doz.) ... 5 0-7 0	Tomatoes, Canstry Islands, per case, 12 to 14 lb. ... 5 0-5 6
Cucumbers, per doz. 12 0-15 0	—Canary boxes, 4 to ½ lb. ... 1 3-1 9

OLD POTATOES.

Market exceedingly dull, and, except for best samples, the nett prices obtainable are about feeding value. Many farmers have been feeding their stock with inferior samples for some time past. The prospects for the future point to a bad finish.

NEW POTATOES.

Demand has fallen off very much since last report; second-class samples are difficult to move at 12s. to 11s. per cwt.; best samples move slowly at 18s. J. B. Thomas.



## SEEDS.

LONDON: Feb. 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a broadening out inquiry for farm seeds. Quotations all round stand at the unusually low level characteristic of the present early and remarkable season. Turn, both spring and winter, meet an improving sale. The new Wisconsin Green Peas, being cheap, handsome, and excellent boilers, experience increasing favour. Bird-seeds show no quotable change. Rape seed is firm. Mustard unaltered. The imports into the United Kingdom of Clover and Grass seeds for the past month show a surprising falling off from those of January, 1895, amounting in weight to 82 per cent., and in value to 52 per cent.

## FRUITS AND VEGETABLES.

BOROUGH: Feb. 18.—Quotations:—Savoy, 3s. to 5s. per tally; Sprouts, 2s. to 2s. 6d. per bushel; Onions, 2s. 9d. to 3s. 6d. per bag; Carrots, 2s. to 2s. 6d.; Turnips, 1s. 9d. to 2s. 3d. per dozen bunches; Apples, 4s. to 6s. per bushel.

SPITALFIELDS, Feb. 18.—Quotations:—Carrots, best, 30s.; Horse Carrots, 18s. per ton; Turnips, 25s. do.; Onions, 2s. 6d. to 3s. 6d. per bag; Beetroot, 1s. per bushel; Savoy, 2s. to 3s. per tally; Celery, 1s. to 1s. 6d. per bundle; Bunch Greens, 1s. 9d. to 2s. per dozen bunches; Leeks, 1s. per dozen; Turnip-tops, 1s. 6d. to 2s. per bag; Broccoli, 1s. to 1s. 6d. per score; Sprouts, 1s. 6d. per bushel; Parsley, 2d. per bundle; Apples, 6s. to 7s. per bushel; do., cookers, 4s. 6d. to 5s. do.

STRATFORD: Feb. 14.—Trade is slightly better, but the demand is still weak. Quotations:—Collards, 1s. to 2s. 6d. per tally; Savoy, 2s. to 5s. do.; Greens, 3d. to 1s. 3d. per bag; do., 1s. to 1s. 6d. per dozen bunches; Cauliflowers, 1s. to 2s. per dozen; do., 3s. 6d. to 6s. 6d. per tally; Carrots (household), 22s. 6d. to 30s. per ton; do., cattle feeding, 15s. to 22s. do.; Parsnips, 6d. to 9d. per score; Mangels, 12s. 6d. to 16s. per ton; Swedes, 14s. to 20s. do.; Onions, English, 24s. to 30s. per ton; do., Dutch, 2s. 6d. to 3s. per bag; do. Bordeaux port, 4s. 6d. to 5s. 6d. per case; Apples, English cookers, 2s. to 5s. per bushel; do., dessert, 2s. to 4s. 6d. do.; do., Nova Scotian, 14s. to 21s. per barrel; Scotch Kale, 6d. to 9d. per bushel; Beetroot, 4d. to 8d. per dozen; Horseradish, 1s. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; 2s. to 2s. 6d. per bushel; Rhubarb, forced, 1s. 3d. to 1s. 9d. per dozen bunches; Celery, 5d. to 1s. 3d. per roll; white Turnips, 1s. 3d. to 2s. per doz. bunches, 25s. to 40s. per ton.

FARRINGTON: Feb. 20.—Quotations:—Savoy, 3s. 6d. per tally; Greens, 6d. per bushel; Seakale, 1s. per punnet; Kale, 6d. per bushel; Leeks, 1s. per dozen; Cauliflowers, good, 1s. 6d. do.; Parsley, 2d. bunch; Turnips, 2s. per dozen; Carrots, 2s. 6d. per dozen bunches; Apples, Russets, 20s. per barrel; Baldwins (sound), 14s. do.; Northern Spies, 12s. to 14s. do.; Californian Newtown, 11s. per case; Tomatoes, 1s. 6d. per box; Cucumbers, 12s. per dozen; French Peas, 2s. 3d. per basket of 8 to 10 lb.; Mushrooms, 6s. per half-bushel.

## POTATOS.

BOROUGH: Feb. 18.—Quotations ranging from 35s. to 80s. per ton.

SPITALFIELDS: Feb. 18.—Quotations:—Best Main Crop, 60s. to 70s.; Snowdrops, 60s. to 70s.; Highland Magnums, 60s. to 55s.; Blacklands, 35s. to 45s. per ton.

STRATFORD, Feb. 18.—Quotations:—Dark-soil Braces, 30s. to 35s.; do., light, 30s. to 55s.; Reading Giants, 35s. to 55s.; Sutton's Abundance, 40s. to 60s.; Scotch Main Crop, 70s. to 80s.; Magnums, 60s. to 55s. per ton.

LONDON MARKET AVERAGES: February 19.—Saxons, 70s. to 80s.; Dunbar Main Crop, 70s. to 90s.; do., Braces, 60s. to 80s.; Hebrons, 70s. to 80s.; Sutton's Abundance, 40s. to 80s.; Maincrop, 40s. to 60s.; Imperators, 30s. to 35s.; Magnums, 35s. to 40s. per ton.

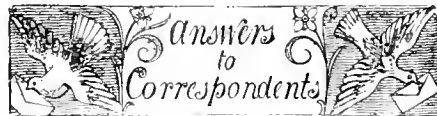
## HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 90s.; inferior, 45s. to 63s.; hay, best, 60s. to 85s.; inferior, 35s. to 60s.; mixture, 63s. to 85s.; and straw, 20s. to 40s. per load.

## VARIORUM.

**BIG TREES.**—PORT MORESBY (New Guinea).—All the old records regarding the height of the tallest trees in Victoria are now discarded. Mr. G. S. Perrin, Inspector of Forests, kindly supplies answers as follow to your queries:—"I. Trees up to 300 feet are fairly numerous at Yea River, Dandenong State Forest, Cape Otway, Mount Baw-Baw, and other parts of Gippsland. When Commissioner of Forests in Tasmania, I measured a fallen Blue-gum at Greenstone, on the Huon River—result, 330 feet. This is actually the highest tree which

has yet come under my personal observation, either in Tasmania or Victoria. Trees have been reported up to 470 feet, but the measurements cannot be now verified, and it is doubtful if any tree in Victoria can be found by theodolite measurement to exceed the height of the Tasmanian Blue-gum given above. The celebrated tree, 'The Baron,' discovered by Mr. Boyle some thirty-five years ago, and afterwards photographed by Mr. W. J. Caire, was stated by these two men as being 470 feet high, and Baron Sir F. von Mueller has made mention of this tree in *Eucalyptographia* as being the height stated. Some four years ago I organised a search party, and with Mr. Boyle and Mr. Fuller, then engineer of the Melbourne Water Supply Department, the tree known as 'The Baron' was re-discovered, and a correct survey was made by theodolite, with the result that the true height was found to be only 219 feet. The photographs of this and several other trees were taken after a theodolite survey had been effected. The highest tree discovered on this occasion was on the Sassafras Creek, Dandenong State Forest, not far from The Baron; its height was 258 feet. 2. Trees up to 90 feet girth at Cape Otway beach forest are known, but are not common. I do not know of any tree 100 feet in girth in Victoria. A tree at the Castra, in Tasmania, is recorded upon the survey maps of the district as 66 feet at 6 feet from the ground. Girth measurements are always unsatisfactory, as they generally include buttresses, &c." *Australian Paper.*



**BACK WALL IN COOL-HOUSE FACING SOUTH:** X, Y, Z. Instead of Ferns, the pockets might be filled during the summer with various Begonia, flowering and foliage; *Roches falcata*, *Cactus truncatus*, species of evergreen *Sedum*, as *S. hybridum*, *S. spathulifolium*, *S. umbilicoides*, *S. Sieboldii*, with broad leaves; and *S. amplexicaule*, *S. stenopetalum*, *S. pulchellum*, &c., with terete leaves; *Saxifraga sarmentosa*, *Opuntia*, *Ixia*, *Tritonia*, *Bahiana*, *Indian Strawberry*, small-growing *Ivy*, *Rubus roseifolius*, and *R. r. coronarius*, and *Stapelia* in variety. A few climbing plants might be introduced, as *Plumbago capensis*, *Bignonia jasminoides*, some of the robust growing scarlet-flowered *Pelargonium*, *Ivy-leaved Pelargonium*, *Polygala Dalmaniana*, *Orange and Lemon plants*, &c., *Jasminum grandiflorum*. The bed in the front of the wall might be covered with Derbyshire spar to serve as a place for exhibiting plants in pots at all seasons. *Chamaerops humilis* and *C. excelsa* might be planted in brick receptacles made underground; the hardy species of *Bambusa* would also succeed in this manner.

**BUTTERFLY:** *J. W.* The common tortoise-shell butterfly, *Vanessa urticae*. The insect had probably been dormant all through the winter. Cases are recorded of this butterfly remaining in a dormant condition for nine months.

**CARNATION DISEASED:** *J. H. C.* The plant has been attacked by the fungus *Helminthosporium echinolatum*; see figure and description in *Gardeners' Chronicle*, August 21, 1886. Cut off and burn all affected leaves, also destroy badly-affected plants in the same way, there being no known cure.

**CORRECTION: BEGONIA OBTUSI.**—Mr. Herrin informs us that the plant described by "R. D." in our last issue under above name is really *Oxalis Ortigii*.

**DOUBLE-SPATHED ARUM:** *J. M.* Not uncommon, though no one seems to try and fix it. This would be a desirable thing if all were as fine as yours. Thank you for the photograph of the *Dendrobium*, a very nice specimen, but as you say, often illustrated.

**HOT-WATER PIPES:** *F. K.* Before starting the forcing-house, the paint on the pipes must be washed off. A very strong solution of soda and water, used hot, will do this. Lamp-black and lincseed-oil, without driers or turpentine, makes a good coating for hot-water pipes.

**INSECTS:** *S. G. S.* The "worms" sent are the grubs of a Click-beetle—*Elater sputator*—rightly, "wire-worms." There are four species of *Elater*, and all injurious to the roots of plants. The grubs remain in this wire-worm state for four or five years. You might try soot and lime-water, but we can give you little hope of ridding the potatoes of the pest. Guano and superphosphate might also be tried.—*Echeveria*. The larva of a weevil. You will not be able to turn them out of the soil by anything that you may apply which will not kill the plants. You should, therefore, turn out the plants, and examine the soil carefully for the grubs, destroying them when found. Get potting-soil from a pure source.

**LIBONIA:** *T. H.* Your plant is either too young to produce flowers, or it is not sufficiently pot-bound.

**NAMES OF PLANTS:** *S. H.* 1, send when in flower; 2, *Lycostera formosa*; 3, *Photinia serrulata*.—*C. L.* Your *Cymbidium* is *C. eburneum*. It varies in the spotting of purple on the lip when it is present, but often that colour does not appear. *C. Parishii*, which may probably be regarded as a form of the same species, has much broader segments and a different odour.—*A. G. M.* 1, *Masdevallia polysticta*; 2, *Masdevallia melanopus*; 3, *Cymbidium Lowianum*; 4, *Dendrobium Pierardii*.—*C. R. D., Newbury.* 1. It would scarcely be *Cattleya Mossae* flowering at this season. Is it not *C. Trianaei*? It should be potted later in the season when rooting well. 2. If the *Dendrobium* are "bursting" all the way up the pseudo-bulbs, it should be with flowers. If the buds prove to be growths the plants are in an undesirable condition, unless desired to make young plants. You had better start your plants into growth as soon as they are seen to be pushing. 3. An Orchid may be presumed to have finished its growth when all the last-made leaves are fully formed, and no more appear. The deciduous species give further proof by the leaves withering.

**NOTICE TO QUIT SERVICE:** *Fairplay.* If you are not residing on the premises, and have no other additions to your pay than the bonus at the end of each month, the employer possesses the right to give you a week's notice. He is not likely to strain a point in your favour after you have opened a shop in his neighbourhood.

**WHERE TO START A FRUIT AND FLOWER GROWING BUSINESS IN YORKSHIRE:** *H. J. G.* Near a large manufacturing town, or at Scarborough or Whitby.

**WOOD ASHES:** *A. M.* If you cannot get such a common thing as this in the country, application might be made to a dealer in horticultural sundries. Scan our advertisement columns.

**YEW HEDGE:** *Bonham Carter.* You have gone the right way to work with the hedge, so as to get it thickened at the bottom. The severe pruning of the top will have caused the death of a great many small roots, and thus a sort of rough balance between top and roots has been formed, and it is questionable whether any other sort of root pruning is required in this case; shovelling away the exhausted upper layer of soil, substituting for it some good loam and leaf-mould, and a mulch of farmyard manure would be beneficial, as would also a few thorough waterings between the present time and the beginning of June. The hedge should be clipped with the shears in the spring, and again early in August.

**COMMUNICATIONS RECEIVED.**—G. H. Hunt.—A. V.—W. E. G.—D. R. W.—T. B.—J. T.—Dr. Zacharias, Hamburg.—M. T.—A. C. F.—P. W. Woolley.—E. C.—J. B.—W. E. R.—J. F. McLeod.—Attwood, Bristed & Co.—J. D.—G. F. R.—C. H.—K. J.—D. T. F.—A. D. W.—J. A.—J. T. C.—A. C. C.—W. W.—A. L.—R. C. M.—Market Gardener.—J. J. W.—W. O. G.

**SPECIMENS, PHOTOGRAPHS, ETC., RECEIVED WITH THANKS.**—Messrs. Carter & Co.—Mr. Holze, Fort Darwin.—T. C.

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**IMPORTANT TO ADVERTISERS.**—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

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Advertiser are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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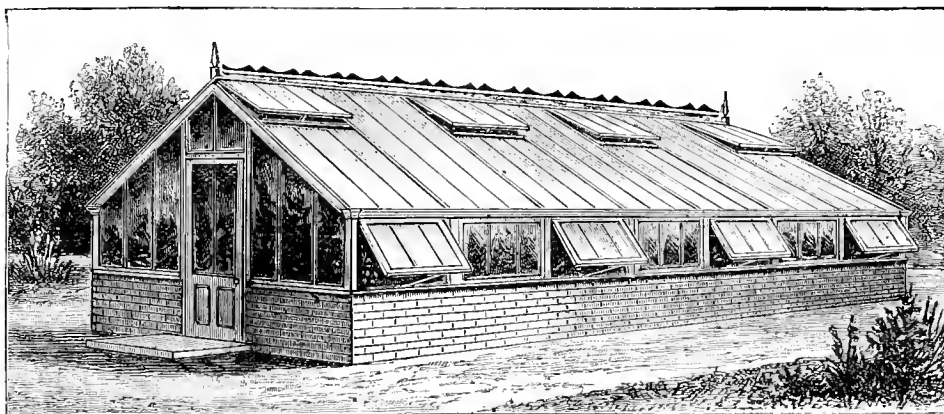
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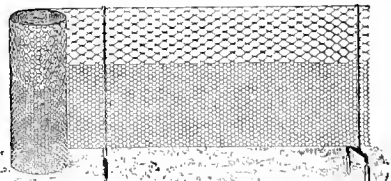
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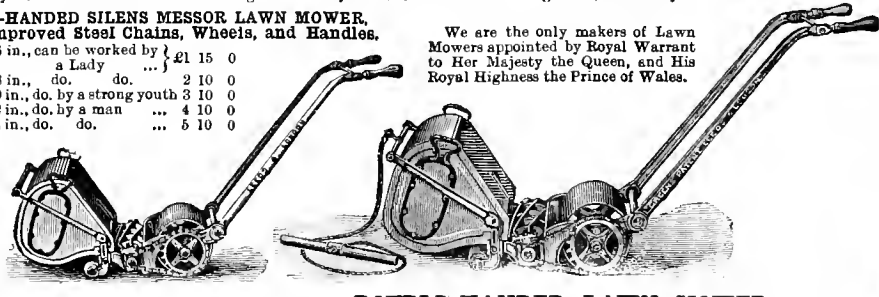


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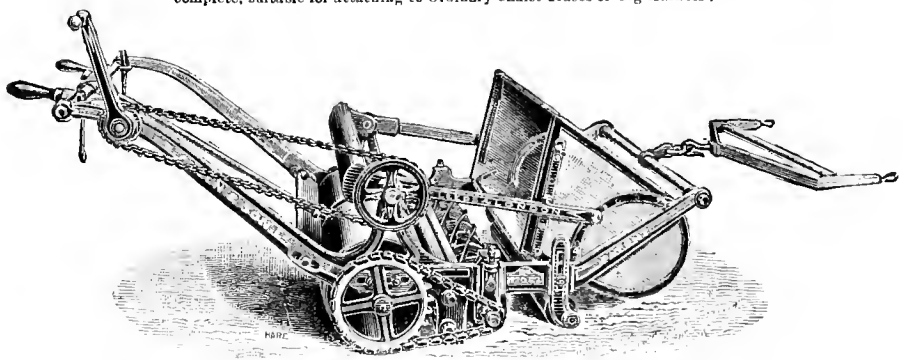


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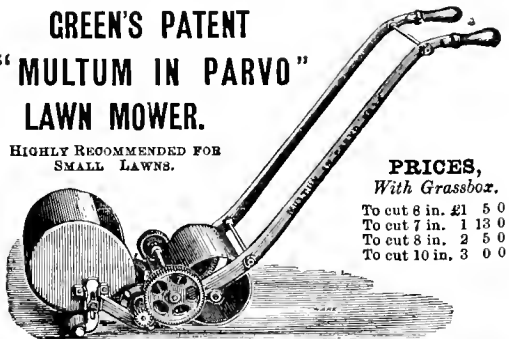
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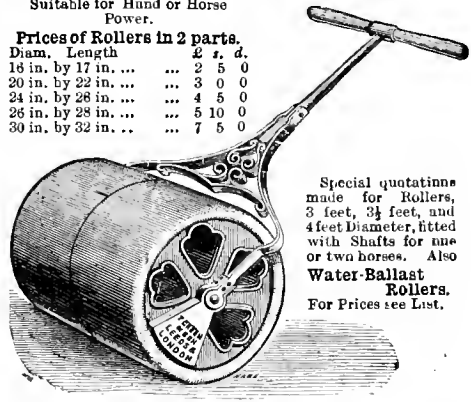
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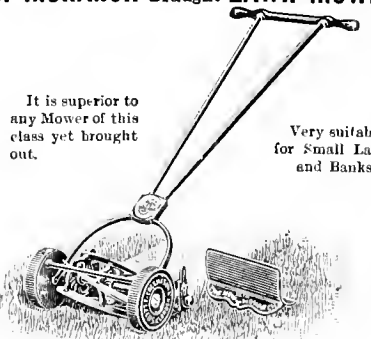
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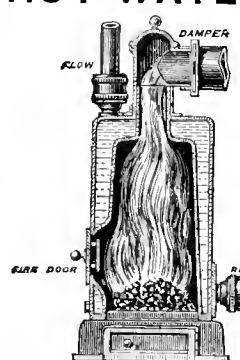
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# The GARDENERS' CHRONICLE

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## CONTENTS.

Benevolent Institution, Gardeners' Royal ...	269	Plants for home decoration and exhibition ...	261
Book notice—		Plants, new or noteworthy—	
Petit Guide Pratique de la Culture des Orchidées ...	268	Masdevallia x Shuttryans, Chamberlain's variety ...	263
Carnation-rust ...	270	Odontoglossum x Wilckeanum, Pitta' var. ...	263
Cyclamen, the culture of the ...	270	Potato boxes ...	272
Dendrobium Dalhousianum ...	272	Potato scab ...	270
Dendrobium Wardianum ...	274	Propagation, methods of ...	270
Douglas Fir, the ...	272	Railways, and the carriage of garden and farm produce ...	271
Food value of plants ...	270	Societies—	
Freessia, the culture of, at Sutton Court ...	272	Linnean ...	238
Fruit-farming ...	273	National Chrysanthemum ...	273
Garden machinery ...	271	Surveyors' Institution ...	269
Imports of Japanese bulbs ...	270	Waterford Horticultural ...	272
Jamaica, a collecting tour in ...	263	Solar spectrum, the rays of the ...	266
Jarra timber ...	269	Spraying fruit-trees ...	270
Manures for pot-plants ...	275	Stanhopias, the ...	264
Nursery Notes—		Technical instruction in horticulture ...	269, 270
Mey, George ...	274	Vitis Coignetia ...	264
Veitch & Sons, Jas. ...	274	Week-work, the ...	266
Obituary—		Flower garden, the ...	266
Sickenberger, Ernst ...	276	Fruits under glass ...	266
Morris, John ...	275	Hardy fruit-garden, the ...	267
Orchid notes and gleanings ...	264	The Kitchen garden, the ...	267
Orchid Notes, Royal Gardeners', annual meeting of ...	273	Orchid-houses, the ...	265
Peer, Pittmaston Duchesse at Summerhill ...	268	Plants under glass ...	267

## ILLUSTRATIONS.

Bedford, portrait of His Grace the Duke of ...	271
Masdevallia x Shuttryans, Chamberlain's var. ...	262
Peer Pittmaston Duchesse, at Summerhill, Kingswinford. (Supplement).	
Stanhopias florida ...	265
Stanhopias oculata (guttulata) ...	264

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**Dracænas Cooperii, Terminalia, & Terminalia stricta.** WANTED, over-grown plants of the above, also large pots of ASPIDISTRA VARIEGA, in exchange for Orchids, Culoogyne cristata or Cyrtopodium insignis, or Cash.—TURNER BROS., Nurserymen, Garston, Liverpool.

**WANTED, YELLOW FIBRE OAM,** would exchange Peat. O. R. BEAN, Normandy Park Nursery, Guildford.

**WANTED, good-sized plants of RODO-DENDRON NUTTALLI.** Send price and particulars to MR. RYAN, Castlewellan, co. Down.

**WANTED, large and fine specimen LLMS SEAFORTHIAS, KENTIAS, &c.**—Quote price and price to Mr. L. LINDEN, Managing Director, L'Hoculture Internationale, Parc Leopold, Brussels.

**WANTED, BOX EDGING.**—Please forward sample and price per 100 yards, to D. ANDERSON, Teddington.

**WANTED, Twelve FIGUS REPEN** Strong, 2 1/2 to 3 feet, in pots. CALDWELL AND SONS, Knutsford.

**WANTED, consignments of CUCUBERS, TOMATOS, &c.**—BENNETT, WALKER, & EDGES, Spitalfields Market, London.

**BARR'S SEEDS.—UNEQUALLED.** VEGETABLE SEEDS, best in the world for growth. FLOWER SEEDS.—Upwards of 2000 species and varieties. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c. PLANTS.—Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. DESCRIPTIVE CATALOGUES of above sent free on application. BARR AND SON, 12, King Street, Covent Garden, London.

**LINDEN'S ORCHIDS.—SALES BY AUCTION,** in London, are held on the First and Third Thursday in each Month, at Mr. J. C. STEVENS' Great Rooms, 33, King Street, Covent Garden, W.C. Catalogues on application.

**CARNATIONS! NEW MALMAISONS!!** JAMES DOUGLAS, the noted Carnation Specialist, is now sending out plants, well established in pots, from his unrivalled collection of 20,000 plants. CARNATION SEED.—Saved from the best named varieties at Bookham, 1s. 6d. to 2s. 6d. per packet. Catalogues on application.—Great Bookham, Surrey.

**EARLY PROLIFIC PLUM, 500 two-year** feathered Trees, CORDON APPLES and PEARS, well-spurred Trees, 4 to 6 feet. TRAINED FRUIT TREES, a specialty; all well-set with Fruit Buds. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

**LARGE PALMS & DECORATIVE PLANTS.** Immense Stock. All sizes up to 20 feet for Sale or Hire. Inspection Invited. Prices on Application. R. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Demy quarto, printed on fine paper in grey, gilt top. Price, 21 1/2s. 6d.

**THE ART and PRACTICE of LANDSCAPE GARDENING.** By H. E. MILNER, A.M.I.C.R., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & CO., Ltd.

**ROYAL SOVEREIGN STRAWBERRY.**—Strong well-rooted Runners. 5s. per 100. Special quotation for large quantities. Apply, JOHN CHIVERS, Histon, Cambridge.

**CARNATIONS.**—For full particulars of the most cultivated Grand New CARNATIONS Buccleuch Clove and Yuletide, and every other variety of merit, see FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 146 pages. Free on application. JOHN FORBES, Hawick, Scotland.

**CYCLAMEN—CYCLAMEN.—FIRST PRIZE,** Royal Aquarium, 1895. SEEDLINGS, sample dozen, 3s.; 2 dozen, 6s., now ready, by post on receipt of cash. PLANTS in 4 1/2s. in Bud and Flower, now ready, from 18s.; SEED, 2s. 6d. and 6s. per packet. Special prices to the Trade. The ST. GEORGE'S NURSERY CO., F.R.H.S., Cyclamen Specialists, Hanwell, Middlesex.

**OWEN'S ROYAL CHRYSANTHEMUMS.**—The best, cheapest, and most complete collection in the kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First-class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp. R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

**GARDEN SEED LIST (Free).**—Illustrated, Descriptive, Cultural, Reliable Quality, Pure and Economical. TOMATO, Collins's Challenger. Four First-class Certificates awarded. The best in cultivation. Only in our sealed packets, 1s. Thousands sold annually. (Wholesale Agents: HURST & SON, COLLINS AND CO., 39, Waterloo Road, London, S.E.)

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertiliser for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, 1/2 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.B.H. the Prince of Wales, R.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegrams Address, "Hortulanus, London." Telephone, No. 8726.



**SALES BY AUCTION.**

**Monday Next, March 2.**

100 AZALEA MOLLIS, 100 A. INDICA, and 26 RHODODENDRONS from the Continent, 30 lots of Stove and Greenhouse FERNS and PLANTS, Double Chinese PEONIES, American Pearl TUBEROSES, BEGONIAS, GLADIOLI HYBRIDS, LILIIUMS in variety, SPIRÆA JAPONICA, ASTILBOIDES and COMPACTA, TIGRIDIAS, LILY OF THE VALLEY Clumps, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 2, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Tuesday Next.**

2050 Standard and Dwarf ROSES to name, Japanese and English-grown LILIES, in great variety, 15,000 American PEARL TUBEROSES, 500 HEMEROCALLIS species, Japanese LYCORIS, in 4 varieties; 500 VALLOTA PURPUREA, 200 CACTUS DAHLIAS to name, 750 choice BEGONIAS, mixed, finest strain; Hardy BORDER PLANTS and BULBS, Double CHINESE PEONIES. Hybrid GLADIOLI, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 3, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**"Rooklands," Torquay.**

SALE of the Collection of well-grown ESTABLISHED ORCHIDS, comprising about 450 Plants. Also the Glass Erections, &c. By order of the Executors of the late Morton Sparke, Esq.

WITHOUT RESERVE.

**MESSRS. PROTHEROE AND MORRIS** are instructed to sell by AUCTION, on the Premises, "Rooklands," Torquay (entrance to St. Michael's Road), one minute's walk from Torre Station, and one mile from Torquay Station, on WEDNESDAY NEXT, March 4, at Half-past 10 o'clock, the Collection of well-grown

**ESTABLISHED ORCHIDS,**

Among which will be found the following:—

Cattleya exoniensis	Coccyne Massangeana
Cypripedium Rothschildianum	Dendrobium nobile nomitius
" Stonei	" densiflorum, extra fine
" Curtisii	" Brymerianum
Cymbidium eburneum	Grammatophyllum Ellisii
" Mastersii	Lycaste Skinneri alba
" giganteum	Sobralia xantholeuca, 2 plants

Also the STOVE and GREENHOUSE PLANTS, in variety, three Greenhouses, 36 feet by 20 feet, 20 feet by 12 feet, and 30 feet by 15 feet; 850 feet of Hot-water Piping and the Brick-work; Galvanised Tank, Rock-work, Tubular Boiler and another; two Pigeon-houses, Hen-house, Tortoise Stove, Gas Stove, &c.

May now be viewed. Catalogues may be had of Mr. T. Brockbank, the Head Gardener, on the premises; and of the AUCTIONEERS, 67 and 68, Cheapside, London, E.C.

**Friday, March 6.**

**MESSRS. PROTHEROE AND MORRIS** will sell by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 6, at Half-past Twelve o'clock, 200 of the magnificent Blue-and-white DISA LONGICORN, good specimens of DISA CRASSICORNIS, D. VENOSA, &c. (see Bohn's *Cape Orchids*, and illustration of Sir Trevor Lawrence's plant). A most interesting collection of RARE ORCHIDS, of special botanical interest, including about forty species of Cirrhopetalum and Bulbophyllum, and many other rare and pretty species. Also some established unflowered ODONTOGLOSSUM HALLII. A small consignment of highland ANDEAN ORCHIDS, including a new Peristeria Ercopsis Bollea, &c.; and an importation of DENDROBIUM LINGULIFORME, and D. TETRAGONUM, from Australia.

On view morning of Sale, and Catalogues had.

**ODONTOGLOSSUM CRISPUM.**

MESSRS.

**PROTHEROE & MORRIS**

67 & 68, Cheapside, London, E.C.,

HAVE RECEIVED INSTRUCTIONS FROM

**AIMÉ VAN DEN BOGAERDE,**

Perry-Barr, near Birmingham,

To Sell 300 wonderful masses of this splendid type

**OF ODONTOGLOSSUM CRISPUM.**

Mr. JOHN CARBER, the well-known Collector, writes, that every piece was specially selected, and that never a finer lot of plants was gathered. They come from an entirely new district, and have splendid broad, round flowers. They will be found to be particularly rich in hybrids.

Only fine pieces will be included in this Sale.

**FRIDAY NEXT, MARCH 6, 1896.**

N.B.—A New Orchid (*Odontoglossum* or *Oncidium*?) will be included in this Sale.

**Friday Next.**

By order of Messrs. F. Horemam & Co., Colchester. Five Plants of A GRAND NEW WHITE CATTLEYA, and fine Imports of LÆLIA MARIOTTIANA, L. FLAVA, and others, together with 1000 lots of IMPORTED and ESTABLISHED ORCHIDS, from Mr. F. McArthur, and others; full particulars of which will appear in Catalogue.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 6, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

**The Green Bank Collection of Established Orchids.** By order of Daniel Doncaster, Esq., who is giving up his collection owing to going abroad.

**MESSRS. PROTHEROE AND MORRIS** are instructed to sell the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 18, at half-past 12 o'clock precisely.

Amongst the plants will be found the following:—

Cattleya Trianae albicans	Cypripedium, Boxallii atratum
" Mendeli triumphans	" Gerninyanum superbum
" Skinneri oculata	" Pitecherianum
Coccyne cristata alba	" insigne Sanderianum
Cypripedium, Mrs. Charles Canham	(true)
" Oshlea Canham	" Calypso
" Mozanica	" Charles Richman
" Voltanum Lowii	" Doncasterianum
" Cythera	" Arthurianum
" Enfidense, dark variety	Dendrobium nobile Cooksonii
" Rothchildianum	" splendidissimum grandiflorum
" Harmanum	Lælia Gouldiana
" orphnum	" , acceps Dawsonii
" Leeaun giganteum	Oncidium Mouachicum
" Staberianum	100 <i>Odontoglossum Alexandrie</i> , many fine plants
" T. P. Hayward	and many other Cool-house Orchids
" Nib	
" insigne Saunders (true)	

The plants will be on view morning of Sale. Catalogues may be had of Mr. J. Malcolm, Head Gardener, on the Premises, and of the auctioneers, Valuers, and Estate Agents, 67 and 68, Cheapside, London, E.C.

**Birmingham.**

UNRESEVED SALE of IMPORTED and ESTABLISHED ORCHIDS, PLANTS in FLOWER, &c., by order of Messrs F. SANDER & Co., St. Albans.

**MESSRS. THOMAS B. JAMES AND DAIES** will sell by AUCTION, at their SALE ROOMS, 5, Temple Street, Birmingham, on THURSDAY NEXT, March 5, at 12 o'clock, as above.

On view morning of Sale, and Catalogues had.

**Monday Next.**

**PLANTS, LILIES, BULBS.**

**MR. J. C. STEVENS** will sell by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, March 2, at half-past 12 o'clock precisely.

A Grand Collection of BORDER PLANTS, comprising

CARNATIONS	PYRETHRUMS
PIKES	PEONIES
PIROTES	PANSIES
HILLYHOOKS	IRIS GERMANICA
DIPHINIUMS	IRIS KEMPHERII
PROXES	AQUILEGIAS
PRULAS	HELIANTHUS
POPIES	HEPATIAS, &c., &c.

Beautiful and Popular LILIES, BEGONIAS, GLOXINIAS, GLADIOLI, CHINA, &c., and DWARF ROSES.

ANEMONES, TIGRIDIAS, and MONTBRETIAS. CEMATIS, IVIES, and other CLIMBERS.

Also an Importation of ORNAMENTAL SHRUBS from Holland.

On view morning of Sale, and Catalogues had.

**WEDNESDAY NEXT.**

**GREAT SALE of ROSES**

A fine vlety of well-grown small Decorative Shrubs and VERGREENS, FLOWERING TREES, &c., in fine order for present planting, from Holland.

Japanese Lilliums, comprising L. auratum, L. spiosum rubrum, L. melpomene, L. longifolium, L. speciosum album, SACRED LILIES, &c. also S. Africa and Pearl TUBEROSES, SPIRÆA, LI OF THE VALLEY, GLOXINIAS, BEGONIAS, MONTBRETIAS, DAHLIAS, &c.

A lar Collection of Carnations, Pinks, Picotees, another BORDER PLANTS,

A goe Collection of Standard, Half-Standard, Dwarf-trined and Pyramid APPLES, PEARS, PEACHES, NECTINES, PLUMS, CHERRIES, &c.; RASPBERRIES, Bk and Red CURRANTS, GOOSEBERRIES, &c.

Chok Gladioli in many sorts, Well-grown Palms, D'FODIES, CANNAS, ANEMONES, RANUNCULI, &c.

Also—

A GRAND COLLECTION of ROSES,

including—  
1200 BELGIAN,  
500 DUTCH,  
and 1000 ENGLISH.

comping all the most beautiful and popular sorts to name.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 4, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

**The Somerhill Collection of Established Orchids.**

**MR. J. C. STEVENS** has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Tonbridge, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., towards the end of March, the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

Cattleya Mossie Reineckiana	Odontoglossum vexillarium
" Wagneri	Cobbianum
" exoniensis	Lycaste Skinneri Imperator
Dendrobium glumaceum	Coccyne cristata alba
Valde teres	Dendrobium nobile albiflorum
Diaa Veitchii	" Cooksonii
Vanda teres	Vanda Sanderiana (Goldsmid's variety)
Thunia Veitchii	Lælia tenebrosa (extra good varieties)
Lælia Gouldiana	" aniceps (do do)
Coccyne Dayana	Anthurium Le Flambeau
Anthurium Andraeanum	" album
" variegatum	" Lirigii
Odontoglossum Uro-Skinneri	" rotundispatum
	Ac. &c.

N.B.—Further particulars will be given in future Advertisements.

**ORCHIDS! ORCHIDS!**

**JOHN COWAN & CO., Ltd.,**

Have just received large and splendid importations of ORCHIDS, consisting of—  
DENDROBIUMS in great variety, and in splendid condition.  
CYPRIPEDIUMS in several varieties, and in splendid condition.  
ODONTOGLOSSUMS in several varieties, and in grand condition.  
VANDA COERULEA and other VANDAS, all fine.

And they expect to receive, by the time this Advertisement appears, a large consignment of CATTLEYA LABIATA AUTUMNALIS of the finest type. Inspection invited.

The Company have also a large and splendid stock of ESTABLISHED ORCHIDS, all in grand condition. Priced and Descriptive Catalogues post free on application to the Company.

**THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.**

To Nurserymen, Florists, &c.

**WANTED TO PURCHASE** a share in an OLD-ESTABLISHED BUSINESS, where with energy, skill, and capital, a lucrative return might be secured. Note but Principals dealt with. Address by post to—HORTICULTURIST, Claremont, Chelmsford.

**WANTED TO RENT** on Lease, about ONE ACRE of LAND, with modern Glass, suitable for Cucumbers and Tomatoes.  
H., care of Mr. Maclean, Woodhouse, Loughborough.

**WANTED TO RENT**, small NURSERY, or place suitable for same, with a few hundred feet run of glass, in the vicinity of good Market Towns. Little or no stock required.—GLASS, 41, Wellington Street, Strand, W.C.

**WANTED**, to Rent, with option of Buying, small FLORISTS' BUSINESS in Provincial Town, within 50 miles of London.—FLORIST, 41, Wellington Street, Strand, W.C.

**WANTED**, to Rent, from 500 to 1200 feet of GLASSHOUSES, suitable for Cucumbers and Tomatoes; with Cottage, some land, no stock; near station.—Address, Park Corner Farm, Ashurstwood, East Grinstead.

**FOR SALE**—A compact FREEHOLD NURSERY, consisting of 13 well-built Greenhouses, well stocked, 1½ mile from station. Full particulars.  
J. HOWELL, Hextable, Swanley, Kent.

**TO LET**, with immediate possession, old-established NURSERY, Dwelling-house, large Garden, eight Glass-houses, good condition; well situated in Hadlow Road, Tonbridge; in Mr. Jupp's occupation twenty-five years. Easy in-going.—Apply to A. SOUTHEY, Tonbridge.

**TO LET**, 3 GLASSHOUSES, 60 ft. each, 1 of 40. Six-roomed House, ground for more. Rent £10; being Park Villas, close to Chadwell Heath Station.—Particulars, Hampden House, Romford.

**FOR SALE**, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Market Gardeners, Florists, and Others.

THE GREAT LODGE GARDENS.

(Within a mile of a Railway Station and Tunbridge Wells.)  
**TO BE SOLD**, as a Going Concern, the BENEFICIAL INTEREST in LEASE in large WALLED and KITCHEN GARDENS of about 2 acres; good house, very low rent; together with bothouses, horse, van, and other valuable plant, and seasonal growing crops of fruit, flowers, and vegetables, with right of usage to any amount of sewage. Ill-health the sole reason for disposal. As this is a most genuine concern, it is open to the strictest investigation of bona fide applicants.

Full particulars given by RICHARDSON and GARRAWAY, Sole Agents, 33, Dudley Road, Tunbridge Wells.

**LONDON**, easy distance from Covent Garden.  
—TO BE LET on lease, direct from Freshholder, a MARKET NURSERY, about 50 acres, 1000 feet run. Greenhouses could be divided, or sell right out.  
MARKET, 16, Japhson Road, Forest Gate, London, E.

To Nurserymen and Florists commencing Business HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

MILLER'S SEAKALE ROOTS give great satisfaction.—Large roots for planting, 5s. 6d. per 100. F. MILLER AND CO., 267, Fulham Road, London, S.W.

FOR SALE, 53 STOVE-HOUSE PLANTS.—Property of a Gentleman reducing his Garden. Three of them large Specimen Ferns. List on application. G. MOORE, Appleby Hall, Atherstone.

TOMATO PLANTS.—"Perfection" and Carter Page's "Triumph" (new), strong plants for planting out, 7s. 6d. per 100; smaller, fit for 60's, 5s. per 100. Cash with order. L. DOVE, Bedford, Middlesex.

FOR SALE, together or separately, "GARDENERS' CHRONICLE" from 1888 to 1888, bound complete; also "THE GARDEN" from 1872 to 1889, in good condition.—Offers to— H. B. W., Mattingley, West End, Winchfield.

ASPARAGUS.—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

BOX'S BEAUTIFUL BEGONIAS.—Quality and Quantity. Seed of Singles, 1s., 2s. 6d., and 5s.; of Doubles, 1s. 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers to colour for Bedding, from 20s. per 100. Choice Hybrids for pots, 7s. 6d. to 42s. per doz. Illustrated Price List and Pamphlet Gratis.—JOHN R. BOX, Begonia Grower, Croydon.

PLANTS (all kinds of Cabbage, Cauliflower, Onions, &c.) SEEDS (Vegetable); Seed Potatoes, Sharpe's Victor, Duke of Albany, Jeanette Deans, Garton, &c., Scotch grown, by Scarlett, Musselburgh. Large quantities, low quotations. For Priced List—SCARLETT, Market St., Edinburgh.

EPIDENDRUM VITELINUM MAJUS, and CATTLEYA CITRINA, just arrived in grand order. 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each. W. L. LEWIS AND CO., Southgate, London, N. PRICE LIST free.

FOREST AVENUE TREES AND SHRUBS.

BOX, Hoadsworth, 1 1/2 to 2 ft., 30s. per 100; 2 to 2 1/2 ft., 4s. per doz. BERBERIS AQUIFOLIA, 1 1/2 to 2 ft., 15s. per 100; 2 to 2 1/2 ft., 4s. per doz. HAZEL, very fine, 2 to 3 ft., 35s. per 1000. LAUREL, Common, bushy, very fine, 3 to 4 ft., 20s. per 100. LABURNUMS, good heads, 9 to 10 ft., 18s. per doz. LIMES, stout, 10 to 12 ft., 18s. per doz. CHESTNUT, HORSE, 13 to 15 ft., 24s. per doz. SILVER BIRCH, 12 to 15 ft., 18s. per doz. CEDARS of LEBANON, 6 to 7 ft., 6s. each. SNOWERRY, very bushy, 4 to 5 ft., 8s. per doz. SCARLET DOGWOOD, very bushy, 4 to 5 ft., 6s. per doz. R. TUCKER, The Nurseries, Faringdon, Berks.

BEGONIAS — A SPECIALTY.

Awarded Nine Gold Medals and Gold Cups. Seed saved from prize plants. Choicest mixed, single or double varieties, 1s., 2s. 6d., and 5s. per packet; Collections (seed), single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s. Tubers, named singles, from 18s. to 60s. per doz.; choicest seedlings, 3s. to 30s. per doz.; bedding, choicest, 4s. to 9s. per doz.; choicest named doubles, from 18s. per doz.; choicest seedlings, 6s. to 30s. per doz.; choicest mixed, for bedding, 9s. to 18s. per doz. CATALOGUE gratis.

JOHN LAING & SONS, Begonia Growers, &c. FOREST HILL, LONDON, S.E.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

PALMS, CORYPHAS and LATANIAS from Stores, 10s. per 100. Cash or exchange for Carnations, Pelargonium Cuttings, or Bedding Geraniums. F. ROSS & CO., Merstham, Surrey.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

Special Offer of Grand Stuff. PRIVET OVALIFOLIUM, 1 1/2 to 2 1/2 feet. Extra bushy, 2 to 3, 3 to 4, and 4 to 5 feet. Evergreen, 1 1/2 to 2 1/2 feet, and 2 to 3 feet, bushy and good. A BOX HEDGE, 30 yards long, 2 1/2 feet high, and 2 feet wide. Well rooted, will transplant well. Prices on application. H. R. DAVIS, Yeovil Nurseries, Somerset.

Important to Mushroom Growers. CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

CUCUMBER SEED.—True Roofford's variety; 28,000 Seeds sold last year. We now offer it at 2s. 6d. per 100; lower quotation per 1000. HAMLIN AND FULLER, Retchley, Bucks.

Maiden Peaches and Nectarines. JOHN FRASER has still on hand a fine lot of Strong Maidens of the following sorts—Royal George Peach; Elruge, Violette Hative, and Lord Napier Nectarines, which he offers at reduced prices, which may be had on application.—The Nurseries, South Woodford, Essex.

DOUBLE WHITE PRIMULA, good cuttings, 6s. 6d. per 100. Also IVY-LEAF GERANIUMS, Madame and Albert Crousse, 4s. 6d. per 100. Post-free for cash with order. GEO. DRABBLE, Ketton Hall Gardens, Stamford.

CATTLEYA LABIATA, good established plants, three and more bulbs, 9s. to 24s. per dozen. CYPRIPEDIUM INSIGNE, good plants, 6-inch pots, 18s. per dozen. Send for detailed LIST. A few grand pots of EUCHARIS AMAZONICA.—ROBERT CROSS, Worstead, Norwich.

THE RAJAH EARLY KIDNEY POTATO.—Mr. T. L. CLAYTON, of Manby Lodge, Forester to the Earl of Yarborough, says "The Rajah" is ten days earlier than Sharpe's Victor, and a better cropper, being also good for forcing. Price, 3s. per stone. Price to the Trade on application. J. E. DIXON, Seed Merchants, Gainsborough.

To the Trade. HOME-GROWN VEGETABLE & AGRICULTURAL SEEDS.

H. AND F. SHARPE beg to announce that their SPECIAL PRICED LIST of CHOICE VEGETABLE SEEDS has been posted to their Customers, and they will be pleased to forward a further copy to those who have not received it, if an application is made. Quotations for their fine selected Stocks of TURNIP, MANGEL WURZEL, and other AGRICULTURAL SEEDS may also be had on application. SEED GROWING ESTABLISHMENT, WISBECH.

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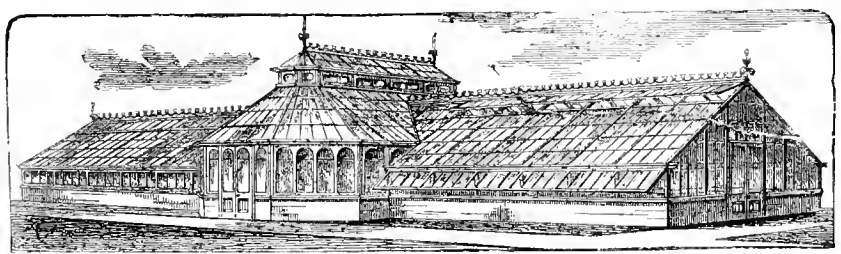
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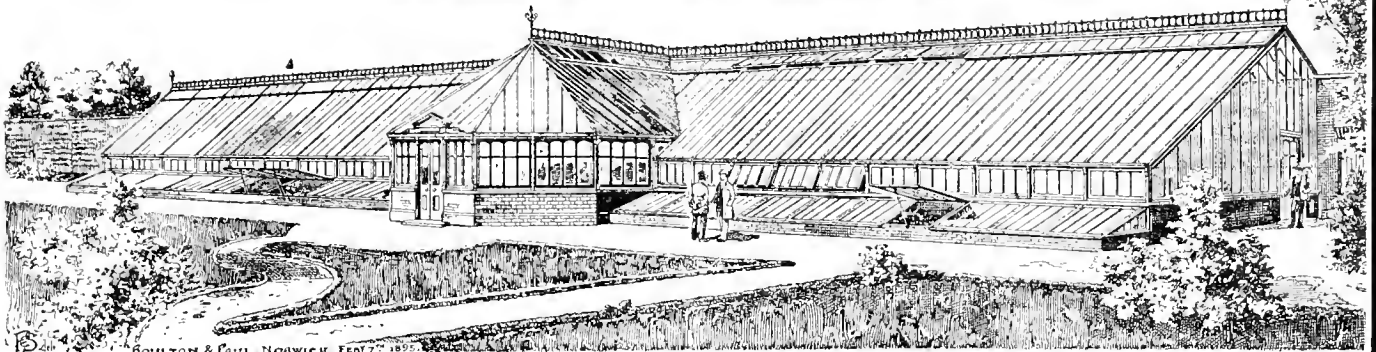
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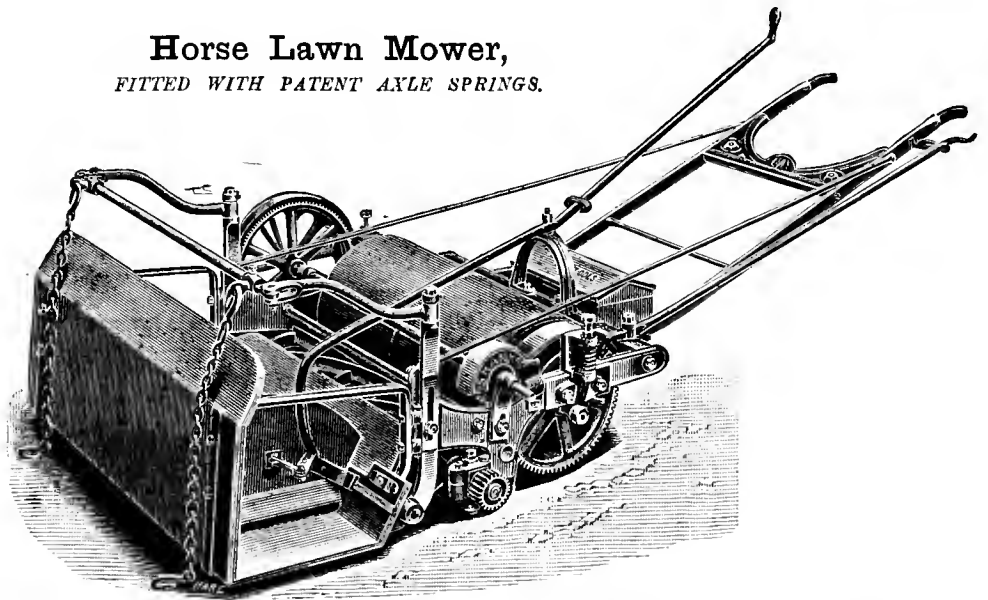
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Yours truly,  
(Signed) PERCY PEARCE,  
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30-inch Machine ..	£20 10 0	42-inch Machine ..	£28 0 0
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Horse Boots for the protection of Lawns, 20s. per set.  
Delivery Apparatus, as shown in illustration, for emptying grass-box without stopping the Machine, is charged extra as follows:—  
30-inch Mower, 30s.; and 36-inch, 42-inch, and 48-inch sizes, 40s.

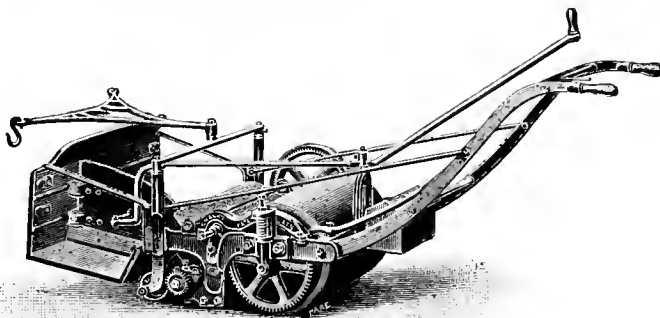
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WITH PATENT  
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Mr. JOHN KERLEY, The Gardens, Parsonage Manor, reports:—

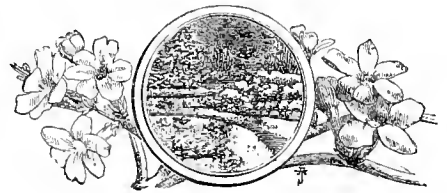
"Mrs. Hill had 14 lb. of The Sutton Flourball Potato, which I planted on March 4, 1895, and lifted 140 lb. of splendid tubers. I have sent you a sample of the crop, but I have had tubers half as large again as I am sending. Out of the 140 lb. I had not one bad Potato, and only two gallons small. The garden they were grown in lies low, in fact, adjoining a water-meadow, which is naturally low and cold. I am sure it needs only to be more widely known to ensure a great future for The Sutton Flourball. Of the many different varieties I have grown, none excels it as a cropper and table Potato."

Price, per 14 lb., 4/-; per ½-Cwt., 14/-.

Special quotations for large quantities.

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**SUTTON & SONS,**  
THE ROYAL SEEDSMEN,  
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## THE Gardeners' Chronicle.

SATURDAY, FEBRUARY 29, 1896.

### PLANTS FOR HOME DECORATION AND EXHIBITION.

NEXT to being able to grow plants to perfection, or somewhere near it, it was considered that the cultivator should be able to arrange them with good effect, so that the various beauties of the plants and the harmonious blending of the colours of the flowers could be seen to advantage. The idea prevails that arrangement is of small importance if only the plants are well-grown specimens.

#### HOUSE DECORATIONS.

It was considered to be a happy state of affairs that we are getting away from, although slowly, the "dotting" methods which were so much in vogue some years ago. In proof of this, attention was called to the kinds of flowers made use of for table decoration, where we now only use flowers of one or two species in a decoration at any one time, in former years we found the miscellaneous dotting or mixed fashion in general use. With the present fashion there may be a change in the colour of the flowers and in the species of plants employed every time fresh plants or flowers are required for the decoration of the dinner-table or drawing-room, thus rendering the work of more interest to, and engaging the attention of those who previously did not pay much heed to the matter, as well as causing a person to marvel at the many varied and pleasing effects which can be produced by skilful management of the colour of the flowers, the arrangement of the plants, and of the striking and handsome foliage. On the other hand, with the mixed system, much the same colours must prevail each time fresh flowers are supplied—consequently, there is less to interest the spectator.

It was then thought that if the system of massing could be adopted with cut flowers, it might be also applied to plants. It was considered to be to the gardener's own interest as well as credit that he should make the best use he was able of the plants after they had grown to a decorative size. It was pointed out that for some time past the method has been adopted at Falkland Park of growing the young plants in hatches, i.e., keeping all the young plants of one species as far as possible together. By this means they were able to supply each group with that special kind of treatment which is found to be beneficial. The point to which special consideration was directed at this step was, whether from the first the plants which he grows for decorative purposes are made the best possible use of by the gardener? In Mr.

\* The substance of a lecture given on February 6, 1896, before the Chiswick Gardeners' Association, by Mr. A. Wright, Gardener, Falkland Park, Norwood.

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1/6 & 2/6 per packet, post-free.

See WEBB'S SPRING CATALOGUE, post-free, 1s.

WEBB'S, WORDSLEY, STOURBRIDGE.



Wright's estimation, the arrangement of plants in our greenhouses and conservatories is, as a rule, lacking in naturalness. This was accounted for by the necessary artificial arrangement of the interior of such structures; and, consequently, we find the gardener, in too many cases, keeps to the artificial lines already laid down. This was pointed out as a mistake, and the opinion expressed that the sooner the gardener gets rid of the idea that because the house is arranged in straight lines, or is symmetrical in outline, his plants must follow the same arrangement, the sooner will he learn to make a more natural, and, at the same time, a more effective arrangement of the subjects he employs. No valid reason, it was pointed out, could be adduced for the practice that, because we have two corners in the house, we should have a Palm placed in each corner exactly alike; or because there may happen to be four prominent points in the house, we should have four *Dracænas* placed there, or four of any other kind of plant. To the younger members of the association, it was thought that such a doctrine would not accord with their ideas, but with experience and hints obtained by observing the effects produced by different arrangements, these ideas might be modified. If then, we have been wrong in our system of arranging plants, that system has been, and is to a large extent at the present time what he would call the "dotting" system, which is merely the arrangement of plants as and where their size would allow them to be used, and so that they would be a little less in height than the plants behind them. Because a plant was tall it must go in the back row—on the same principle that a large *Chrysanthemum* flower is placed in the back row of an exhibition-board!

#### OUTDOOR DECORATION.

Here, also, Mr. Wright's ruling idea was to copy Nature in her simplicity, rather than despise her teachings. A complicated and laboured effect in an arrangement of plants may be admired for the amount of skill and labour brought to bear upon it, but there is no spontaneous expression of an idea in it, and it therefore fails to please. Here, it was thought, is one of the many advantages possessed by our hardy herbaceous and alpine plants when compared with their less hardy competitors used for the summer embellishment of the garden. In the one case, we find continual change, beauty, and observe pretty effects taking place continually; in the other, the same effect day after day, except it may be, a day after heavy rains, when there is scarcely any effect at all!

Mr. Wright's listeners were, however, asked not to forget, that to be successful, we must group our hardy plants (as well as those inside) in large enough masses to make them effective—much, of course, depending on the size of the garden at command. For instance, a small clump may be effective in a small garden, whereas it would be lost in one of larger size.

It was remarked that we are grouping our hardy plants more and more every year, but we must further extend this grouping, so that we may have several successive crops of flowers from the same space during one year, and that without having to replant more than once a year, or it may be once in two or three years. With such an arrangement of grouping, hardy plants become more interesting, because of the continuation of masses either of flowers or beautiful foliage for a long period. Fashion, it was stated, is continually changing in gardens, as well as in almost everything else, but it may be, that after

all, we are only endeavouring to find out a more perfect ideal than has heretofore existed, and that the grand ideal of the garden has not yet been realised, although we are at the same time drifting towards a more perfect conception. Those, said the lecturer, who are old enough to look back on the different changes that have taken place in a lifetime in gardening, can easily note where such changes have taken place, and where many improvements have been carried out in the formation of different gardens.

of plants. Season after season we see almost the same specimens carrying off the prizes. It may be, there are one or two fresh ones amongst the half-dozen specimens, but to the ordinary observer the plants are the same; and they may have been "preserved in spirits" since the last show for anything the general public may know to the contrary! The consequence is, that flower shows are not so largely patronised as in past years. Again, it was remarked that, after a visitor has seen one large



FIG. 36.—*MASDEVALLIA* X *SHUTTAYANA*, CHAMBERLAIN'S VARIETY. (SEE P. 263.)

Colour rosy mauve, with reddish-purple markings; tails yellow.

#### EXHIBITIONS.

Mr. Wright observed, that whatever system of grouping we may adopt at home, when we come to an exhibition our best endeavours are put forward—we try to excel everything that we have previously done. Here we find also that we must not attempt the same system of arrangement too often, for the public as well as the judges are always looking for something novel and fresh. One point struck the lecturer as remarkable, this being the length of time the classes usually met with in flower-show schedules have found favour with the public, in which prizes are offered year after year for a certain number

show of the season—say, in the neighbourhood of London—if he goes to another he finds the same plants in the leading classes; and so, as a matter of fact, the show has little to interest him. To remedy this defect, the lecturer would apply the system of grouping to all our horticultural exhibitions, thus introducing something of interest all round, both to the gardener and the general public. To some persons it might seem sacrilege to hint at discarding those "specimens" that go to make up most of our horticultural displays, but all the same they have had their day. Fashion here, again, is changing in the taste of the plant-loving

public. At one sweep, without the least compunction, he would do away with all those classes in flower-show schedules that limit the number of plants in a class, and give instead a certain number of square feet wherein the plants of that class should be arranged. We are, it was stated, to a certain extent following this line in our groups of stove and greenhouse plants arranged for effect, and so far those "groups," are, on the whole, successful. But let us extend this system, and instead of having a class for "six exotic Ferns," say, "For the best group of Ferns, arranged for effect in a space not exceeding 40, 50, 60, or 100 square feet," or whatever number of square feet may be desirable.

When we come to foliage plants, such as Codieums, Begonias, Caladiums, Palms, &c., a groundwork of some other plant should be allowed. Where it is known that a certain plant makes a better groundwork for a particular class, that plant should be mentioned.

Mr. Wright had no hesitation in saying that a show carried out somewhat on these lines would be far more attractive than our flower shows are at the present time. We should then expect to see something fresh, and different, wherever we went. Another important feature pointed out was, that such an arrangement would allow many more exhibitors to enter the lists than at present; besides the far greater number of beautiful plants it would bring before the public, which at the present time, although far prettier, are left at home because not large enough to compete with their larger brethren.

## NEW OR NOTEWORTHY PLANTS.

### ODONTOGLOSSUM × WILCKEANUM,

*Pitt's Variety.*

OF late but few really remarkable forms of *Odontoglossum* × *Wilckeanum* have appeared, and the advent of one with some peculiarly distinct and desirable features at Messrs. Protheroe and Morris' Auction-rooms on Friday, February 14, caused quite a revival of the old enthusiasm among lovers of *Odontoglossum*. No better evidence of the fact can be adduced than the intelligence that after a spirited competition it became the property of H. T. Pitt, Esq., of Roselyn, Stamford Hill (gr., Mr. Aldous), at the substantial price of seventy-four guineas; the plant was but a small one, and its owner is confident that he can succeed in growing it into far greater beauty even than it now shows, and for the purposes of identification he wishes it to be called Pitt's variety.

The flowers as at present seen are not of more than average size, but they display themselves better, and are of firmer substance than most others of the class. The colour and the disposal of the blotches on the segments make the chief difference, and in these respects it may be, comparatively speaking, called a brilliant flower. The ground colour is a bright very light yellow, fading off to cream-white towards the margin. The sepals have two-thirds of their surface covered by three large brownish-red (almost blood-red) blotches. The petals have numerous smaller blotches of the same colour, and the lip bears one large blotch in the centre, and a smaller one on each side of the yellow crest. In the arrangement of the blotches, and in some other respects, this beautiful variety calls to mind a very large *O. × elegans*, but its crest and lip are those of *O. × Wilckeanum*. *James O'Brien.*

MASDEVALLIA × SHUTTLEWORTHIANA, CHAMBERLAIN'S VAR. (SHUTTLEWORTH'S ♂, HARRYANA ♀).

With such a wide range of variety for the cross-breeder to select from as that furnished by the

extremely variable (both in size and colour) forms of that showy species of *Masdevallia coccinea* generally known in gardens as *M. Harryana*, it is no more than might be expected that much variety will be shown in the crosses raised with it, as in the present instance. The plant, thanks to the careful selection of the forms of *M. Harryana* and *M. caudata Shuttleworthii* by Mr. Burberry, gardener to the Right Hon. Joseph Chamberlain, Highbury, takes its place as one of the neatest and prettiest of the large-flowered, dwarf *Masdevallias* (see fig. 36). The flowers are of a clear rosy-mauve, with some reddish-purple markings between the two lateral sepals, and some clear yellow and red lines in the interior of the concave upper sepal. The tails, which are bright yellow in colour, reflex as the flower ages; and the flower lasts about one month in good condition. For the limited space it occupies, few plants could give such a fine show of bloom for so long a time in a cool-house as this pretty cross, and both Mr. Chamberlain (whose first home-raised *Masdevallia* it is) and his clever Orchid-grower are to be congratulated on their *protégé*. It secured an Award of Merit when it was shown before the Orchid Committee of the Royal Horticultural Society on February 11, this year. *J. O'B.*

## A COLLECTING TOUR IN JAMAICA.

(Continued from p. 198.)

OUR road now led us gradually inland towards Bath. We passed very fine trees of Guango, or rain-tree (*Pithecolobium saman*); wild Tamarind (*Pithecolobium filicifolium*), with light fern-like foliage and beautiful scarlet pods; Dogwood (*Pisidia erythrina*), huge Silk-cotton, &c. We also passed thriving plantations of Chocolate and Nutmeg, growing under the shade of Bananas. Here we noticed also numbers of large trees of *Eugenia malaccensis* and *Barringtonia speciosa*. These, and many other trees in the district have spread from the old Botanic Garden at Bath. There is now only a remnant of the old garden, and although only about one acre in extent, it contains fine specimens of *Barringtonia speciosa*, *Spathodea campanulata*, *Pterocarpus Marsipium*, *Lagerstrœmia Flos-reginæ*, *Cinnamomum zeylanicum*, *Myristica fragrans*, *Cola acuminata*, *Baphis aioides*, *Dipteryx alata*, *Inocarpus edulis*, *Omphalea triandra*, *Napoleona imperialis*, *Swartzia grandiflora*, *Oreodoxa oleracea*, *Arcea catechu*, *Raphia Rufia*, *Astrocaryum mexicanum*, *A. vulgare*, *Elæis guineensis*, *Calamus Rotang*, *Corypha umbraculifera*, *Attalea Cohoue*, *Livistona chinensis*, *Caryota sabilifera*, *C. nrens*, *Rhapis flabelliformis*, &c. As there were several specimens of many of these trees, besides smaller-growing trees, shrubs, and climbers, it is easy to imagine what a crowded state the small garden was in. It was simply a jungle till about two years ago, when a good deal of necessary thinning and pruning were done; duplicate or triplicate specimens were removed to give more light, air, and root-space to those allowed to remain; the trees and plants were labelled with neat enamelled-iron labels. The place was put in good order, benches provided, walks laid out (the old walks had become obliterated), and something like order restored. Beyond keeping the place tidy, it is not possible to do much more. The soil is so full of the roots of large trees, and the shade is so dense, that the smaller kinds of ornamental plants can hardly exist. Bath is an ideal place for a tropical botanic garden—a warm, humid atmosphere, frequent showers, and good soil, but the distance (4½ miles by road) from Kingston, the capital, is against it. The baths, from which the place takes its name, are situated in a gorge about a mile and a half from the town, in a very picturesque spot, in the midst of Tree Ferns and other tropical vegetation, growing in the wildest profusion imaginable. The mineral springs occur in a short space, breaking out from the rocks at different levels, and by their warmth are at once distinguished from the ordinary

water of the gorge. The largest spring issues from the face of a perpendicular rock. A covered reservoir of masonry has been built round its outlet, and a pipe fixed in it carries the water to the bath-house. In wet weather the temperature of the water, as it runs from the rock, was taken at 128° F., and it rises in dry weather to 130° F. A short distance further up the gorge is a spring surrounded with masonry in a similar manner to the main spring. Its temperature was taken at 120° F.

"These waters are sulphuric, and contain a large proportion of hydro-sulphate of lime; they are not purgative, and are beneficial in gout, rheumatism, gravelly complaints, cutaneous affections, and fevers. It is remarkable that a cold spring flows from the same hill-side, near the hot spring, so that cold and hot water are delivered alongside of each other at the baths. Some new buildings have lately been erected for the accommodation of visitors, and the management is creditable." *Handbook of Jamaica.*

We stayed in the neighbourhood of Bath for a couple of days, and made a good and varied collection of herbarium specimens. In the woods at Mansfield, once the residence of Mr. Nathaniel Wilson, who for many years was curator of the Botanic Garden, we were fortunate in securing many novelties. We found a very fine variety of *Oncidium luridum* in flower, the individual blooms were much larger than usual, and instead of the brownish hue, were of a distinct and pleasing tint of rose. We also found *Trichopilia mutica* growing on the limbs of large trees. This is a pretty and interesting little Orchid, not previously recorded for Jamaica, and, so far, it is the only representative of the genus that has been found here. There was an abundance of *Anetium citrifolium*, growing principally on the trunks of the Long-thatch Palm (*Calyptrogyne Swartzii*). The woods here abound with beautiful filmy and other Ferns. There are also magnificent timber-trees in great abundance, notably splendid specimens of *Santamaria* (*Calophyllum Calaba*), with trunks over 100 ft. high, and as straight and symmetrical as the mast of a ship. Here, also, we found large trees of *Priocopaifera*, described by Griebach as rare, and the pods were not seen by him when his description was prepared. The trees were in flower at the time of our visit, and to procure specimens, a monster, over 80 feet high, with a girth measurement of about 20 feet near the base, had to be felled. This tree proved to be hollow for a good way up the trunk. It is known as the "Oil tree" in the Bath district. When tapped at certain seasons of the year, it is said to yield a copious supply of an oleo-resinous, inflammable juice, which was formerly used by the negroes for burning in lamps, but it emits a very disagreeable odour. The nature of the substance requires investigation, and the owner of the property kindly promised to procure a good sample of the "oil" for that purpose.

After leaving Bath, we struck off in a north-westerly direction for the Blue Mountain Coffee region, going up the Plantain Garden River valley. The African Oil Palm (*Elæis guineensis*) is quite naturalised here, and grows luxuriantly in large numbers. The Bread-fruit tree is very common in this valley, and the labourers working on the road in course of construction were gathered in groups when we passed, eating their breakfast, which appeared to consist chiefly of this fruit, either boiled or roasted. The vegetation in this valley, taken on the whole, is very similar to that of the Swift River Valley: *Eugenia Jambos*, *Grias caniflora*, *Pithecolobium latifolium*, *Bamboos*, *Mahoe trees*, *Xanthoxylum*, many *Melastomaceæ*, *Rubiaceæ*, *Compositæ*, *Piperaceæ*, *Laurineæ*, *Euphorbiaceæ*, &c. Along the banks of the river, in open damp places, *Alpinia Allinghas*, an Asiatic plant, is quite naturalised. There are acres of it, with stems growing to a height of 6 or 8 feet.

The track follows the course of the river, now on one side till stopped by immense, almost perpendicular rocks, then crossing, and along the other bank for a short distance, till obstructed by another wall of rock, and so on, crossing and re-crossing twenty-six times in a distance of a few miles.

An excellent driving road is now being made along one bank, avoiding all the fordings. This is a heavy and expensive undertaking: blasting rocks, levelling hill-sides, and filling up depressions, building retaining walls and culverts; but it will open up a magnificent and fertile valley. After leaving this valley we passed through two thriving sugar estates in a high state of cultivation. The temperature here seemed to us to be somewhere in the neighbourhood of hoiling-point. We were glad to get away from it, and lost no time in getting into the delightfully cool air of the grand and beautiful Blue Mountain, amongst the plantations of Coffee and Oranges, the latter laden with delicious fruit.

We accomplished, to us, a highly interesting and instructive tour, and the impressions formed will not readily be effaced from our memories. *W. Harris, Jamaica, December, 1895.*

## ORCHID NOTES AND GLEANINGS.

### DENDROBIUM NOBILE INTERMEDIUM.

CONCURRENTLY with the fine varieties, "elegans" and "pendulum," of the earlier importations of *Dendrobium nobile*, a very fine white variety was known in gardens as "intermedium;" and, although the name does not seem very appropriate, it is worth preserving for the sake of the plant to which it was attached, which has since been called *D. nobile albiflorum*, and by other names. A variety which seems to be identical with the old *D. n. intermedium*, has just flowered with H. Shaw, Esq., Heathfield, Birch Vale, Derbyshire (gr., Mr. J. Cliffe). The flowers of this plant, which are of medium size, are white, the base of the lip having a distinct purplish-crimson blotch in the centre. The highest form of these white *D. nobile* is the *D. n. Schroderianum*, which, on account of its extraordinary size, its rich maroon-purple coloured disc, and superiority in all respects, should always retain its name. *J. O'B.*

### DENDROBIUM WARDIANUM.

Being an admirer of this very popular Orchid, I am always pleased to read notes on its culture. They always interest me. Mr. Hebden's article on p. 241, *Gardeners' Chronicle*, should be read by anyone who is unacquainted with the general points of culture, and yet wishes to grow the plant to perfection. On Feb. 7, I saw a houseful of *D. Wardianum* in bloom at Eaton Hall, Chester. The plants from end to end of the house were beautifully flowered, and they were stood amongst a quantity of *Adiantum capillus-veneris*, furnishing a sight not soon forgotten. See our issue for Jan. 18, p. 71. *Geo. Burrows, Berrwick Gardens, Shrewsbury.*

## THE STANHOPEAS.

The figure of *S. Haseloviana* in the *Bot. Mag.* for January, has again brought to my mind an idea which has been there before: whether or not in the production of these coloured plates, it would not be better to have the flowers photographed in the first place; and if not the flowers because these are to be coloured, certainly the parts of the flower that have not to be coloured, and the drawings of the plant itself, which is sometimes given. In the plate alluded to, are the top of the column, and the pollinia in two positions? I make these comments because I had some excellent photographs from the Rev. F. D. Horner some three or four years ago of *Stanhopea tigrina* flowers, and they certainly were very different from the coloured plates of long ago, and the modern ones do not seem to be any better. Indeed, if we refer to the first plate of *Stanhopea* figured in *Bot. Mag.*, *S. insignis* t. 2948 and 2949, more care seems to have been taken in the year 1829 than in the present year, the pollinia and other parts of the flowers being coloured. In 1834, *S. eburnea* was figured, and evidently the

plants from which the plates have been prepared were splendid examples of culture. It would serve no purpose to specify all the coloured plates, but it is interesting to make comparisons with what was done in the way of culture, and in the preparation of coloured plates then and now, and it really seems that there has been no advance in either in sixty years. Probably we have at least been "marking time."

I have been tempted to write about the *Stanhopeas* because, as a genus, they have been neglected by Orchid-growers. I can well remember, some thirty-five or forty years ago, handsome specimens growing under the shade of Vines, or suspended in baskets from the roof-glass in old hot-houses. Except that the leaves might occasionally be attacked with red-spider, they seldom suffered from insect pests. The flowers, of course, do not last very long in good condition, and the strong perfume

little. *S. oculata* (fig. 37), for instance, was sent to England by the late Mr. G. Ure-Skinner, from Mexico, and from his careful descriptions of atmospheric conditions and temperature, we know at once what to do with it. The temperature in winter falls to 36° to 42° Fahr. It is Guatemalan. In many cases, collectors describe the elevation at which the plants were found, and other particulars. *S. bucephalus* is found at 6000 feet elevation in Ecuador. *S. tigrina* seems to be more widely distributed than most others of the genus, but it is also found at considerable elevations, and cannot require a very high temperature. Mention may also be made of *S. florida* (fig. 33), which possesses handsome flowers. An Orchid that does not require a high temperature will be sure to become infested with parasites in a close hot-house, especially if from a high elevation, as many of the *Stanhopeas* are. They must all be grown in teak baskets with peat and sphagnum. *Jas. Douglas, Ilford.*

## VITIS COIGNETIÆ.

The following account of this plant is taken from *Le Jardin* (p. 195 seq.):—

*Vitis Coignetiae*, Palliat (*V. rugosa*, Ndn., non Vall.; *V. Laurusca japonica*, Thunb.), was found, says M. Planchon, in 1861, growing wild at Hakodate (Yaso Island), by Drs. Albrecht and Maximowicz.

It was not until 1875, fourteen years after its discovery, that this Vine was introduced into cultivation. The credit of its introduction is due to M. et Madame Coignet, who, at that time, were travelling in Japan at the instigation of the Lyons Chambre de Commerce. Madame Coignet admired the plant in its wild state; she collected seed of it which she gave to her father, the late M. Jean Sisley, of Lyons, a well-known horticulturist. M. Sisley sent some to M. Palliat, who raised some plants which he shared with the Ecole Nationale d'Agriculture at Montpellier, as well as with M. Planchon.

At the same time that he forwarded seed to M. Palliat, M. Sisley sent some to M. Naudin, at Antibes. When he examined the plants raised from these, M. Naudin, because of the scuffed appearance of the leaves, and of their rather harsh consistency when touched, called the Vine *V. rugosa*. But this name had previously been given, by Wallich, to another species, and had therefore to be abandoned.

While *V. Coignetiae* was cultivated and studied simultaneously at Lyons by M. Palliat, at the Villa Thuret by M. Naudin, and at Montpellier by M. Planchon, M. Henri Dagnon, Receveur Principal des Postes et Télégraphes, re-discovered it (in June, 1883). Ignorant of its presence in France, he re-introduced it, in January, 1884, from the borders of Ishikari (Yaso Island), whence he sent 1500 plants and a quantity of seeds. The plants were entrusted to the Ecole de Viticulture, at Montpellier, and the seeds, at the suggestion of M. Maxime Cornu, then Inspector-General of Viticulture, were distributed between different French scientific establishments, among others, in addition to the Montpellier school, to the Ecole Nationale d'Horticulture of Versailles, and the Muséum d'Histoire Naturelle, Paris. The seeds sown in 1884, at the museum, yielded a good number of plants.

This remarkable species is characterised by an exceptional vigour, and an amplitude and beauty of foliage quite peculiar. It has also, according to travellers who have observed it in its native country, a very great facility for adapting itself to different climates, to the most varying situations, and a curious aptitude for living under conditions of temperature to which other Vines cannot be acclimatised.

*V. Coignetiae* occurs from 35° N. latitude (in the island of Nippon) to 41° N. latitude (in Yaso Island). One form has been discovered even in the southern part of the island Salchalin, that is to say, towards 46° N. latitude. It is more abundant and more vigorous in places of higher latitude; it is, in fact, essentially a northern species.

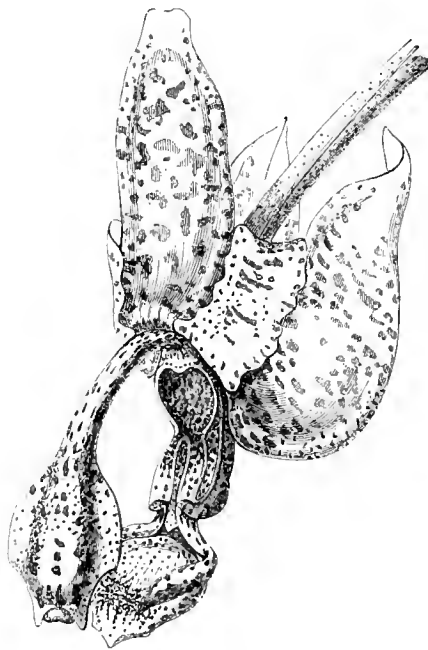


FIG. 37.—FLOWER OF STANHOPEA OCVLATA "GUTTULATA."

Colour of the sepals yellow, with a large number of lilac spots; the petals less spotted, the centre yellow, with four blackish-brown spots on the side of the hypochil.

is not agreeable to every one. As a general rule they require, when growing, a high temperature and moist atmosphere, and the leaves to be quite free from thrips and red-spider. However, it is a point in the culture of all species of Orchids that they should be kept clean; and more, they must be grown in a temperature where they have not a tendency to become infested with parasites at all; and now we have three classes of houses, it is easy enough to find the right temperature for all species of Orchids, and it is possible to find a slightly higher and lower temperature in the same house. In our cool Orchid-house, 60 feet in length, there is a difference of 5° between the two ends, with the ventilation the same throughout, and the same remark applies to the other houses.

Referring to *S. Haseloviana*, all we are told of culture is, that "it flowered in the Royal Gardens, Kew, in July, 1894, and perfected its leaves in March, 1895." One does not expect much about culture in a botanical work, but it would have been easy to say it was grown and flowered in the warmest house or intermediate-house, so that any one possessing the plant would know what to do with it. It is stated to be from northern Peru, but that tells us but

It is known that in Europe *V. vinifera* ripens its fruits well up to nearly 50° of N. latitude, and that it can live at some degrees beyond this limit. It is not, then, surprising to see *V. Coignetiae* live and propagate itself in the wild state beyond the 46°, even if the climatic difference is remembered between Europe and Eastern Asia. But there lies some

noted the existence of my Vine from Ishikari. Twenty mètres (65 feet) before reaching the first glacier, I gathered some leaves for my herbarium. When I arrived at the glacier itself I searched (while my companions quenched their thirst with scraps of ice) right and left, and found the same Vine; 100 mètres (300 feet and upwards) above the glacier I saw it again;

prosper in the very cold countries of Europe—provided, no doubt, that it were covered with snow during the time of rest from growth. The foliage is thick, puckered, of a fine dark green, and remarkably fine; some leaves measure as much as 30 cents. (12 inches) in length and the same in width.  
M. Maxime Cornu sent to the *Gardeners' Chronicle*



FIG. 38.—STANHOPEA FLORIDA. (SEE P. 264.)

Flowers white, sepals and petals marked on the inside with purple spots; lip covered with purple spots, having a blotch on each side between the two keels.

interest in the statement made by M. Degron, that as to altitude, it grows even in the glaciers and at the limit of perpetual snows. M. Degron found it, then, in the Island of Nippon, near Mounts Schmidza-Togué and Alcadjisan [these mountains are situated at 36° 30' N.; their altitude is about 1500 m. (5875 feet) above sea-level], although the tracks were reported to be impassable owing to the snow.

M. Degron started for Schmidza-Togué on the 24th; I arrived there on July 28. Everywhere I

finally I met with it about 150 mètres (450 feet) from the summit, on which I tried to climb. . . . I may add that this Vine bears fruit in rather large quantities, the seeds are then as large as Peas, and as round. This peculiarity, so remarkable in a Vine of growing spontaneously, and bearing fruit on the glaciers and up to the limit of the perpetual snows, indicates a quite special temperament; it seems to show that *V. Coignetiae* is hardy under any conditions, and could live and

a notice which appeared in the beginning of 1891 (p. 44), a note, very interesting from the point of view of the history and cultivation of this plant.

According to the descriptions given by the travellers, it is more particularly by the borders of water-courses and in moist places that the plant reaches its full development and greatest beauty.

This species, so remarkable from an ornamental standpoint, is very ill adapted for grafting, even for summer grafting in full sunshine, which with



us succeeds so well with all the more or less troublesome. The particular steps taken to prevent decortication, the use of branches full of strength and dis-budded—none of these precautions yields satisfactory results. Layering only is a safe process; even then rooting is very tardy. This is the principal hindrance to the popularisation of this beautiful species in gardens.

It also resembles certain other Asiatic species, and in particular *V. Romanetti*, and especially *V. amurensis*.

*V. Romanetti* [*V. Romanetti* is often, very wrongly, confused with *Spinovitis Davidii*] differs very markedly by its rigid, glandular, and apparently spiny hairs, which cover the young branches, the petioles and veins, and by the leaves, with deeper and longer divisions.

*V. amurensis*, very similar at first sight to *V. Coignetiae*, and having in common with that species very broad and very thick leaves, differs from it in that these same leaves are less decidedly puckered the lobes are more accentuated shiny on both surfaces; the lower surface, instead of being downy simply has upon the veins (as small), short, and stiff hairs." *L. Henry*.

## BOOK NOTICE.

PETIT GUIDE PRATIQUE DE LA CULTURE DES ORCHIDÉES, par L. Duval. Second edition. (Jardin Office, 167, Boulevard Saint Germain, Paris.)

An excellent little book for beginners and students, stating in clear, unequivocal language the nature and requirements of Orchids, and stating tersely the best methods of fulfilling them. The substance of the book is condensed and to the point; but in order still further to meet the convenience of the amateur, a catalogue of the hardiest Orchids is given, with tabular details as to their requirements. We extract the first entry, in order to show how much information is compressed into a little space. We have altered the arrangement of the table to suit the form and size of our columns. In the original the information is given in parallel columns:—

Name of plant, and brief indication of their floral characters:—*Ada arantia*, flowers vermilion-coloured, in pendulous spikes.

Period of growth: November to April.

Period of rest: May to October.

Period of flowering: February—March.

Native countries: Colombian Andes.

House required: Cool-house.

General observation: To be grown on blocks or in pots.

In other cases the nature of the compost is indicated.

We notice a slip in the native locality of *Cymbidium eburneum*, which is given as *Rummania*.

The illustrations are not of the same general excellence as the text.

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WHITE, *Burford, Dorking*

**MASDEVALLIAS.**—Amongst the species now about to start into growth, is *M. tovarensis*, and the present is a suitable time for repotting or breaking up overgrown specimens of this plant, or such as have become bare of leaves towards the centre. The pots or pans used for *Masdevallias* should be filled up to within 1 inch of the rim with clean crocks, over these a thin layer of sphagnum-moss, the top layer consisting of peat and sphagnum-moss in equal parts, in which the plant will make roots. Water should be very carefully applied after root-disturbance, till the young leaves are well advanced, for too much afforded during this period may cause the old foliage to damp off. The leaves of this species should be cleaned of the small yellow thrips that attack them, with warm water and a sponge. In this mild season the *Odontoglossum*-house will be found a suitable

place for *Masdevallia tovarensis*, but in colder weather it will be prudent to remove it to the coolest part of the intermediate-house.

**SHADING FOR THE HOUSES.**—The sun's rays are now becoming too powerful for some species of Orchids, and in the case of *Aërides*, *Saccolabium*, and *Angraecum* that have been recently re-potted or top-dressed, the need of blinds and shading is apparent when the sun is bright and the sky clear. The inmates of the East Indian-house form another section of Orchids which will require protection from the sun during the brighter hours before and after noon, whereas the *Cattleya* and intermediate-houses will only require shading for an hour on that side of the roof that is exposed to the sun's rays. The Mexican-house, if it be properly attended to as regards ventilation, will need no shading for the present. *Odontoglossum* and *Masdevallia*-houses, especially if span-roofed, and those lean-to houses that have a southern slope, in which sun-heat causes a higher rise in the temperature than is good for these plants, should be shaded. At this season cold winds alternate with bright sunshine, and the air is too harsh to be freely admitted, and in that way keep down the temperature; and this is another reason for the use of shading. With mild moist weather the ventilation may be increased, and shade reduced. At the present time many persons are engaged in experiments with various systems of shading for plant houses. One of the conditions of a good kind of shading is, that it combine sufficient light for the plants without direct sunshine, and to meet this requirement, blinds made of strips of wood, reeds, or split Bamboo canes, fastened together in certain lengths, so as to roll up and down like the ordinary canvas blind, are being advocated. I had hoped that some of my countrymen who have tested this kind of shading in a practical manner would ere this have given the results of their experience to the readers of the *Gardeners' Chronicle*. So far as my experience goes with these blinds, and they have been in use on two houses at Burford Lodge for one season, it is that they allow plenty of diffused light to reach the plants, which is certainly a great advantage for the consolidation of tissues in the leaves and pseudo-bulbs, whilst preventing the sun's rays remaining for any dangerous length of time on any particular plant, so that there is no scorching of the foliage under them. Another great gain is in the equitable degree of warmth maintained in the houses, and this is very noticeable in spring, when the fluctuations out-of-doors are considerable. These blinds, if they are supported about 6 or 8 inches above the glass by means of a light frame-work of iron or wood, tend still more to equality of temperature within the house. The weather last summer afforded a capital test for these open blinds, and the results were satisfactory so far as *Cattleyas* were concerned, the growths becoming more thoroughly matured than formerly, and, as a consequence, they have gone through the useless winter admirably. The same may be said of a small collection of *Dendrobium Poalaëtopis*, *D. tauroium*, *D. superbiens*, *D. bigibbum*, *D. secundum*, and others of that section, which were grown together in one house. These plants have thus far gone through the winter without any spotting of the foliage, or shrivelling of the pseudo-bulbs, although afforded but a very limited quantity of water since they flowered. This seems to show that the tissues were thoroughly matured by the increased amount of sunlight admitted. Until I have had more experience with these blinds I cannot advocate their use on houses containing cool Orchids which stand fully exposed to the mid-day sun, but I may suggest a trial of them on *Odontoglossum*-houses which face north or north-east. As regards *Cattleyas*, *Dendrobiums* generally, Mexican *Laelias*, *Catacactes*, *Cyrtopodiums*, *Schomburgkias* and allied species, I would recommend the use of the lattice blind.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury*.

**FORMING NEW VINE-BORDERS.**—If it is intended to make new borders, the work should be done as soon as possible, so that the fresh soil may settle before planting-time. If the subsoil be gravel or chalk, no artificial draining will be required. In other cases, provision for this must be made by means of pipes. The main drain or outfall should be placed at the lowest part of the border, and other pipes run from the part where the canes are planted, and discharge into it. Cover the pipes with a good layer of clean brick-rubble or stones, and over this put a layer of turves, with grass-side downwards, and then fill up with the

compost, which may consist of good turfy loam ten parts, lime and mortar-rubbish one part, charcoal and crushed bones half a part each. Well mix this by turning it twice before putting it into the border. In wet, low-lying districts, the border should be kept well above the level, and do not make it too deep in any case, 2 feet 6 inches is quite sufficient. The border should not be made to the full width at first, 4 feet is wide enough for the first year, and a couple of feet may be added annually till the allotted space is filled.

**EARLY CUCUMBERS.**—With bright bursts of sunshine and necessarily freer ventilation, the leaves on Cucumber plants will be apt to flag at times, and this may result in scorching. To prevent such injury it will be well to shade them slightly for an hour or two when the sun is brightest. See that the roots are plentifully supplied with water, and shut up the house early with plenty of surface moisture about. Syringe lightly on bright afternoons only, and the foliage will quickly gain strength and substance sufficient to stand full sun. Stop all lateral growths at the first joint, and thin the fruits freely. It is better to have a moderate early crop than to risk exhausting the plants by too heavy cropping. Do not let the temperature exceed 70° at night, unless the weather be very mild, but a few degrees lower than this in cold weather will not matter. Sow more seed for succession.

**MELONS.**—These should now be making rapid progress, and will need daily attention in regard to stopping and tying. The night temperature should not exceed 70°, with a rise of 10° or 15° in the day-time; more or less air according to the state of the weather. Give no more water at the root than is sufficient to keep them healthy. Sprinkle the paths and surface of the bed each day at closing time, and slightly syringe the plants occasionally when not in bloom or setting their fruits. If grown on dung hot-beds in frames or pits, the glass must be thoroughly well covered at night, and the heat kept up by renewing the linings with fresh hot material as may be required.

**STRAWBERRIES IN POTS.**—When the fruit's commence to colour, a drier and more airy atmosphere should be given them, if possible. This will induce a brighter colour and better flavour in the fruit than a close, moist house. Do not afford manure-water after ripening has commenced. If the plants are wanted for planting out later on, they should be hardened off carefully after the fruit is gathered before placing them outside. If not so required, they should be at once consigned to the rubbish heap. Plants swelling off their fruit should have a night temperature of 65°, and 70° to 75° by day, with a rise of 10° by sun-heat. More attention should now be given to the watering. Examine the plants two or three times a day, and afford such as require it plentiful supplies of weak liquid-manure, with an occasional syringing at closing time to keep red-spider in check. All plants still out-of-doors should be put under cover so as to start them gradually.

### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring*.

**MISCELLANEOUS OPERATIONS.**—Continue to propagate bedding plants, and pot off rooted cuttings, and such as require more root space; and keep the stock of *Iresines*, *Verbena*, &c., clean by occasional fumigating. Seedlings of single-flowered *Dahlia*, *Ricinus*, *Z. a.*, *Nicotiana Tabacum*, and *Wigandia* in variety, are best raised early, and seeds may now be sown in gentle heat, the first three as one seed in a small pot, as they will not bear disturbance at the roots. All of the above-named should be grown on in a warm house, being gradually hardened off by the middle or end of the month of May.

**PHLOX DRUMMENDII.**—Seeds of this pretty plant should now be sown, much better plants being obtainable from early sowings, given a cool treatment afterwards, than from late sowings and prolonged cultivation in warmth; a temperature of 50° to 55° is sufficiently high in which to start the seeds, which as soon as they have germinated should be moved to a position, where plenty of air can be afforded; and when the plants are large enough to handle, prick them off into boxes or pans, using a light rich compost; shading and keeping them close for a few days, and as soon as root action has recommenced, ventilating freely.

**TROPÆOLUM SPECIOSUM.**—This beautiful climber is rarely seen doing well in gardens, still it is one of the most effective plants for covering walls

and trellises, or rambling over trees and shrubs, which it will do to a height sometimes of 12 or 14 feet. A north or south aspect is equally suitable for the plant, providing there is no lack of moisture. Propagation is effected by division when the roots are on the move, that is, at this season. When transplanting the pieces afford a liberal supply of rotten manure, and a mulch of some kind. The plant seems to succeed more completely when in the company of some shrub or low-growing tree than against a wall, although in time a plant will get established in the latter position and do well.

**BEGONIAS FOR BEDDING.**—Tubers that have been resting may now be placed in a temperature of 50° to 55°. Should the press of other work prevent their being potted-up at once, they will do quite as well if simply laid on the inside border of a vinery or Peach-house that is being started; and they will take no harm here for some weeks to come. For potting, use a light compost, such as one consisting of two parts leaf-mould, and one each of loam and sand. This will induce the growth of plenty of fibrous roots.

**PANSIES AND VIOLAS.**—Should the stock of young plants be small, an increase may be made by dividing up the old plants. The smallest pieces of the young growths will succeed if carefully dibbled into sandy soil, and make good strong plants by bedding-out time. Place them in cold frames, and keep close for a few days, afterwards giving air freely.

**PETUNIAS.**—If seeds have not yet been sown to raise plants for bedding purposes, a sowing may be made soon; the seedlings will afford a very useful batch of plants, and possibly overtake those of a former sowing. Sow the seeds in well drained pans or boxes, and lightly cover them with sand or very finely-sifted soil. Place them in a temperature of 55° to 60°, and shade from bright sun.

### THE KITCHEN GARDEN

By G. HERRIN, *Gardener, Deptford, Maidstone.*

**PARSNIPS.**—Assuming that the gardener has prepared a piece of ground by manuring and deeply treading it, and has stirred the surface recently, the main portion of the Parsnip crop may be sown north-south. Before doing anything else, broadcast a mixture of soot and wood ashes over the land to be sown, then proceed to rake and level the surface roughly, afterwards tread it regularly and evenly all over; after which the drills, which should be about 15 inches apart, may be drawn. Where size of root is not the chief consideration, a part of the Parsnip crop may be sown towards the end of the month of April, as by sowing at that date excellent roots of good quality are obtained which, although small, are better suited for the best table than the large roots from the early sowing. Last year, our first sown Parsnip-bed was a partial failure, and it was hoed over and re-sown with fresh seed about May 20, and from this late sowing as good Parsnips were obtained as anyone could desire. Where a few extra large, clean roots are required for exhibition purposes, holes may be made with a large dibber or iron bar 1½ to 2 feet in depth and 6 inches in diameter, and at 18 inches apart each way, and filled with rich loamy soil, mixed with wood-ashes and soot which have been passed through a sieve with a half inch mesh. The soil should be pressed firmly into the holes, and three or four seeds sown in the middle of each patch, the number of seedlings to be reduced to one.

**STACHYS TUBERIFERA, CHINESE ARTICHOKE, OR COBNEE.**—These capital little tubers are not so generally cultivated as they deserve, and I would advise those who have not as yet given them a trial to grow a few this season. They are very hardy and productive; and a fair supply can be grown on a small plot of ground. I find three rows each of 25 yards in length will produce tubers sufficient for a daily supply at home, besides allowing for a quantity to be sent away. During the winter it forms a very acceptable addition to the list of available vegetables; and the tubers may be cooked and served in several ways, a very simple one being to boil them like Potatoes, and serve with white sauce. After boiling, they may also be fried with a little butter until rather brown, thus making a delicious dish. Owing to the mild weather, the tubers are making growth, and it has become necessary to plant the sets at an early date. The soil should be moderately light, and the sets planted in drills of 3 inches in depth, and 2 feet apart, the tubers being set at

9 inches apart in the row. By constant selection of the largest for planting, a slight increase in size of the tubers is obtained. The sets should be covered by drawing the mould over them with a rake, and very little after-attention is required beyond keeping the ground clear of weeds. A rather dry summer suits the *Stachys*, a wet season promoting too much top-growth and a large quantity of small tubers; it is therefore advisable to plant them in the driest part of the garden.

**JERUSALEM ARTICHOKE.**—This tuber may now be planted, giving preference to the white-skinned variety. Do not choose some shady corner of the garden as often happens, for the Artichoke pays for good cultivation and for being grown in good land in an open situation. Let the land be deeply dug and well manured, and plant in rows 2½ feet apart, half that distance between the sets in the rows, and 6 inches in depth.

**GLOBE ARTICHOKE** may have the greater part of their winter covering removed, just a little loose litter or bracken being left around the stems for a time as protection against probable frosts. There has been no loss of plants through the severity of the winter, but where there are gaps in the lines, these may be made good by strong suckers taken from the largest clumps and planted in pots, keeping these in cold frames till April.

**RHUBARB.**—The earliest Rhubarbs being now on the move, a portion should receive protection against frost from a slight covering of litter or bracken. Protected in this manner the stalks come of good colour, and will be large enough for use in a few weeks' time. This will render much more forcing of Rhubarb roots unnecessary from this date onwards. Where numbers of roots are lifted for forcing each year, as many old clumps as will afford the required number of new pieces should be lifted and divided. These divisions should be planted on ground that was heavily dressed with rotten manure, and trenched, setting them out in rows 4 feet apart, and 3 feet in the row, planting three or four good strong crowns on each station. When planting is finished, the ground around the plants should be covered with a mulch of rotten manure. No stalks should be pulled this year, but free growth encouraged.

### PLANTS UNDER GLASS.

By JNO. MOUNTREE, *Gardener, Woodside, Durlington.*

**PHACELLOMA.**—How seldom is this grand plant grown well! It is one of the best exhibition flowering plants, and a well-grown specimen is not easily excelled. It continues a long time in flower, and I have seen the same plant exhibited throughout the summer retain its freshness to the end. A cool airy greenhouse is the house the plant requires, and it should be light. The only method of propagation is by cuttings. Insert these in 3 inch pots filled with fine silver-sand any time during the spring. Avoid flowering shoots, and when inserted place the cuttings under bell-glasses, on a shelf in the greenhouse near the glass until rooted. This may take as long as two or three months, and when rooted, pot off singly into 3-inch pots, using two parts peat, one of light sandy loam, and one of silver-sand. The following spring these will be nice plants to shift on. Pinch the strong growths, and if specimens are wanted quickly it is well to prevent the plants flowering for two or three seasons. Specimen plants are best potted in February or March, using equal parts good fibrous sandy loam and peat, with a sprinkling of coarse silver-sand and charcoal. Water carefully for some time after potting, but when the plants are well established, a larger amount is required. Run-water is best for these plants, if it can be obtained, and next to that pond or river water. More hard-wooded plant specimens are lost from allowing them to get dry at the roots, than from any other cause. If these plants are regularly pinched, few stakes will be required; and if flowers are rather irregular, they can be regulated by means of green thread passed from one shoot to another.

**DWARF-GROWING STOVE PLANTS.**—Now is a suitable time to propagate *Oplismenus Barmanni variegatus* (Panicum), *Fittonia*, *Ficus*, *Peperomia*, and others similar. The method adopted here for propagating all plants of this kind is as follows: Three-inch pots are filled with a mixture of two parts peat, one part loam, and one part silver-sand, and several cuttings are inserted in each, and in the case of *Oplismenus*, I put as many as a dozen cuttings in a pot. Place them in a propagating box until rooted.

Of this last-named plant I seldom repot any, but prefer them in this size to any other, and as they become overgrown, I strike additional batches.

**PHYLLANTHUS NIVOSUS.**—Old plants may now be cut back and encouraged to produce young growth for furnishing cuttings; which, if struck in March, make nice plants for summer work. Grow them on rapidly in peat and loam, equal parts.

**BOUGAINVILLEA.**—This is an easily-grown plant, and when growing in a border and allowed plenty of room to ramble, it is a profuse bloomer, and remains a long time in flower. An intermediate-house is best suited to its successful cultivation. I have seen specimen plants which have been grown in a high temperature with abundance of moisture lose their foliage in a very young state. Propagation is by means of cuttings, using loam, leaf-mould, and silver-sand. Insert the cuttings singly in thumb-pots, and plunge them in bottom-heat. Young growths secured in April make the best cuttings. As soon as the cuttings have rooted, remove them to a shelf in the stove near the glass, and a fortnight afterwards shift them into 4 inch pots, using good loam and sharp sand. Plants struck in this manner and grown on all the season, will bloom nicely the following year about May or June. Messrs. Sander, of St. Albans, sent out a new variety of this plant a few years ago, plants of which grown in 5 inch pots I have seen full of bloom from the top to the bottom. Specimen plants that have been at rest during the winter months should now be overhauled, and all strong growths cut back; also all weakly shoots removed. After pinching, place them in a warmer house, and afford more water at the root. When they show signs of shooting, repot or top dress them as the case may require, using good fibrous loam and silver-sand. Water sparingly until the plants are well rooted. Bougainvilleas are not subject to the attacks of insects when grown in an intermediate temperature and supplied with a moderate quantity of moisture. Green and black-fly appear occasionally, and the plant being liable to injury if fagged, it is better to syringe it well with tobacco-liquor, sufficiently strong to destroy the fly.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**FRUIT-TREE PROTECTION.**—The buds of Apricots, Peaches, and Nectarines are showing signs of bursting, and means must soon be taken to protect them from frost and cold winds. There are several kinds of material used for screens, and different methods of fixing and arranging these. The chief point to be kept in view is, that the trees require to be protected from frosts and cold wind, hail and snow-falls, and at all other times to be fully exposed. The less the trees are coddled, the less likely are they to be affected by the variable weather experienced during the month of March. Other points are to have the protective blinds, &c., so arranged that the trees may be quickly covered and uncovered, and on no account to adjust these so to allow any portion to come in contact with the trees. Copings of glass or wood are in themselves a great protection to wall trees, by keeping the flowers dry, and preventing to some extent radiation of heat from the substances of which the wall is made; and if a couple of thicknesses of ordinary fish-netting be fixed to the coping, and a number of light poles placed against the wall, and standing out about 3 feet distant from it at the bottom, and the netting tied securely to these, so as to prevent them blowing about, a simple and effective protection is afforded against frost and wind, but which admits light, and allows a free circulation of air. Such blinds, when once fixed, may be left up till the foliage protects the fruits. Curtains of Frigi Domo, fitted with strong rings made to run on two wires, one just under the coping and the other attached to posts standing about 18 inches high, and 3 feet from the wall, is an excellent kind of protection. These blinds, if made in lengths of 12 feet, are easily opened or closed, and if strongly made and taken care of, they will last for some years. When curtains of any description are used, they should be closed in the evening and opened in the morning, as soon as this may be done with safety. Sharp frosts sometimes come on at daybreak, when there were no signs the evening before.

**RASPBERRIES AND BLACKBERRIES.**—The newly-planted Raspberries and Blackberries should have all growths cut back to within 6 inches of the ground, and a mulching of manure placed over the roots.

## APPOINTMENTS FOR MARCH.

SUNDAY,	MAR. 1	Royal Horticultural and Agricultural Society of Great show.
THURSDAY,	MAR. 5	Linnean Society meet.
SATURDAY,	MAR. 7	Isle of Wight Horticultural Association meet; Soc. Franc. d'Hort. meet.
SUNDAY,	MAR. 8	Brussels Orchidéocose meet.
MONDAY,	MAR. 9	United Horticultural Benefit and Provident Society, Annual Meeting in Caledonian Hotel.
TUESDAY,	MAR. 10	Royal Horticultural Society Committee's show.
FRIDAY,	MAR. 13	Royal Botanical and Horticultural Society of Manchester show (two days).
SATURDAY,	MAR. 14	Royal Botanic Society meet.
WEDNESDAY,	MAR. 18	Royal Botanic Society's show; Devon and Exeter Gardeners' Association show.
THURSDAY,	MAR. 19	Linnean Society meet.
TUESDAY,	MAR. 24	Royal Horticultural Society Committee's show.
WEDNESDAY,	MAR. 25	Torquay Gardeners' Society's show.
THURSDAY,	MAR. 23	People's Palace Horticultural Society's show (three days).
SATURDAY,	MAR. 23	Royal Botanical Society.

## SALES FOR THE ENSUING WEEK.

MONDAY,	MAR. 2	Azaleas, Stove and Greenhouse Plants, Paeonies, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	MAR. 3	2050 Roses, Vallotas, Lilies, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	MAR. 4	Sale of the collection of established Orchids at Rooklands, Torquay, by order of the executors of Morton Sparke, Esq., deceased.
FRIDAY,	MAR. 6	Imported and established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°5'.

A Novel Experiment. THE eminent French astronomer, FLAMMARION, has lately communicated the following interesting report to a French journal:—

"We have undertaken at Juvisy the study of the various rays of the solar spectrum. A VIOLLES' registering actinometer with conjugated thermometers, a vapour actinometer, a CROOK radiometer, a registerer of the hours of sunshine, and several series of coloured thermometers are in constant use, and render it possible to calculate the calorific received according to the season, the hour of the day, the state of the atmosphere, &c. The object of these observations is to ascertain if there is not some relation in our atmosphere in the complex question of climate, between the calorific received from the sun and the state of that luminary.

In the course of these studies we thought it interesting to investigate the peculiar action of the sun on vegetation, which is a transformation of the solar energy. Which are the rays of the spectrum which act most efficaciously? It is possible to distinguish the luminous rays from the calorific rays and the chemical rays, to seek the characteristics which distinguish the slow radiation of the red end of the spectrum from the rapid radiations of the violet end, and to ascertain which are those that exercise the most favourable influence upon certain phenomena of vegetable life. With this object, we constructed glass frames with glasses which had been carefully examined with the spectroscope. It seemed impossible to find perfect violet rays, though twenty-two specimens were examined, for all allowed the passage of the yellow or green rays. We were, however, able to obtain blue glasses very near to violet, which only

allowed the passage of the rays from the right extremity of the spectrum. The red glasses are almost monochromatic, and only allow a little orange to pass. The green are less satisfactory.

We thus constructed, side by side in the same meteorological conditions, three frames, red, green, and blue; to which we added a transparent white glass, to enable us to compare the effects of full sunlight. In order to render the conditions as natural as possible, and avoid too high a temperature, the frames are ventilated by a current of air passing from south to north, but the light from outside cannot enter the coloured frames, even by reflection.

Among the many results which we obtained, it is interesting to mention the observations which were made on Sensitive-plants, which were chosen as subjects of experiment on account of their extraordinary sensitiveness.

The Sensitive-plants, all sowed on the same day (May 25, 1895), in the same soil, measured about 22 millimètres on July 4. We then made a selection of equally-developed plants, which were potted in perfectly similar earth, and left under a frame to recover from that operation. On August 1, the pots, each containing two Sensitive-plants, 27 millimètres in height, were placed in the coloured frames. By August 15, differences in growth, coloration, and sensitiveness were apparent, and became more and more marked. We registered the development of the impartial plate of a photographic apparatus, and the following are the results obtained:—

Dates.	Red.	Green.	White.	Blue.
	Mètres.	Mètres.	Mètres.	Mètres.
September 6 ...	0.220	0.070	0.045	0.027
„ 27 ...	0.345	0.150	0.080	0.027
October 22 ...	0.420	0.150	0.100	0.027

Thus the Sensitive-plants in the red frame attained an ordinary development, and reached a height fifteen times superior to that of those in the blue frame, which remained absolutely stationary. The red light produced the effect of chemical manure (though there is no question here of actinic rays). The plants were all cared for in exactly the same way—that is to say, simply watered.

The sensitiveness of the red plant reached such a degree that the slightest movement, a mere breath, sufficed to make its leaves close and all its branches droop at once. Moreover, the red plant flowered on September 24.

The white instead of growing in height, gained in strength, and became extremely vigorous. It showed buds. The foliage of the Sensitive-plant grown under red glass is lighter than that of the white, which is paler than the green; the blue is darker.

The difference between the temperature of the frames was not great, but the white was warmest. Next came the red, the green, and the blue. The luminous intensity decreased in the same order in much greater proportions.

Such is a summary account of the facts observed. Scientific experimenters, notably, MM. PFEFFER, PRILLEUX, SACHS, GUILLEMIN, DE FAMILTZIN, DRAPER, and PAUL BERT, long studied the action of various rays on vegetation. PAUL BERT'S results approach the more nearly to ours, though his experiments were not made in the country, but in the hothouse of the Faculty of Medicine, and between October and January, in a comparatively weak light. His result showed developments in the following order—white, red, blue, green.

We found, for growth in height, the following sequence, red, green, white, blue; and for vigour

and activity of vegetation, red, white, green, blue. The blue frame does not allow the passage of any red rays, but plants do not die in it.

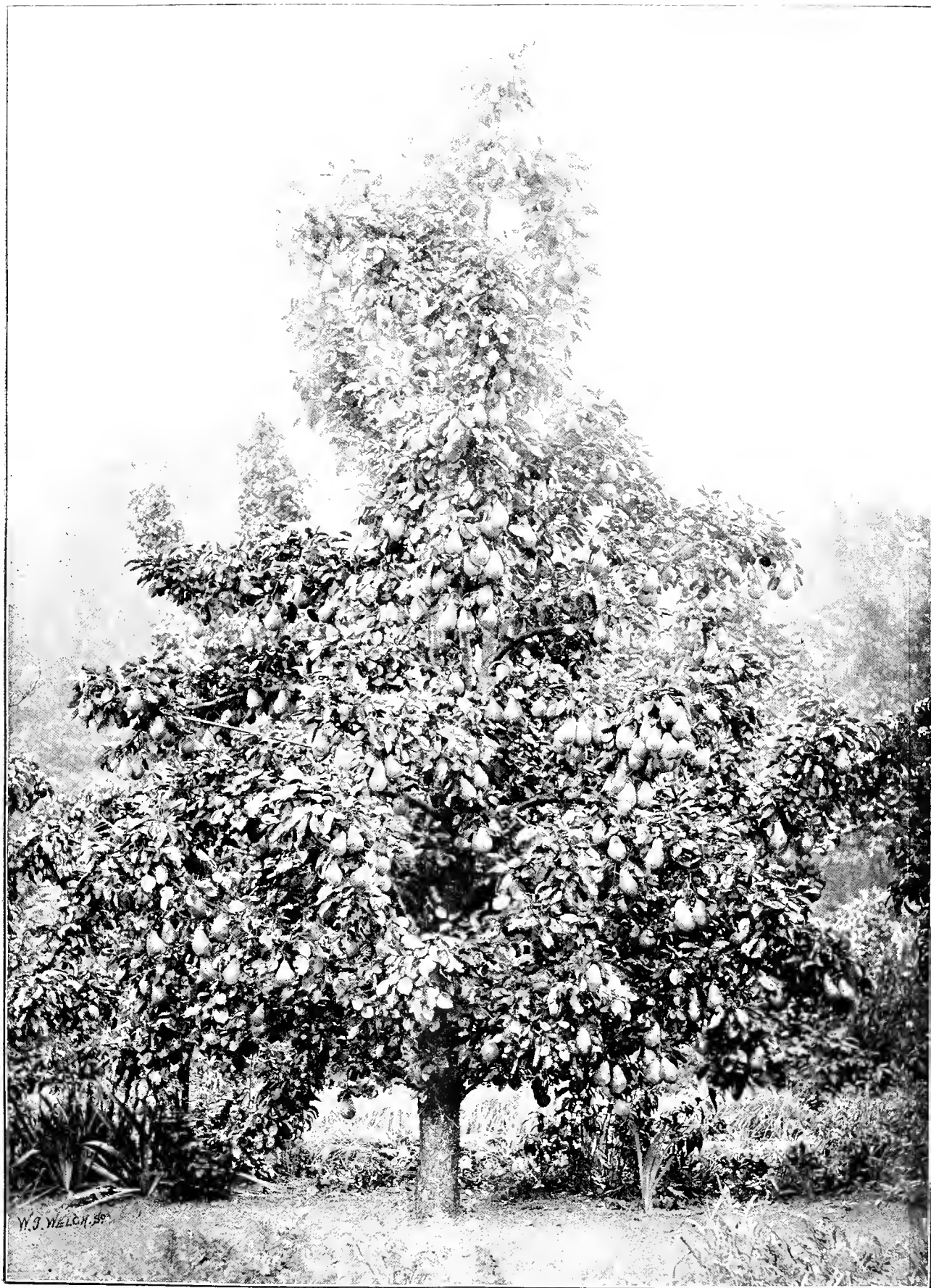
We have observed similar phenomena, though less pronounced, with Geraniums, Strawberry plants, Pansies, &c. The Strawberry plants in the blue frame were not more advanced in October than they were in May.

In explanation of these phenomena, we would remark that, according to the experiments of MM. DEHERAIN, VESQUE, ENGELMANN, WIESNER, &c., the red and orange rays increase the respiration of the leaves and the assimilation of carbon, and favour transpiration, whence there must result an increase of circulation and nutrition.

These experiments were made at the station of Climatologie Agricole at Juvisy, with the assistance of M. GEORGES MATHIEU, Ingénieur Agronome."

PITMASTON DUCHESS PEAR (see Supplementary Illustration).—The fine large variety of the Pear Pitmaaston Duchesse, is so well known in this country that any description of the fruit is unnecessary in this notice. The particular tree forming the subject of our illustration is chiefly remarkable for its symmetry, large size, and its fertility, considering that it is growing in the "Black Country," a district not associated in the popular mind with salubrity or conditions favourable to plant-life. Mr. W. J. GILKS, gardener to H. SMITH, Esq., Summerhill, Kingwinford, to whose kindness we are indebted for the photograph, from which the wood-cut was prepared, remarks that the tree is growing in the gardens at that place, and the fruits taken from it last year numbered 423, and the weight 243 lb. The fruit was of good size, considering the dry season and the locality. He further says, that fruits of this variety fetch good prices, whilst others, as well known and as good, scarcely find buyers. The price paid for them by a Birmingham fruit-dealer was 4½d. per lb. for "Duchesses."

LINNEAN SOCIETY.—At the meeting held on February 20, Mr. C. B. CLARKE, F.R.S., Pres., in the Chair, Messrs. O. V. Aplin, Gilbert Christy, and W. O. Stentford, were admitted Fellows of the Society. Mr. Clement Reid exhibited a collection of acorns planted by rooks, and made remarks upon the agency of these and other birds in the dispersal of seeds. A discussion followed, in which the President and Messrs. Cole, Drury, Harting, and Kirby took part. Mr. Bernard Arnold exhibited and made remarks upon an abnormal growth of *Dactylis glomerata*, Linn., gathered at Shorne, near Gravesend, criticisms being offered by Messrs. B. Daydon Jackson and H. Groves. Mr. W. H. Lang exhibited under a microscope some prothalli of several varieties of *Nephrodium filix-mas*. These illustrated the spogamous production of the sporophyte which has been described in this species by De Bary and Kny. Dr. D. H. Scott and Mr. C. T. Drury took part in the discussion which followed. On behalf of Mr. E. J. Lowe, F.R.S., a paper was read by Mr. Drury, in which details were given regarding the culture of divided and re-divided prothalli of *Scolopendrium vulgare*. Apart from the fact that by such subdivision, and the consequent separation of parts bearing archegonia and antheridia, the oophoric stage of Fern-life was maintained for a number of years without the sporophoric generation appearing, the ultimate results when fertilisation eventually took place were very remarkable. In numerous instances several marginal plants appeared on the same prothallus, of presumably the parental type, but single plants originating from the centre of each prothallus were, though of varying character, all distinguished by bearing prothalli upon their edges or terminal points, such prothalli developing root-hairs, archegonia, and antheridia, although the young plants had formed a distinct axis of growth, and thrown up a circle of such aposporous fronds. The paper embodied also the observations of Mr. C. T. Drury, Professor F. O. Bowyer, Professor



PITMASTON DUCHESS PEAR.





Farmer, Dr. Scott, and Mr. Lang, on material sent to them; and one of the plants in question, clearly showing the aposporous growth, was exhibited by Mr. Drury in illustration. A discussion followed, in which Dr. Scott, Mr. Lang, and Mr. Drury remarked upon the interesting nature of these and similar breaches of the law of alternation of generations in the Archegoniata.

— An evening meeting will be held on Thursday, March 5, 1896, at 8 P.M., when a paper will be read on 'Segmentally-disposed Thoracic Glands in the Larvæ of Trichoptera,' by Professor GUSTAV GILSON.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—To further the cause of the Gardeners' Royal Benevolent Institution, and to make its many advantages better known amongst gardeners in Devonshire, it has been resolved to hold a public meeting in the Guildhall, on Wednesday, March 4, at 7 in the evening, under the auspices of the Devon and Exeter Gardeners' Association. The President of the association (C. R. COLLINS, Esq.) will occupy the chair, and among the speakers will be Mr. Harry J. Veitch, Hon. Treasurer of the Gardeners' Royal Benevolent Institution; Mr. G. J. Ingram, Secretary; Mr. J. H. Vallance, Hon. Sec. and Treas. of the Bristol and Bath Auxiliary; Mr. P. C. M. Veitch, of Exeter; and others, who will explain the aims and work of the institution. It is to be hoped that Devonshire will be enabled to form an auxiliary-branch similar to those existing in some other counties.

**BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—At the Athletic Institute on Monday evening, Feb. 17, Mr. W. B. LATHAM presiding, Mr. JAMES MARTIN (the manager of the Nursery Department of Messrs. SURTON & SONS, Reading), delivered an interesting discourse on the cultivation and evolution of the Cyclamen and Chinese Primrose (*Primula sinensis*). His remarks were illustrated with a numerous display of cut blooms, comprising several of the newest novelties. In addition to the latter, an interesting series of photographs were shown. Mr. JOHN POPE, the Nurseries, King's Norton, exhibited a fine umbel of *Clivia miniata*; Mr. C. BICK, an improved form of the well-known *Primula obconica*; and Mr. MUSTEN, Moseley, cut flowers of a very fine strain of *Cineraria*.

**READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—An interesting and instructive lecture on "some common Insects of the Kitchen Garden and Orchard," was given at a well-attended meeting of this association on Monday evening, by Mr. JAMES STEWART, horticultural lecturer to the Oxfordshire County Council. The insects described included millipedes, wire-worms, Onion-fly, Carrot-fly, Pea-weevil, Celery-fly, Turnip-fly, Apples-blossom weevil, winter moth, Codlin moth, Nut-weevil, Currant-mite, Raspberry-moth, Magpie moth, Gooseberry-sawfly, and Lady Bird, all of which were illustrated with drawings shown by means of the magic lantern. In the discussion which followed, much useful information was disseminated respecting the ravages, and best methods of dealing with the various pests; and a very hearty vote of thanks was accorded the lecturer.

**HEREFORDSHIRE FRUIT AND CHRYSANTHEMUM SOCIETY.**—On the occasion of the retirement of Mr. OUGH from the post of secretary to this society, the members determined to present him with a copy of the work the *Herefordshire Pomona*, and the annual general meeting on Wednesday, February 19, was selected as the day for the presentation. The Deputy Mayor, Mr. W. J. HUMPHREYS, presided, and among those gentlemen present were Aldermen E. E. Basley and T. Carver, and Messrs. J. Cranston, J. Watkins, J. Wilson, C. Whiting, C. Williams, W. Nash, and G. Child. Mr. Ough, on receiving the volume from Mr. Humphrys, sincerely thanked the donors for the handsome present made to him in a few well-chosen sentences. At this meeting, Mr. Carver proposed that Sir Joseph Pailley be elected President. Mr. R. M. Whiting seconded,

and it was carried *nem. con.* The Mayor of Hereford, on the proposition of Mr. Watkins, seconded by Mr. C. Whiting, was elected Vice-President; and Mr. J. H. Hewett becomes secretary.

**FORTUNATE GARDENERS.**—The late Mr. W. B. MILLER, of the Elms, Ramsgate, who was justly celebrated for the many excellent zonal Pelargoniums he raised, and which have been distributed for a great number of years past by Mr. H. CANNELL, left in his will the sum of £20 to Mr. A. MAYES, Messrs. CANNELL'S Pelargonium grower and foreman; also a like amount to Mr. BLACKETT, who was for a considerable time gardener to Mr. MILLER.

**ERIDGE CASTLE.**—Considering the liability to fire of our country mansions, it is satisfactory to find that only one room at Eridge Castle, near Tunbridge Wells, was destroyed by fire on Sunday last.

**THE SURVEYORS' INSTITUTION.**—At the ordinary general meeting, held on Monday, February 17, 1896, the President (Mr. DANIEL WATNEY) in the chair, a paper was read by Mr. A. A. HUDSON (Associate), entitled "The Conditions of Building Contracts." A discussion followed, and was adjourned to the next meeting, and a vote of thanks was unanimously passed to Mr. HUDSON for his paper. The next ordinary general meeting will be held on Monday, March 2, 1896, when the adjourned discussion on the paper read by Mr. A. A. HUDSON at the last meeting, entitled "The Conditions of Building Contracts," will be resumed. The chair to be taken at 8 o'clock. The Annual Dinner, 1896.—Many members having expressed an opinion that the annual dinner of the institution might, with advantage, be held earlier in the year, and the Council having found, from experience, that it is difficult to secure the presence of some official guests on a Monday evening, it has been decided this year to hold the annual dinner on Wednesday, March 18, at the Whitehall Rooms (Hôtel Métropole). The Council are inviting many distinguished persons as guests. Junior meetings.—The third of four meetings of examinees and students authorised (subject to certain conditions) by the Council to be held during the present session, will take place in the Lecture Hall of the Institution, on Monday, March 9, 1896, when a paper will be read by Mr. T. G. CHAMBERS, entitled "An Analysis of Value." The chair to be taken at 7 o'clock.

**"ARCHIVO RURAL."**—This is the title of a new Portuguese publication devoted to practical agriculture, and especially to Vine-culture. The publishing office is Rua 2, Campolide, Lisboa, Portugal.

**EALING GARDENERS' ASSOCIATION.**—At the last meeting of the Executive Committee of this body, it was decided to organise a smoking concert, to take place on March 18 next, in aid of the Gardeners' Orphan Fund, a form of entertainment that will doubtless, be successful.

— At a recent meeting of the members, S. A. SEWELL, Esq., in the chair, Mr. A. WRIGHT, Falkland Park Gardens, gave an admirable paper on "Cool Orchids." The lecturer illustrated his remarks by photographs of Orchids, besides describing the kinds of houses best adapted to the cultivation of these plants. He also touched upon composts, &c.

**PRESERVATION OF ORANGES.**—The preservation of Oranges is a matter of very great importance to colonial cultivators of this fruit for export purposes. Have growers generally paid any heed to Mr. CARSON'S experiments at Kew, where he buried recently, under 3 or 4 inches of dry earth, a quantity of Oranges, and, after over six months, found the fruit quite sound and perfectly ripe? Have we here a hint of a new method of packing for export? *Colonies and India.*

**A ROSE EXHIBITION AT FRANKFORT IN 1897.**—We gather from the German horticultural journals recently to hand, that the Rose Society of Frankfort-on-the-Maine intends to hold an exhibition of Roses in that city next year. Frankfort, being the junction of many railway lines, is peculiarly well situated in

regard to its communications, and an exhibition is certain to be visited by persons from far and near. The venture has as its patroness Her Imperial Majesty the Empress FRIEDRICH, who is also patroness of the German Amateurs' Rose Society, and it is, moreover, well supported by persons of rank and standing. As it is probable that the amateur society above-mentioned will hold its conference next year at Frankfort, the attendance of visitors will on that account also be greatly increased.

**DR. L. BUSCALLONI.**—This gentleman, formerly assistant in the botanical garden, Turin, has removed to Göttingen, as assistant to Prof. Dr. BERTHOLD.

**PRESENTATION.**—On Saturday evening, Feb. 15, a handsome presentation was made to Mr. JOHN AUSTEN, late head gardener at Witley Court, who has recently retired from that position to become the landlord of the Hundred Horse Hotel. The presentation consisted of a service of plate, and included tea and coffee service, a fluted punch-bowl, together with a dozen handsome candlesticks, in three different patterns. Accompanying the gift was an address, suitably framed, which had been tastefully executed and which bore the names of forty-two subscribers. It should be mentioned that the presentation was intended to have been made at Christmas, but was unavoidably delayed. A few weeks ago a marble timepiece was presented to Mr. AUSTEN by the gardeners and other employés who had been employed under him at Witley Court.

**TECHNICAL INSTRUCTION IN HORTICULTURE IN ABERDEENSHIRE.**—Under the auspices of the Aberdeen County Council, Mr. JAMES WILSON, St. Andrews, delivered on Tuesday, Feb. 18, the first of a series of lectures on horticulture in the Town Hall, Kintore. There was a capital attendance, and Mr. WILLIAM TAIT, LL.D., convener of the Technical Instruction Committee of the County Council, presided. Mr. WILSON gave another lecture at the same place on Thursday evening, 20th inst., when there was a good attendance. On this occasion the subject of the lecture was "The Culture of Fruits," which proved highly instructive and interesting. The lecturer had the aid of the magic-lantern in illustrating some of the more salient points of this lecture, and at the close, he gave some practical demonstrations in pruning, grafting and budding.

**"DICTIONNAIRE PRATIQUE D'HORTICULTURE ET DE JARDINAGE."**—The French translation of *Nicholson* has now reached its forty-sixth part, which concludes with *Palafoxia*. This coloured plate, given with the present number, is devoted to *Papaver bracteatum* and *P. orientale*.

**M. COGNIAUX.**—The *Journal des Orchidées* for February 16, contains an excellent likeness of M. GOONIAUX, whose work on the Cucurbits and Melastomads, gives the best augury for the excellence of the similar work on which he is engaged with reference to the Orchids.

**BACTERIA.**—Word of direful potency! The literature relating to these elementary creatures is now voluminous and scattered. Botanists and microscopists who wish to get a general idea of the nature and classification of these plants may therefore be glad to be reminded that the 129th section of ENGLER & PRANTL'S *Die Natürlichen Pflanzenfamilien* contains an exhaustive summary of the subject from the pen of Dr. MIOULA. Numerous illustrations do much to render the text available, even to those who do not read German.

**A TRAIN STOPPED BY SLUGS (LIMACÆAS).**—According to the *Journal of Malacology*, a train in the country of Tanis was brought to a standstill by a horde of slugs, which, on being crushed by the wheels, rendered the rails so slippery that the wheels could only revolve and not grip the rails. A similar story was told some time ago of an army of caterpillars crossing the rails and rendering them impassable.

**JARRA TIMBER.**—According to an official report presented to the Government of New South Wales, the Jarra, or *Eucalyptus marginata*, is never

attacked by the boring *Terado navalis*, also called "Cobra," and is in consequence largely used in Australia for piles. The Turpentine-tree (*Syncarpia laurifolia*) is also serviceable from this point of view, though less so than the Jarra; but it is requisite that the bark be not removed.

**FOOD VALUE OF FRUITS.**—A very common article upon this subject appears in the number of *Old and Young* for February 22. The author, M. HYLAND, speaks of the nutritive properties of ripe fruits, and of nuts, and of the valuable qualities of certain fruits in certain ailments, in cases where the digestion of the patient will admit of his taking such fare.

**CARNATION RUST.**—It appears from the experiments carried out at the Cornell University Agricultural Experiment Station, that this disease, caused by *Uromyces caryophyllinus*, can be effectually controlled by spraying with Bordeaux Mixture with a little soap added to make the mixture more adhesive.

**POTATO SCAB.**—An application of 300 lb. of sulphur to the acre has been tried with great success in the New Jersey Experiment Station. This is a safer remedy by far than the application of corrosive sublimate.

**SPRAYING FRUIT TREES.**—1. Spraying is only one of several means or operations which the pomologist must master if he aspires to the greatest and most uniform success. Other fundamentally important requisites are tilling, fertilising and pruning. 2. Spraying is not necessary to successful results every year, but inasmuch as the farmer cannot foretell the need of the operation, he should spray as a matter of insurance. 3. Spraying is almost sure to be of some benefit every year, particularly upon Apple, Pear, Plum and Quince trees. 4. Spraying is of little consequence unless carefully and honestly done. The spray must actually reach every point which it is intended to protect. 5. Prepare for the year's campaign during the previous winter, by reading the latest teachings, and by completing pumps and appliances. Give particular attention to a convenient wagon outfit. 6. The Bordeaux Mixture need not be made up at each using in the exact numbers of the formula. The copper sulphate may be permanently dissolved in water, and the lime may be slaked. When the mixture is prepared, the stock solution of vitriol is diluted, the lime added, and the tank filled to the required amount. 7. Spraying is well nigh futile unless the operator understands precisely what he sprays for. 8. The time to spray is when the operation is needed to protect the plant. This will vary, therefore, with every season and every different part. In general, we advise spraying Apples and Pears twice, first when the flower-buds open but before the flowers expand, and again when the blossoms fall. 9. The presence of soluble arsenic in Paris Green may be determined by a test with sulphuric acid and hydrogen. 10. Pure Paris Green dissolves completely in ammonia, giving a rich deep blue liquid. 11. The arsenic which falls upon the soil seems to become or to remain in an insoluble condition, and passes downwards, if at all, to a very little distance, and then only by the mechanical action of water in carrying it through spaces in the soil. 12. The canker-worm can be killed by honest spraying with Paris Green, 1 part to 200 gallons of water. *L. H. Bailey, Abstract of Bulletin No. 101, Cornell University Agricultural Station.*

**IMPORTS OF JAPANESE BULBS.**—The United States Consular officials in Japan, says the *American Florist*, still forbid the exportation of bulbs and plants to the United States, and the import trade in these is at a standstill. The order was originally issued through fear of the bulbs and plants carrying cholera germs, but as nearly as we can learn, there has been no cholera in Japan since last November, and it certainly seems inconsistent to prevent the importation of plants and bulbs when Oranges, Tea,

Rice, and silk are freely shipped. To exclude the tree and still admit the fruit seems ridiculous.

**TECHNICAL INSTRUCTION.**—A course of six lectures on "Fruit Culture" is in course of delivery at Barnet, in connection with the Hertford County Council, by Mr. D. T. FISH. The following is the programme of the subjects treated on:—

**LECTURE I.—THE APPLE.** PLANTING.—Time, mode, distance, transplanting. FORMS AND SIZES OF TREES.—Standards, dwarfs, pyramids, espaliers, &c. PRUNING. Summer, winter, root. GENERAL CULTURE. Mulching, watering. SUB-CROPPING with grass, vegetables, flowers, bush-fruit, Strawberries. BEST VARIETIES for profit, kitchen and cooking, table, preserving, cider, cottage gardens, special localities. THE HARVESTING OF APPLES. Gathering, storing, picking. DISEASES OF APPLES.—Canker, mildew, mealy-bag, aphides, maggots, caterpillars, weevils, antidotes, cures.

**LECTURE II. THE PLUM.** VARIETIES.—Gages, dessert, kitchen, Prunes, Damsons. PLANTING.—Time, distance, method. GENERAL CULTIVATION.—Pruning, training, GATHERING.—Packing, drying, and preserving. PREVENTION AND CURE OF INSECTS AND OTHER PESTS.—Blight, barrenness, canker, gum, red spider, grub, aphides, saw-fly, white scale, beetles, earwigs, ladybirds, weevils.

**LECTURE III. THE PEAR.** VARIETIES. For particular purposes and places. PLANTING.—In orchards, in gardens, distance, time, mode. CULTIVATION. General and special. PACKING. DRYING. PESTS AND DISEASES, their prevention and cure.

**LECTURE IV. THE CHERRY.**—Planting, pruning, training, cultivation.—LEADING VARIETIES.—Burgundy, Geans, Dukes, Morellos. PESTS AND DISEASES, their prevention and cure. BUSH FRUITS.—THE GOOSEBERRY.—Conditions of successful culture.—Planting—pruning—training—general and special culture—green and ripe. CURRANTS.—Red, white, black, special pruning of hick, best varieties. PESTS AND REMEDIES.

**LECTURE V. THE RASPBERRY.**—Time, mode, distance of planting, pruning—training—general culture—varieties—single and double bearing—uses. THE STRAWBERRY.—Uses—planting—best soils and manures. Special culture in beds, rows, raised banks and pots—forcing the Strawberry—retarding ditto. VARIETIES.—Early, mid-season, late—best and best.

**LECTURE VI. MUSHROOMS.**—For food or profit. The Start—materials for Mushroom beds, inside or out of doors. The growth of Mushrooms without beds. Temperature—spawning—casing—covering. Early and frequent gathering. Growing in the dark as well or better than in the light. How to prevent or destroy wood-lice, snails, or slugs.

**SPRING ROOT CROPS,** such as Potatoes, Carrots, Turnips, Onions, Beetroot.

## PLANT PORTRAITS.

- CALLA ELLIOTIANA*, *Flust ation Horticult*, February 15.  
*CANNA ITALICA*, *Revue Hortico*, February 16.  
*CLEMATIS INTEGRIFOLIA* VAR. *X. DURANDI* (*INTEGRIFOLIA X LANUGINOSA*), *Garden*, February 8.  
*FREMURUS BUNGEI*, *Garden*, February 22.  
*EREMURUS HIMALAICUS*, *Garden*, February 3.  
*INULA GRANDIFLORA*, *Garden*, Jan. 4.  
*KENIA BELMORIANA* (Dwars of), *Revue Hortico*, Feb. 16.  
*LOBELIA CILIIFOLIA*, *Meerbus' Monthly*, January.  
*LOBELIA GERARDI*, *Moniteur d'Horticulture*, February.  
*PASSE COLMAR PANACHE*—A "sport" from the ordinary form, observed at Sraing, and perpetuated by grafting.—*Journal d'Arboriculture*, &c., February.  
*PEAR, LE LECTIER*, *Garden*, February 8.  
*PEAR, MARGUERITE MARILLAT*, *Garden*, February 8.  
*ROSE, WHITE MARECHAL NIEL*, *Rosen Zeitung*, No. 6, 1895.

## THE CULTURE OF THE CYCLAMEN.

The Cyclamen should be one of the gayest and most useful flowering plants in our cool greenhouses from November until April. In private gardens, however, it rarely receives proper attention, and in the large majority of such places the plants compare very unfavourably with collections grown by market gardeners. In these circumstances there is no wonder that they are not more extensively grown by amateurs; nevertheless, the fault lies with the treatment rather than with the subject. The Cyclamen, in common with all other plants, has its peculiar requirements, and if the best results are to be obtained these must receive attention. Give the plants such treatment as I shall endeavour to set forth in this short article, and I am confident that the Cyclamen will supplant in popular favour the Chinese Primula, about which so much is said, and written. I venture to assert that if

any who were prejudiced against this subject, had looked in at the Drill Hall, Westminster, on the 8th inst., and seen the effect produced by two splendid collections of Cyclamens, they would not hesitate to declare it one of the most useful of our cool greenhouse plants.

I usually sow the seed thinly in pans about the middle of September. Plenty of drainage is essential both now and at subsequent transplantings. When watered, the pans are placed on shelves in the plant-stove. As soon as the seedlings have made one leaf, they are pricked off thinly, say 2 inches apart either way, in pans or boxes, and replaced on shelves, or in other convenient positions, near the glass in the plant-stove using the syringe briskly over them frequently. From the beginning to the middle of February is a good time to shift the seedlings into thumb-pots. The soil should be as follows:—Loam, leaf-mould, sand, and cocoanut fibre refuse, in equal parts, to which should be added a liberal quantity of finely-broken charcoal, and the whole passed through a half-inch sieve. Place the pots near the glass on a cool ash bottom, still maintaining a stove temperature until the roots appear in numbers round the sides of the pots, when they should be removed to slightly-cooler quarters, and there remain until the final potting takes place. This should be done about the first week in May. I have found 48 size, or 4½-inch pots, most suitable for the plants to flower in. Drain them well, and use fibry loam two parts, leaf-soil one part, sand one part, a dash of soot, and some broken charcoal. Press the soil moderately firm with thumb and finger, eschewing the use of rammer. Place the pots on coal-ashes in a cold frame, with a southerly aspect, and keep close for a few days. The foliage should be slightly moistened twice daily in bright weather, but no water must be given at the roots for at least ten days. When growth has fairly commenced, more air should be admitted by tilting the lights top and bottom, which will allow a brisk current of air to pass freely amongst the foliage. Shading should be afforded in very bright weather until 2 P.M., when watering having been completed, the plants and surfaces of frame should be liberally syringed, and the lights closed tightly, allowing them thus to remain until 5 P.M., when air may be admitted. In fine weather, the lights may advantageously be taken entirely off the frame. A little soot may be added to the water when the plants are thoroughly well rooted; but I have found that, under the best treatment, no stimulant is required till the end of August. About October 1 the plants should be housed. If possible, put them in a well-aired, low-roofed structure, and arrange the staging so that the plants may stand near the glass. Scauden's manure may be given once weekly when the flowers are showing freely. The temperature should now be kept as low as possible, merely excluding frost. *J. F. MacLeod.*

## METHODS OF PROPAGATION.

**I. WINTER OR INSIDE GRAFTING.**—I. will be convenient if we take first the method of "inside grafting," as it is called, to distinguish it from the ordinary operation performed in the open air.

In Belgium, Holland, France, and probably on the continent generally, this process has been adopted for a very long time, and as we come to learn foreign methods better, and to employ Belgian and other than English propagators in our nurseries, their methods are adopted. This is especially the case in propagating new Roses, Indian Azaleas, and Rhododendrons.

Time was when such plants as Camellias, and the before-named plants, were only increased by layering, and I remember well seeing the healthy stools of Camellias in the now-forgotten nursery of Chandler & Son, in the Wandsworth Road. But now, if I may say so, the market is glutted with Belgian and Dutch plants, almost without exception grafted in heat. When I write upon layering, I propose to make a few remarks in disparagement of grafted plants, and in favour of those raised by layering.

## ROSES.

Let us take the Rose first, as it is by far the easiest subject for a beginner to manipulate. The stock usually employed is the Italian or Manetti, but all are available, as the seedling or cutting Briar, the Grifferaie, or the so-called Napoleon stock, are highly approved by some propagators. These must be potted into small 60's as soon as, or even before, the leaf falls (better, where possible, even the March before they are wanted for use). The pots should be plunged in spent tan or other light moisture-retaining material, and turned occasionally to prevent rooting through, and so, when lifted, receiving a rude check.

The scions should be cut at the end of the autumn, and laid-in by the heels in a sheltered

because it is here only that the vital process tending to form fresh wood-cells goes on. No tonguing, so-called, is necessary, but avoid using too pithy scions; bind all firmly with soft raffia, and paint or smear over the tie some soft clay made into the consistency of cream by added water; stand the plant aside to slowly dry, and proceed till all are properly finished. They must then be plunged in cocoa refuse under the lights of an inside propagating-pit, and a temperature of from 75° to 80° kept up. In a week or ten days the grafts will be found pushing their buds, when the ties may be loosened, or they will cut into and injure the base of the scion. Should all have been done skilfully, within six weeks from operating the young plants may be taken from the inner pit and placed on the stage to harden off a

are all stock; the vigour of the Italian Briar has choked the Roses, and you can now do nothing but grub out the whole and plant a fresh. The "Da la Grifferaie" is almost equally troublesome, but the large dark-green and strong shoots of this species are so distinct, that they are rarely mistaken for that of the Rosa proper; nevertheless, the last foster-mother is useful for budding strong-growing Tea Roses, and for climbing Noisettes of the "D'jon" race, while the Briar is preferable for all the H. P.'s, and the "Napoleon" stock for weakly Teas and Noisettes, but there is no hard and fast rule for this.

The best label for pot-Roses is a narrow triangle of soft lead, punched with numbers, and lightly wound round the stem of your Rose; but when you plant out see the "Acma" labels, they are most slightly, permanent, and effectual. *Experience.*

(To be continued.)

## HOME CORRESPONDENCE.

GARDEN MACHINERY.—It would appear that the application of mechanical power to the working of lawn-mowers and rollers is attracting some attention in the gardening world. Having had, within the last few days, an opportunity of inspecting the machines lately brought to a state of efficiency by Mr. Stephenson-Peach, of Ripton, near Derby, I venture to send you some particulars of them, thinking the account may prove interesting to some, at least, of your many readers. I had the pleasure of seeing at Ripton, three machines, each differing from the others in its mode of propulsion. The one to which I shall especially refer, is driven by a petroleum engine—that class of motor so much used now in propelling the new horseless carriages. I saw this machine tested in every possible way, and notwithstanding that several hours of drizzling rain had made the ground almost unfit for the purpose, and on which it would have been out of the question to work a horse-machine, the trial gave entirely satisfactory results. The machine is managed with the greatest ease, a person seated on the front part of it, with a lever in each hand, starts, guides and stops it at will and with perfect certainty. The facility with which it is steered is perfectly marvellous; to show what it could do in this way, it was made, at one part of the trial, to turn round and round on one spot not much greater in diameter than its own length. There is no smoke, and the noise made by this machine, which cuts and rolls a width of 3½ feet, is no greater than would be caused by a horse-machine of equal width. The mower can be easily detached, and the machine used for rolling carriage-drives, &c. It can also be employed in pumping, sawing, or even threshing, by connecting the fly-wheel, by a belt, with appropriate machinery. It would be out of place here, and would take up too much space, to give particulars of the mechanism, but the whole machine clearly shows that an immense amount of thought, time, and money, has been expended on it, and those who are interested in the keeping of pleasure-grounds, drives, &c., in a state of perfection, may feel assured that the machine for doing this efficiently and economically is an accomplished fact. Through the very fitness of things, this kind of implement must take its place as part of the indispensable equipment of every garden, public or private, containing pleasure-grounds of any considerable size. I may briefly notice, in conclusion, the other two machines to which I have alluded. One is a large steam-roller and mower, taking a width of 4 feet; this was in the shop, waiting for its steam-generator to be put in place. The other is a smart, handy, garden-roller, driven by electricity. Killing with this is simply a delightful amusement. Its employment, however, would be limited to those places having a supply of electricity available. In the light of long experience in the care of large gardens, I look on these machines with the utmost favour. *G. Don, Hawkhurst, February 21.*

THE RAILWAYS AND THE CARRIAGE OF GARDEN AND FARM PRODUCE.—The new tariff of rates of carriage, and the prices of the boxes sold over the greater portion of the Great Eastern Railway system, will prove a great boon to producers and consumers, and it is to be hoped that the labour and worry saved in the abolition of returnable empties, will go far to compensate the company for its bold and general reduction of charges. I find, as anticipated,



HIS GRACE THE DUKE OF BEDFORD.

The New President of the Royal Gardeners' Orphan Fund. The portrait is from a photograph by Mr. J. Thomson, of 70A, Grosvenor Street, London, and it is published by permission of His Grace. (See p. 273.)

corner, or even under glass in northern districts. This prevents the possibility of freezing, which, especially in the Tea Roses, and those allied to them, often impairs the vitality of the young wood and inner bark, on the healthy state of which success depends. When it is proposed to commence grafting, the stocks wanted for use should be taken from their bed and placed under the stage of the propagating-pit or intermediate-house, when the increased temperature will soon excite them, and their buds will begin to swell up, thus indicating that the sap is beginning to circulate. Now take a stock firmly in hand, and with a sharp knife (none better than Saynor's 207 budder) cut it through with a clear, slanting incision, as near to the soil as convenient. Then cut a scion from your Rose-wood, having from two to four eyes, and at once adapt it to the cut stock, taking care that the edges of the bark of the scion and of the stock meet,

little, taking care to shade from the meridian sun. In about a week the young Roses may be potted into 48's, being careful to pot firmly, and to cover the union over with the putting soil, thus enabling the scion to root freely into this, and so secure a well-established plant. Keeping the young plants well syringed and free from aphids, you will have a healthy batch of pot-Roses, either for filling up any vacancies in summer, or for pot-culture.

The Manetti stock is good for all classes of Roses, but is apt to throw up numerous suckers, and to grow too strong, even choking the graft or bud. Frequently has this happened to me. "Oh, Mr. Experience, I'm so glad you've come. I want your advice (gratis, of course) about my Rose-beds." Being introduced to these, what do I see? A veritable forest of branches and foliage! "The Roses look well, do they not, but I get no good Roses—how is this?" The answer is prompt—because your beds



that other companies, notably the Great Western, have already endeavoured to equal or better the good example of the Great Eastern, but on somewhat different lines. This and other great lines will probably yet establish a penny rate for small parcels—say, pounds, pints, quarts—of Strawberries, Cherries, Gooseberries, Currants, Plums, during the season, irrespective of distance. This would bring fresh fruit into the homes of all classes during the fruit season, check one of the greatest hindrances to the rapid extension of fruit-growing and help the consumption of local gluts of fruit in their season, and establish flower, fruit and vegetable industries on a steadier and more profitable basis. The breaking up of fruits, flowers and vegetables in bulk into more manageable, tempting, and smaller lots, is one of the vital changes necessary to quadruple or multiply indefinitely the area of production, and of consumption. The foreign competition now so strong as almost to drive home products out of Covent Garden, and other markets, teaches the same lesson. The packets and boxes are mostly light, presentable, and non-returnable. Even the barrels of Apples are handy to move, and can be readily and speedily placed on van or rail. The thousands of boxes, baskets, and packages of Narcissus, Roses, Violets, and other flowers, Tomatoes, &c., that crowd the markets are so light and strong, that the costers who purchase them so freely carry them off in piles for their customers with little risk of injury. So sure are these sharp purchasers of the uniformity of samples, that scores of boxes are often sold at three or four shillings per box, as the case may be, faster than one can write down the fact. The Great Western Railway, however, has offered to meet the growers in the aggregation of quantities rather than in the lowering of rates for small quantities. They offer very special reductions for three or two-ton quantities. Of course, if a number of growers in a district will only agree to lump their consignments from and to given stations, the railway authorities can treat them as one, and charge the wholesale instead of small parcel rates. But this is not all: it seems that the Great Western, whose lines in the counties of Devonshire, Cornwall, Wiltshire, Worcestershire, Gloucestershire, and Somerset cover some 2500 miles, has for some time past been trying an entirely new departure in the collection of certain classes of goods, such as ducks which they have collected, carried, and sold for a charge of something like 2s. a head. The company is prepared to extend the collection to other garden and farm produce. Taking certain rural centres, the Great Western is sending out men to the various farms in the district, and receive produce from the farmers without requiring the latter to pack it. The collectors carry baskets with them for the purpose, and also cloths for wrapping up any poultry, pork, or other perishable products that may be handed to them. Thus collected, the produce would be consigned to London or some other centre, forwarding the proceeds, minus their own charges, to the owner. As to the amount of the charge, 2s. per head of ducks, it affords a useful standard of comparison; and it is said that a Wiltshire farmer, under the new tariff, would pay about 1s. 9d. per cwt. for the collection, carriage, and sale of his meat. Similar or even lower rates will be arranged for flowers and fruits, the producer doing nothing but hand his consignment to the company's collector at his door, and then wait for his cheque in return when the collector returns for more. A combined cargo of 3 tons may be carried in a 10-ton truck at the rate of 10-ton truck. The nearest approach to this plan of collecting goods for carriage that I had previously heard of, consisted in the Great Eastern running some waggons into fruit orchards on the line, and hooking them on to fast passenger trains when laden. One would think that there is little more to be done in the collection, conveyance, and sale of garden and farm produce—unless, in the facetious words of the *Times* correspondent, the railways also undertake to grow the produce for the farmers. But the Agricultural and Horticultural Association, and other friendly and co-operative societies, as well as the National Agricultural Union, are taking a lively interest in this matter; and doubtless such societies can powerfully assist this movement for lower rates and more perfect distribution in many ways. The members of these societies are sufficiently numerous to form good markets among themselves for their own and other products grown in gardens and on farms. It may also be hoped that through the great annual national flower show at the Crystal Palace, the spread of horticultural literature through the press, lectures on

technical education, &c., the love of horticulture and its products which are daily growing wider, deeper, higher, the lowest and most popular tariffs will return the highest dividends. *D. T. F.*

**DENDROBIUM DALHOUSIANUM.**—This is a very noble species, and a specimen plant, when in full flower, is a striking object in any hothouse. *D. Dalhousianum* is one of those Orchids that can be depended upon to keep up its stamina for any length of time. I bought a plant of small size and in poor condition about twenty-five years ago; it had growths from 1 foot to 18 inches in length. This same plant has now growths 5 feet long, and I exhibited it at the Crystal Palace in a 1st prize collection with thirty-six spikes of flowers upon it, and two good plants have also been taken from it. I do not know any *Dendrobium* that takes so long to make up its growths. They start early enough, but are not completed until November. Our plants of this species are placed in a house with all other *Dendrobiums* requiring much heat, as soon as the flowering period is over, which is generally by the middle of June or earlier. If repotting is necessary, this may also be performed before they are put into the warmest house. The plants should not go short of water while in this high growing temperature, and the surface of the compost should not be allowed to become dry at this time; the sphagnum-moss remains, therefore, in luxuriant growth. The plants are placed as near the roof-glass as possible; in fact, I have them so that the young shoots come in contact with it in the autumn, but they are tied down as they grow to prevent their touching it. I have had four and five spikes on one stem, but have never ventured in the resting season to place them in as low a temperature as *D. nobile*, *D. Wardianum*, and others of this type. The plants rest in winter in the Cattleya-house, which has a minimum temperature of about 55°. In this temperature all such species as *D. thysidiorum*, *D. Paxtonii*, *D. Farmerii*, *D. Brymerianum*, and others are rested. *J. Douglas.*

**FREESIA CULTURE AT SUFTON COURT.**—For the past twenty years I have been a great lover of *Freesias*, and have been told of late years that I grew them well, and that by good gardeners. Hearing that Mr. Leech at Sufion Court had a batch surprisingly good, I paid him a visit. It was soon plain that I had not been misinformed, for I never saw such plants. They are in 6 inch pots, have grown nearly 2 feet high and through, whilst the flower-spikes are much branched, and the flowers large. Mr. Leech was good enough to furnish me with particulars of the treatment they receive, preferring to tell me first how he treats them at this season. They are kept on a shelf in a greenhouse temperature, and are watered with weak soot-water. After flowering, for the next five weeks he gives them liquid-manure, and does all he can to get fine bulbs. As growth ceases, he gradually ripens them off, watering them with clean water, and the plants are then placed in the hottest spot outdoors. Early in June, the plants are shaken out, and the bulbs put in shallow boxes or pans. They are then placed on a greenhouse shelf in full sun until early in August, when they are re-potted. The 6 inch pots are well-drained, and the mixture consists of equal parts leaf-mould, old mortar, fresh dry horse-droppings, and a good sprinkling of silver-sand. The bulbs are covered 1 inch deep, and are placed nearly 1 inch apart. The pots are then stood in a very sunny spot in the open, and receive only just sufficient water to start them. At the end of September they are taken to a cold frame, and remain there until the middle of October. They are afterwards put on a vinery-shelf near the glass for the winter, and watered sparingly. *W. E.*

**FRUIT-FARMING.**—What I meant in my last note (p. 242) is this: it should be ascertained if there are in the neighbourhood, where it is proposed to plant, women in sufficient number to gather the fruit, without importing them from a distance. In this village there are upwards of 200 women and girls employed during the season in fruit-gathering alone. In my case I usually have 60 tons of Gooseberries to gather, besides other fruits. One person will gather 2 cwt. of Gooseberries per day. The season for Gooseberry-picking being very short (we pick all green we possibly can) should induce planters to consider this question. The bushes being 5 feet apart, a row of Strawberries may be planted between them. Crown Bbb, as a green Gooseberry, makes the best price; but Whigham's Industry bears a better crop by 2 tons per acre, and it travels well when ripe. The best Apple for

market in this neighbourhood is Lane's Prince Albert. A batch of 150 trees, six years old, have grown 8 tons 15 cwt. of fruit this year. I have now 800 trees planted. The same number of Bramley's Seedling of the same age produced 1 cwt.; Eckliaville Seedling is next to Prince Albert. The fruit is rather soft, and requires careful packing, but it sells well. Stirling Castle has been nearly all killed by canker, and the same may be said of Warner's King. Lord Grosvener produces too many malformed fruits in this soil to pay. Cox's Orange Pippin is not profitable here. The growth and bearing of the variety Bismarck is not to my liking. *W. C. Smythe.*

**DOUGLAS FIR.**—In your issue of the 15th, you have published an article by Mr. A. C. Forbes, in which he recommends the planting of Douglas Fir in certain localities. He regrets, however, that a thousand plants of that species, of the smallest size, could not be obtained for less than £5. Permit me to inform you that I have, during the last six years sown every year 1 pound of Douglas Fir seed, by which means I have obtained regularly every year between 8000 and 10,000 plants. I have thus ascertained that it would pay to sell the plants (two years seed-bed and one-year transplanted), for 30s. a thousand, and if a demand by the hundred-thousand should spring up, it would be a profitable business to sell such plants for 25s. a thousand. If British nurserymen will not sell Douglas plants at reasonable prices, I should advise proprietors to raise the plants themselves. *W. Schlich, Cooper's Hill, Englefield Green.*

**SEED POTATO BOXES.**—Messrs. Johnson's Potato-box, figured at p. 177, whilst no doubt capable of holding fully a bushel of seed tubers, seems to have two demerits. When taken in these boxes to the field for planting, it is evident that the tubers with their advanced growths must be removed from the boxes into baskets for planting, very much to the danger of the shoots already formed, and which it is the chief object of this form of storing to save. Then because the boxes have double floors, the lower tubers have to be taken out with exceeding care, or otherwise the shoots will specially suffer. One of the chief needs in connection with boxes of this kind is that they be very portable and useful as baskets to plant the seed tubers from direct, as well as for storing them. I have in the County Buildings at Kingston, a very large quantity of selected seed tubers in 194 diverse quantities, stored in 130 shallow seed-boxes. These are all of one exact size; inside measurement 15 inches by 13 inches, and 5 inches deep. They have stout  $\frac{3}{4}$ -inch ends, and strips  $\frac{1}{2}$ -inch thick each side and bottom, so that there is ample room for air to pass on the top. Lengthwise a stout strip of wood is let in to form a handle by which to carry the box. Each box will hold about 14 lb. of Potatoes. These boxes could be loaded on to a hand-barrow with the greatest facility, and to as great a number as could well be carried. They can, if store-room be scarce, be piled on top of each other to a great height. If not required for Potatoes, they do admirably for storing Apples or Pears in. Indeed, their uses are many, although the primary one is that of efficiently wintering Potato seed-tubers. *A. D.*

## SOCIETIES.

### WATERFORD HORTICULTURAL.

FEBRUARY 19.—The annual general meeting of this Society was held in the Town Hall, Waterford, on Wednesday evening, Mr. J. N. WHITE, J.P. (President), occupying the chair.

We take from the annual report the following points:—

“The committee reported that since the amalgamation of the Waterford Horticultural Society, at the beginning of last year, with the Waterford Amateur Gardeners' Society, the number of members has very largely increased, and now reached 189.”

The schedules of the summer and the autumn shows were revised, and the prizes won raised to a higher level, with the idea of attracting more exhibitors. This, we are glad to say, was responded to, especially in the gardeners' class.

In order to make the summer show as successful as possible, much expense was incurred by providing a large tent in the court-house grounds, in which the show was held, and in securing the services of a military band to attract the general public.

Unfortunately, the general election in the city clashed with the date of our show, which, together with the wet day, caused the receipts to be very much smaller than they otherwise would have been. The show itself, as regards number

and quality of exhibits, was admitted to have been one of the best ever held in Waterford.

The Autumn Show, held in the Town Hall, was well attended, and had the accommodation at our disposal been larger, the receipts would have been still higher.

Mr. Moore, of Glasnevin, spoke highly of this show, especially of the quality of the exhibits in the Chrysanthemum classes, some of which equalled those exhibited at Dublin a few days before.

They regret extremely the loss that the Society has sustained owing to the death of their noble patron, the Marquis of Waterford, who always took a lively interest in the welfare of our Society.

J. N. WHITE, Chairman.  
W. RICHARDSON, D. CANTWELL, Hon. Secs."

THE ACCOUNTS.

The statement of accounts showed that after the two shows of the previous year there was a debit balance of £14 1s. 7d., but that this deficit had been entirely wiped out by the generous response by many of the members to the circular appealing for aid. So liberal, indeed, had been the contributions for this purpose, that the entire sum realised amounted to £32 5s., which left a credit balance of £34s. 5d., with which to commence the new year.

Mr. Goff moved, and Mr. E. A. WHITE seconded, the adoption of the report and statement of accounts, which was carried unanimously.

On a discussion taking place as to the advisability of increasing the annual subscriptions of members, so as to preclude the possibility of the Society again falling into debt, and to enable it to carry on its work satisfactorily, it was resolved that a minimum subscription of 5s. be adopted.

ROYAL GARDENERS' ORPHAN FUND.

FEBRUARY 21.—The annual general meeting of the supporters of this charitable and excellent institution was held on the above date at Anderson's Hotel, Fleet Street, E.C., at 2 P.M. There was a good muster on the part of the members of the Executive Committee, but otherwise the attendance, though larger than on the occasion of the meeting last year, was nevertheless unsatisfactory. Such an attendance may point to an implicit confidence in the policy and management of the Executive Committee, but it is not calculated to maintain that activity amongst the supporters, so vital to the expansion of the institution. The chair was taken by W. Marshall, Esq. (chairman of the Executive Committee). The minutes of the last meeting having been duly read by the secretary (Mr. A. F. Barron), and adopted by the meeting, the chairman read the annual report, which is as follows:—

REPORT FOR THE YEAR ENDING DECEMBER 31, 1895.

The Executive Committee in presenting their eighth annual report, have again the pleasure of congratulating the subscribers to the Royal Gardeners' Orphan Fund on the closing of another successful financial year, and on the continued prosperity of the charity. The income derived from annual subscriptions still, however, gives the committee some anxiety, the past year's receipts again showing a slight decrease. The committee earnestly appeal to gardeners for a more generous support of the fund.

By the lamented death of the President, the Right Hon. Sir JULIAN GOLDSMID, Bart., M.P., the Royal Gardeners' Orphan Fund has lost a magnificent supporter, and his loss is deeply deplored by every friend of the charity. It is with the greatest satisfaction the committee are privileged to announce that His Grace the Duke of BEDFORD has been pleased to accept the Presidency of the Fund [His Grace's portrait will be found on p. 271, ED.]. The Committee have further to mourn the death of an old member of the executive committee in the person of Mr. JOHN WILLS, who was, from the establishment of the fund, one of its most generous supporters.

The committee have gratefully to acknowledge the receipt of £171 9s. from the "William Thomson Memorial" committee, being the proportion of the amount collected, which was voted to the Orphan Fund as a memorial of Mr. William Thomson, of Clovefords, a warm supporter of the charity, and a distinguished member of the gardening community. The right of voting in connection with this Memorial will be exercised by the Royal Caledonian Horticultural Society for fifteen years. The committee also most thankfully acknowledge the receipt of a legacy of £100 from Mr. George Taber; and one of £5 5s. from Mr. J. Taplin.

The annual festival dinner, which was presided over by Mr. Harry J. Veitch, proved specially satisfactory, the sum of £592 nett being thereby realised. A most cordial vote of thanks is hereby tendered to Mr. Veitch for his noble generosity to the charity at all times, and for his able advocacy of the claims of the fund on that occasion.

Since the foundation of the charity in 1887, in commemoration of Her Majesty's Jubilee, seventy orphan children have been elected to receive the benefits which it confers. Seven of these have been retired, owing to the age limit, and two from other causes, leaving sixty-one as the number of recipients at the end of the year, to which the committee recommend the election of ten more this day.

In addition to the payment of the regular allowances, applications were made during the year on behalf of some of the children retiring, for further assistance, according to rule XIII, and special grants have been made in three cases, amounting in all to £21, with the happiest results.

Mr. N. N. Sherwood, in addition to his generous support of the fund in the past, has very kindly undertaken to pay to the Royal Gardeners' Orphan Fund the sum of £13 a year in accordance with rule XII, for the maintenance of the child Frederick Barsos, as a memorial of the late Mrs. Emma Sherwood.

The members of the committee who retire by rotation are Messrs. Head, Laing, Nicholson, Osman, Poupart, Smith, Turner, and Walker, and all being eligible, they offer themselves for re-election, with the exception of Mr. Turner, who retires. Mr. Reynolds, Acton [Gunnersbury], is nominated to the vacancy caused by the death of Mr. John Wills; and Mr. J. Lyne, Foxbury Gardens, Chislehurst, in the place of Mr. H. Turner. Also the retiring auditor, Mr. M. Rowan, and the treasurer, Mr. T. B. Haywood, are again nominated.

The work in connection with the administration of the fund having greatly increased during the past few years, the committee have had the matter under consideration, and recommend that a paid secretary to the fund be appointed.

The committee recommend that Mr. A. F. Barron be the secretary of the fund, at an annual payment of 100 guineas.

CASH STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1895.

RECEIPTS.		
To Balance from last Account	...	£39 13 7
.. Subscriptions, General	...	£333 7 6
.. Ditto Collected by Local Secs.	...	75 7 0
.. Donations, including proceeds of Sales of Flowers, Boxes, Entertainments, &c.	...	163 5 4
.. Ditto Collected by Local Secs.	...	51 10 6
.. The William Thomson Memorial	...	214 15 10
.. Legacy from Mr. George Taber	...	171 9 0
.. The Emma Sherwood Memorial	...	100 0 0
.. Legacy from Mr. J. Taplin	...	13 0 0
.. Annual Dinner	...	5 5 0
.. Card Collection	...	719 9 4
.. Advertisements in List of Subscribers	...	38 7 2
.. Dividends on Stock and Interest on Deposit	...	27 14 0
		203 19 3
		£2,732 7 8

NOTE: INVESTMENTS, ETC.		
2½ per cent. Consols	...	£7,070 6 10
3 per cent. Canada Stock	...	1,500 0 0
		£8,570 6 10

EXPENDITURE.		
By Allowances to Orphans	...	£798 15 0
.. Emma Sherwood Memorial	...	13 0 0
.. Grants in Aid	...	21 0 0
.. Annual Dinner	...	£332 15 0
.. Printing and Posting List of Subscribers	...	327 7 0
.. Secretary's Clerk	...	31 18 8
.. Printing and Stationery	...	52 10 0
.. Annual General and Committee Meetings	...	18 11 11
.. Postages	...	13 11 2
.. Bank Charges	...	18 12 10
.. Sundry Expenses (Petty Cash)	...	1 13 9
.. Purchase of £500 3 per cent. Canada Stock	...	17 13 4
.. Ditto £500 3 per cent. Ditto	...	122 13 0
.. Balance	...	512 11 0
.. Cash at Bankers	...	505 1 3
.. Cash on Deposit	...	199 2 1
.. Cash in hand	...	300 0 0
		19 10
		600 1 11
		£2,732 7 8

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above account to be correct.

(Signed) JOHN FRASER, Leyton } Auditors.  
M. ROWAN, Clapham }

Dated January 25, 1896.

The Chairman then referred in brief terms to the principal items in the report, and moved its adoption, which was afterwards seconded by Mr. Shephard. Mr. Alex. Dean asked if information could be given as to the number of voting papers returned. The Chairman said that information on the subject should be given after the counting had taken place. A short discussion took place on the question of Consols, Mr. H. J. Veitch thinking that the price of these was now so high that it would be well to dispose of them, and invest in new stock. After the report had been passed unanimously, the retiring Treasurer (L. B. Haywood, Esq.) was re-elected, and a vote of thanks passed for his past service. Mr. M. Rowan was re-elected auditor on the proposition of Mr. R. Dean, seconded by Mr. J. F. McLeod.

Mr. B. WYNNE then proposed that all of the retiring members of the executive committee be re-elected, with the exception of Mr. Harry Turner, who wished to retire. This was seconded by Mr. SHEPHARD, and carried. The two gentlemen nominated by the committee to fill the vacancies caused by the death of Mr. Jno. Wills and the retirement of Mr. Harry Turner were elected unanimously.

The CHAIRMAN then proposed that Mr. A. F. Barron be

asked to accept the sum of 100 guineas per annum for the discharge of the duties of secretary. Mr. MARSHALL said, that the Committee thought that although Mr. Barron had been hon. secretary for the past nine years, owing to changed conditions, the time had come when some slight payment ought to be made. He had visited Mr. Barron, and declared that, practically, the work necessitated the use of one of the rooms in the secretary's residence. Mr. Weeks seconded the proposition, which was supported by Mr. W. Roupell, who thought that it should be borne in mind that Mr. Barron had worked hard voluntarily for the past nine years. He also thought that a paid secretary was the best for such a fund, and that it would pay. Voluntary officers were very well for initiatory work, but such a Society could not always depend upon it. The Committee wished to treat Mr. Barron as a gentleman, and for that purpose the sum had been made guineas. Mr. A. Dean wished to know whether the 100 guineas would include the sum of £52 10s., which appeared in the report as payment to Secretary's clerk [The Chairman answered in the affirmative], and thought if that were so, the fact should have been indicated in the report. Whilst greatly in favour of voting the money to his friend, Mr. Barron, he (Mr. Dean) thought it would have been better to have presented it to him as an honorarium. The resolution was carried *nem. con.*, and Mr. Barron briefly returned thanks. An adjournment then took place for the counting of votes in the election of ten pensioners to the Fund, and Messrs. Poupart, Weeks, McLeod, and Bates, were appointed scrutineers.

On the resumption of the meeting, the ten successful candidates were declared as follows:—H. P. Smith, 482 votes; A. B. Ritchie, 475; S. Small, 389; F. A. H. Worth, 384; Blanche Dean, 325; Amy Farrant, 315; F. Pratt, 250; F. L. Haycock, 235; H. Anderson, 177; B. C. Stevens, 181. The names of the unsuccessful candidates were:—H. Rapley, who had 103 votes; W. Clark, 75 votes; and W. Wright (since dead), 79 votes. The number of voting papers sent out was 1300, and of these there were returned 828. Total number of votes, 2577. No voting papers were spoiled. Votes of thanks concluded the proceedings. In the evening a friendly dinner was held among members of the committee and friends.

NATIONAL CHRYSANTHEMUM.

FEBRUARY 24.—The annual general meeting of members took place at Anderson's Hotel, Fleet Street, on the above date, Mr. R. BALLANTINE, one of the Vice-Presidents, presiding, there being a large attendance of members. The notice convening the meeting having been read, together with the minutes of the last annual gathering, the Secretary, Mr. R. Dean, read the annual report of the committee, from which we make the following extracts.

An almost unprecedented growth of membership during the past twelve months, and the holding of four exhibitions of the highest merit, bear striking testimony to the great popularity of the Chrysanthemum. During the year ending December 31, thirteen Fellows and 149 Ordinary Members have been elected, and ten Societies admitted to affiliation. The number of Members retiring at the close of the year is smaller than usual.

In reference to the exhibitions, your committee greatly desire to see a larger representation of the early-flowering varieties at the September show, many new forms having been added to the section during the past few years. As in 1894, the October exhibition was of a very high order of merit. The November *fiets* was on a very grand scale, the ground floor and two spacious galleries scarcely sufficing to accommodate the numerous exhibits; the weather being happily most favourable. Your committee were gratified to notice a larger number of societies than usual contending for the Challenge Trophy. The late exhibition in December brought a charming display. Both the October and the December shows are undoubtedly growing in extent, quality, and attractiveness.

Your committee have amended their regulation as to the size of boards for Japanese blooms, and for the future in all classes in which this type is shown, the boards must be of the sizes set forth in the Special Regulations for Exhibitors.

The Floral Committee held ten meetings during the past year, and they were the means of bringing together an enormous number of novelties. Though great care is exercised in making awards to novelties, the general high excellence of the numerous new introductions required the awarding of a considerable number of Certificates of Merit. The Floral Committee have had under consideration their rules of procedure, and have amended them in several important particulars; one of these requiring that for the future three blooms of a variety must be shown to obtain a Certificate of Merit, though Commendations will be awarded to two blooms only, provided the variety possess sufficient merit.

In the present year the Society attains to the fiftieth year of its existence, having been originally known as the "Stoke Newington Chrysanthemum Society." Your committee have therefore made arrangements to celebrate the Jubilee of the Society in a fitting manner in November next, the carrying out of the same being entrusted to a Special Jubilee Subcommittee. The Catalogue Revision Committee are already at work compiling a Jubilee edition to date, for which it is confidently expected there will be a large demand.

The Jubilee Fund is yet considerably short of the sum required to enable the celebration as originally proposed to be carried out, and the committee make an earnest appeal to members to assist in making the Jubilee Festival a complete success.

The esteemed President, Sir E. Saunders, is most heartily thanked for his continued interest in the work of the Society, and the committee gratefully acknowledge his gift of a valuable

clock as a special prize at the November exhibition. They also thank the members and friends of the Society who generously gave special prizes at the November exhibition, all of which are greatly appreciated.

The financial statement discloses the facts that the receipts from all sources amounted to a sum of £919 9s. 5d., the expenditure, £854 1s. 9d.; balance in hand, £65 7s. 8d. The reserve fund, which at the beginning of the year stood at £55 2s., and which had been invested in the *Year Book for 1895*, was stated to be £45 11s. 8d., but payments for outstanding accounts had to be obtained which would cover any apparent loss. Still, the *Year Book*, which contained a mass of useful information, historical and otherwise, had not been taken by the member to the extent calculated upon, and it had been decided not to issue an edition in the early part of the present year. The secretary further stated that the financial position of the society was in every respect much better than at any time during the six years he had filled the office of secretary. The donations to the Jubilee Fund in cash amounted to £224 6s., inclusive of a special donation of £75 from the Royal Aquarium Society; special prizes in cash, £165 18s.; and plate and medals to £41 5s. As the total expenses for the Jubilee year would probably amount to £1200, there was yet need for further assistance from members, which he hoped would be forthcoming.

The Chairman, in moving the adoption of the report and financial statement, complimented the members on the satisfactory position of affairs, and urged upon them the necessity for supporting the Jubilee Fund, to enable the Jubilee Committee to carry out the celebration in all its entirety. The motion was seconded, and carried.

A hearty vote of thanks was passed to Mr. F. C. Ward and Mr. G. J. Ingram for auditing the accounts. Sir Edwin Saunders was re-elected President by acclamation, and a special resolution of thanks was passed in the same manner. The name of Mr. Harry J. Veitch was added to the vice-presidents, and Mr. J. R. Starling was re-elected treasurer; Mr. Brian Wynne as chairman of the general committee; Mr. T. W. Saunders as vice-chairman; Messrs. R. Dean and C. Harman Payne as secretaries; and Mr. H. J. Outbush as auditor in the place of T. C. Ward, who retired by rotation.

The following of the twelve outgoing members of the committee were re-elected—Messrs. H. J. Jones, G. Gordon, D. B. Crane, G. Stevens, E. Beckett, C. Gibson, W. Davey, and J. Wright; and Messrs. R. Ballantine, Norman Davis, H. Shoesmith, J. McKerchar, elected for the three years ensuing. Twelve candidates for membership were elected, the secretary reporting that there had been forty-two since the commencement of the year; and he further reported that twelve societies had been affiliated in the same period. Hearty votes of thanks were passed to the scrutineers, and to the chairman for presiding.

## NURSERY NOTES.

MESSRS. J. VEITCH AND SONS.

I HAD the pleasure of a conversation with Mr. J. Heal the other day at this nursery about his favourite plants, the hybrids of *Rhododendron multicolor* and *R. javanicum-jasminiflorum*. The crossing and intercrossing of these fine plants has become difficult to follow, notwithstanding one is helped a little by the different colours and forms of the flowers and trusses of the various seedlings. Here is a handsome seedling of Mrs. Heal, which has produced twenty-eight trusses, that is, a truss on the point of every growth, with the result that the energies of the plant are exhausted. The flowers are well formed, pure white, yet the seed parent is *R. multicolor*, a yellow variety; the pollen parent, *Princess Beatrice*, light yellow and pink. *Ruby* and *Neptune* are varieties which have rich-coloured flowers; the first-named a crimson, the latter crimson with a scarlet tinge. *Hercules*, I think, is one of the finest varieties as yet raised, and it had *R. Princess Frederick* as the seed parent, and *R. javanicum* the pollen parent. The flowers are of regular form, 3 inches in diameter; the segments of the corolla, six to eight, give a rounded outline to the bloom. The colour is a bright buff, of an orange shade. *R. Primrose* is of a canary-yellow colour. The pollen of the species *R. Leymanii* was employed upon the garden variety *R. Maiden's Blush*, to produce this, the finest yellow-coloured *Rhododendron* yet obtained. *Rhododendron* × *Eor*, shown under the name of *malayanum javanicum* at the February meeting of the Royal Horticultural Society, the result of a cross between these two specific forms and a garden hybrid, is a charming flower, of waxy texture, and bright rosy-red colour. It is an excellent blossom for use in making small coat-bouquets, &c.

The above varieties show the steady advance that has been made in recent years, and the gain in breaking away from the continual crossing and re-

crossing of the purely garden varieties by introducing the pollen of species such as *R. multicolor*, *R. Leymanii*, and the small-flowered *R. malayanum*. The results were not at first so pronounced, but now these are very apparent, and of a most satisfactory kind.

*Orchids*.—It is yet early for a large display, still a brave show is made at this nursery. Of course, the chief portion consists of *Cattleya Trianaei* in large variety, some with labellum of richest purple-crimson, others with more delicate shades prevailing in this portion of the flower, and others again with no trace of these colours. The delicate tints and fragrance of *C. Schroderae*, renders it the most desirable of *Cattleyas*. Passing through the large *Cattleya*-house, into the rock garden where Ferns and other greenery make a delightful contrast to the gay colours of the Orchids, some lovely *Epidendrum Andreisii-Wallianii* were remarked, a plant whose name reveals its parentage; the sepals and petals are deeply spotted purplish on a cream-ground; the lip is white, but singularly marked with lilac-purple. What a contrast to this one is *Lycaste fulvaceus*, the sepals and petals of a yellow hue, and lip of a bright orange colour. Many *Dendrobiums* are in flower, viz., *D. Wardianum*, *D. nobile* in many varieties; the brightest of the last-named being *D. n. nobilium*. *D. Schneiderianum*, a fine garden variety, rather uncommon, whose sepals and petals are white, flushed with rosy-purple at the tips, and lip with a large blotch of yellow. It is a *D. Fendlayianum* and *D. aureum* cross. *D. Alcippe* is another fine cross allied to *D. micans*; it has been obtained by crossing *D. litiflorum Freemanii* with *D. Wardianum*; a lengthy spike furnished with eighteen flowers was observed of this cross. The sepals and petals are of a deep rose-purple shade, and the *D. Wardianum* blood is apparent in the lip, which has a heavy purple-maroon blotch. *Oncoglossum ramosissimum* was in flower—a very pleasing variety, with white sepals and petals. This species is getting rare in gardens. I was interested in the success of a house set apart for the culture of *Dendrobiums* in baskets. I saw the plants growing therein in the summer of last year, and they were treated to temperature, atmospheric conditions, and shading such as I have often recommended. There is scarcely any shade employed in this house, and the plants are watered freely when growing. There is a long, shallow tank underneath them, which is edged with rough pieces of rock, and embellished with some of the choicest Ferns. The *Dendrobiums* have made splendid growths, which are studded with flower-buds, and as the plants come into flower they are removed into the show-house alluded to above. *J. D.*

MR. GEORGE MAY'S.

It seems inappropriate to apply the term "nursery" to such a floral establishment as that of Mr. George May, at Upper Teddington, Middlesex, because, with the exception of the now famous but most un-euphoniously named *Carnation*, *Uriah Pike*, few plants go out of the place. Practically, this huge area of glasshouses, which is being added to every year, produces flowers for cutting only. Just now, the primary subjects under culture are *Roses*, all in pots; as are *Carnations*, *Eucharis*, *Gardenias*, *Liliums*, and *Maidenhair Fern*. *Roses*, both *Tea* and hybrid perpetual, are here by tens of thousands; indeed, a sufficient number of plants is bought in every year to set up a nursery, and yet thousands of plants are from four to six years old. The most extensively grown of *Teas* is *Catherine Mermet*, a most beautiful variety, but rather shy with its beauty. Mr. May opens the door of a long span-house, and invites a look-in. We see a remarkable sight, for the house is 20 feet wide, and 265 feet long, literally full of plants in pots, 8 and 9-inch in diameter, the plants ranging from 4 to 5 feet in height. Really, the numbers seem countless, and all in perfect health, and wonderfully clean.

A little further on is a range in two houses of the same width, but 295 feet long, also full of the same *Rose*, but taller plants, mostly in 10-inch pots. It is a

wonderful sight, the culture being first-rate. Then we turn into a couple of broad span-houses, each 130 ft. long, just as full of *Niphetos*, the plants very strong, and from 5 to 6 feet in height, blooming freely. Of course, the blooms are cut over hard every day or two. Then there are *houssae*, long and wide and numerous, full of *La France*, *Baroness Rothschild*, and *General Jacqueminot*, that fine old crimson H.P., that for market forcing has not been excelled by any newer one. These are in varying stages, from those blooming to late plants just breaking in cool-houses.

Of *Carnations*, especially that fine crimson variety *Uriah Pike*, the numbers seem to reach up to some 100,000. They are represented further by *Winter Cheer*, the best scarlet, a pretty unnamed *Pink*, many seedlings, &c. The bulk of these immense quantities of plants are in 7-inch and 8-inch pots, and are very strong, producing blooms during the season in wonderful abundance.

After all, perhaps the most remarkable thing here is found in the huge collection of *Eucharis amazonica*. We see house after house crammed of plants, in pots ranging in diameter from 9 to 10 inches. There must be 5000 of these assuredly, and marvellously clean, robust, and healthy are they. Nothing is heard of the *Eucharis*-mite, which seems to have in the past seriously troubled those who may grow a few plants. The blooming period seems to be literally the year round, for if some plants be temporarily resting, others are blooming. It is not merely the number of plants which astonishes, but the wonderfully healthy condition everywhere visible. It would seem evident here, at least, that *Eucharis* culture is a very common-place business. One long, broad, span-house is full of climbing *Asparagus*, *A. plumosus* and *A. tenuissimus*. The growths are sustained by lengths of twine dependent from wires strained across under the roof. The plants are all in large pots, and throwing up shoots abundantly. There seems to be a large demand for this pretty decorative climbing material when in lengths of from 4 to 6 feet. There are also plants of *plumose nanus*, but the climbing forms are in most request. *Maidenhair Fern* seems present almost by the acre. The quantities in large pots, all stout, and making fronds strong and freely, run to several thousands. *Gardenias*, too, are very fine, all in bush form, in about 9-inch pots, clean, and set abundantly with buds. Of *Liliums*, at present the chief one is *Harrisii*, which forces so well, though Mr. May likes the ordinary longiflorum better. Then *L. Kreutzeri* is following in quantity for succession. There are immense quantities of the old *Double Daffodil* in pots blooming profusely, and myriads of pots of that and other varieties covered up out-of-doors. *Lilies* of the Valley in pots are full of flowers now, and myriads of crowns in clumps, and set singly into shallow boxes, within and without, for future blooming; so also of *Spiraea* clumps. *Arums* also are in huge quantities; indeed, there seems to be little limit to anything, even to the soil-heaps, which are small hills of several hundreds of loads. Naturally in such a place there is perpetual succession of flowering plants, and there is not an inch of waste space inside; indeed, the alleys are of the narrowest. Practically the place illustrates the remarkable ease—at least, apparently—with which market growers grow plants, and manufacture flowers. It presents a branch of horticulture that merits the study of every gardener. *A. D.*

WEST OF ENGLAND CHRYSANTHEMUM SOCIETY.—The annual meeting was held on January 8, 1896, under the presidency of the Right Hon. the Earl of Morley. The report and balance-sheet were read by Mr. C. Wilson, Hon. Sec. From this it appears that a very successful show was held, at which nearly £150 was paid in prizes. The society has now a balance of nearly £30. The Hon. Sec. was re-elected, Mr. DANERELL was elected Chairman of Committee, and Mr. GROOMBRIDGE Hon. Treasurer. The committee have made numerous alterations and additions in the local classes, especially those for fruits. There has also been a class added for lady subscribers for table decoration. The committee appeal for increased support for this important show.

Obituary.

MR. JOHN MORRIS.—Cultivators of the Auricula will learn with regret of the death of John Morris, of Dundee, which took place on the 15th inst., at the age of seventy-seven years.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, and BRIGHT SUN. Includes sub-columns for day-degrees and rainfall inches.

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c. Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W. 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending February 22, is furnished from the Meteorological Office:—

"The weather was again dry and mild over the kingdom on most days, but some slight rain was experienced very generally about the middle of the period.

"The temperature was rather above the mean in all districts, but only just equalled it in 'England, E. S., and N.W.' and the 'Midland Counties,' and was slightly below it in 'England, N.E.' The highest of the maxima were registered on the 19th over England, but on irregular dates in Ireland and Scotland; they ranged from 58° in 'England, E.,' and 57° over the 'Midland Counties,' to 52° in 'Scotland, N.,' and 51° in 'England, N.E.' The lowest of the minima were recorded about the middle of the week, and varied from 22° in 'Scotland, E.,' and 23° in 'England, N.W.,' to 31° in 'Ireland, S.,' and to 3° in the 'Channel Islands.'"

"The rainfall was less than the mean in all parts of the kingdom, the deficit being greatest in 'Scotland, N., and W.' The bright sunshine was less than the normal very generally, the percentage of the possible duration ranging from 5 in 'Scotland, W.,' 8 in 'England, N.E.,' and 13 in 'England, N.W.,' to 24 in 'Ireland,' 25 in 'England, S.,' and 27 in the 'Channel Islands.'"

THE KEW HERBARIUM.—It is stated in our contemporary, the Journal of Horticulture, that the Herbarium at Kew has been enriched by recent presentations of specimens of new genera and species by Baron Sir Ferdinand von Mueller, a collection of 200 species by Dr. Haviland, a collection of dried plants by Mr. Elliott (an officer of the Indian Forestry Department), about 170 species of Californian plants, chiefly new species, by Mr. B. Davey, of Berkeley University; and a magnificent gift of nearly 1500 species of Central American plants by Mr. J. Donnell Smith.

MARKETS.

COVENT GARDEN, FEBRUARY 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various plants in pots such as Adiantum, Arum lilies, Aspidistra, Azalea, Cineraria, Cyclamen, Daffodils, Dracena, Erica, Evergreen Shrubs, Ferns, small, etc.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers including Arums, Azalea, Bouvardia, Carnations, Daffodils, double, Gerbera, Eucharis, Gardenias, Hyacinths, Lily of the Valley, Maidenhair Fern, Marguerite, Mignonette, Narcissus, White, French, 12 bunch, etc.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing prices for various fruits such as Apples from Nova Scotia, Grapes, Gros Colmar, Nectarines, Pears, Pine-apples, Strawberries, etc.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for various vegetables including Asparagus, Mint, Mushrooms, Onions, Potatoes, Cauliflowers, Cucumbers, etc.

OLD POTATOS.

The few cold days since last report have caused more inquiries for all classes, and although prices show no advance, there is certainly a harder tendency.

NEW POTATOS.

Demand shows no improvement, and, if anything, prices are somewhat easier. J. B. Thomas.

SEEDS.

LONDON, Feb. 26.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a quiet demand for field seeds. Meantime, prices all round of Clover and Grass seeds stand at the unusually low level, which proves this season so welcome to buyers. For French and English samples of Clover seed, the tendency is downwards. Full rates are asked for White and Alsyke. Trefoil and Rye grasses show no change. Tares find buyers on former terms. As regards Canary seed, bottom quotations have apparently been reached. Fine Hemp seed can now be bought for very little money. The wintry weather hardens quotations for Boiling Peas and Haricot Beans. There is no alteration this week in either Mustard or Rape seed. Some good feeding Dairies is now selling at attractively low rates. The Linseed trade is featureless.

FRUITS AND VEGETABLES.

BOROUGH: Feb. 25.—Quotations:—Savoys, 4s. to 5s. 6d. per tally; Sprouts 2s. to 2s. 6d. per bushel; Onions, 3s. 6d. to 4s. 6d. per bag; Carrots, 1s. 9d. to 2s. 3d.; and Turnips, 2s. to 2s. 6d. per dozen bunches; Horseradish, 8s. to 12s. per doz. bundles; Apples, 4s. 6d. to 6s. per bushel.

SPITALFIELDS, Feb. 25.—Quotations:—English Onions, 4s. 6d. to 5s. 6d. per bag; foreign do., 2s. 9d. to 3s. 3d. do.; Carrots, 2s. to 3s. 5s. per ton; horse do., 16s. to 20s. do.; Turnip-tops, 1s. 3d. to 1s. 9d. per bag; Broccoli, 1s. to 1s. 3d. d.s.; Greens, 1s. 9d. to 2s. 3d. per dozen bunches; Kale, 1s. to 1s. 2d. per bag; Savoys, 2s. 6d. per tally; Parsnips, 5d. to 7d. per score; Rhubarb, 1s. per dozen; Sprouts, 1s. 6d. per sieve; Parsley, 2d. per bunch; Celery, 8d. per roll of eight.

STRAFORD: Feb. 25.—The change in the weather has caused better clearances. Quotations:—Collards, 1s. to 2s. 6d. per tally; Savoys, 2s. to 4s. 6d. do.; Greens, 3d. to 1s. 3d. per bag; do., 6s. to 5s. 6d. per dozen bunches; Cauliflowers, 1s. to 2s. per dozen; do., 3s. 6d. to 9s. 6d. per tally; Carrots (household), 22s. to 33s. per ton; do., cattle feeding, 13s. to 24s. do.; Parsnips, 6d. to 9d. per score; Mangels, 12s. to 15s. per ton; Swedes, 15s. to 18s. do.; Onions, Dutch, 7s. 9d. to 3s. 3d. per bag; do. Bordeaux port, 5s. 6d. to 6s. per case; Apples, English cookers, 2s. to 5s. per bushel; do., dessert, 2s. to 5s. do.; do. Nova Scotian, 16s. to 20s. per barrel; Scotch Kale, 6d. to 8d. per bushel; Beetroot, 5d. to 8d. per dozen; Horseradish, 1s. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bundles; Brussels Sprouts, 1s. to 1s. 3d. per half sieve; 1s. 9d. to 2s. 6d. per bushel; Rhubarb, forced, 1s. 4d. to 1s. 6d. per dozen bundles; Celery, 4d. to 1s. per roll; white Turnip, 1s. 6d. to 2s. 6d. per doz. bunches, and 20s. to 40s. per ton.

FARRINGTON: Feb. 27.—Quotations:—Savoys, 4s. per tally; Sprouts, 1s. 3d. per half-bushel; Turnip-tops, 1s. 6d. to 1s. 9d. per bag; Cauliflowers, 1s. 3d. to 1s. 6d. per dozen; Turnips, 2s. do.; Carrots, 2s. per dozen bunches; Celery, 2s. to 2s. 6d. per bundle; Leeks, 1s. per dozen; Rhubarb, 1s. 3d. do.; Apples, Greenings, 12s. to 15s. per barrel; Baldwin's, do.; Nonpareils, 14s. to 18s. do.; Tomatos, 1s. 4d. per tray; Grapes, black, 2s. 6d. to 3s. per lb.

POTATOS.

BOROUGH: Feb. 25.—Quotations ranged between 40s. to 90s. per ton.

STRAFORD: Feb. 25.—Quotations:—Dark-soil Bruses, 30s. to 35s.; do., light, 35s. to 55s.; Reading Glais, 35s. to 50s.; Sutton's Abundance, 40s. to 60s.; Scotch Main Crop, 70s. to 90s.; Magnums, 45s. to 60s. per ton.

SPITALFIELDS: Feb. 25.—Quotations:—Main Crop Kidneys, 60s. to 70s.; Scotch Magnums, 50s. to 55s.; Blackland Magnums, 35s. to 45s.; Sutton's Abundance, 60s. to 7s.; Danbar Regents, 70s. to 75s. per ton.

FARRINGTON: Feb. 27.—Quotations:—Saxons, 70s. to 60s.; Dunbar Main Crop, 70s. to 90s.; Bruses, 60s. to 80s.; Sutton's Abundance, 40s. to 60s.; Main Crop, 40s. to 60s.; Hebrons, 70s. to 80s.; Imperators, 30s. to 40s.; Magnums, 30s. to 40s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending February 22, and for the corresponding period last year:—1886: Wheat, 26s. 3d.; Barley, 21s. 10d.; Oats, 13s. 9d. 1895: Wheat 19s. 10d.; Barley, 22s. 2d.; Oats, 13s. 9d.

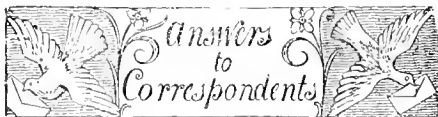
HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, best, 65s. to 87s.; inferior, 38s. to 60s.; hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 65s. to 81s.; and straw, 20s. to 40s. per load.

MANURES FOR POT PLANTS.—At the Connecticut State Agricultural Station, American Gardening informs its readers "a large greenhouse is being erected to enlarge the study of the manorial requirements of crops grown under glass." This would seem to be precisely one of those matters which belongs properly to horticultural societies possessing gardens and houses, like the Royal Horticultural, which, with the facilities existing at Chiswick, and a new superintendent full of energy and go, it could readily carry out—at least, as regards all kinds of plants grown in pots under glass. Many gardeners, it is almost needless to say, do not know what manures are required by plants except empirically, or with the nature of the various manures they make use of. The consequence of this lack of knowledge are many shortcomings and failures in plant culture. They want to know the right kind of manure for certain classes of plants, and when and how to employ them. It would, of course, be necessary to secure the services of a chemist—not necessarily, as a permanent addition to the staff, but for occasional consultative purposes, and to make analyses of the plants grown under glass, where these are not already known.



**ERNST SICKENBERGER**, whose investigations of the flora of Egypt are well known, and who filled the Professorship of Chemistry, Pharmacology, and Botany in the Medical School at Cairo, died on December 8, 1895.



**BOOKS:** *H. F. T.* The more useful works, from a student's point of view, when he does not state what particular studies he wishes to take up, would be *Hemfrey's Elementary Course of Botany*, 4th edition (London: Van Nostrand, Paternoster Row); and *Text-book of Botany*, by S. H. Vines (London: Swan, Sonnenschein & Co.).

**CARNATIONS DESTROYED:** *McIntosh, Belfast.* The stems are bored by some kind of grub, but none was found in them. If you can catch some, kindly send them to us for determination. Its borings are like those caused by the Onion-fly.

**COLOURED ILLUSTRATIONS FOR GARDENING PERIODICALS:** *F. F. in P. Bohemia.* We should suppose that there are very few openings for the foreigner in this country, native talent alone being sufficient for our needs.

**CYCLAMEN FLOWERS:** *W. J. P.* The blooms are very large and "butterfly" like; and the plant from which they were taken must be a handsome one. We are much obliged by your kindly offer to send a photograph of it.

**EUCHARIS GRANDIFLORA BLOOM:** *J. T. L.* A case of fasciation or union of two flowers, as well as a leafy development of a segment of the perianth. It is not doubling in the proper sense, but a sign rather of redundant energy in the plant.

**FLORISTS' WORK:** *S. D.* There is no journal or periodical devoted to the cultivation of plants as it is pursued by the trade. Any good ordinary garden manual combined with, of course, some kind of garden practice, should afford all that you require.

**GALVANISED WIRE TRELLIS IN PEACH HOUSE:** *F. P.* The injury to the shoots may be averted by giving the wire two coats of oil paint, or by giving the bast two twists before passing it round a shoot when tying the trees to the trellis. By so doing the shoot is separated from the wire by a space of one-tenth of an inch. Bits of leather may be used under thick shoots and branches, to keep them from touching it.

**LILACS IN POTS:** *C. K. B.* Top dress or partially re-plant the plants, whichever may seem to be necessary, and if they have made any growth, do not put them outside before danger from frost is passed, but afford as much air as possible when there is no actual frost. If no growth has taken place, they may go outside without delay. All small, weakly shoots should be cut out, and generally, the remaining shoots should not be crowded, and some amount of selection ought to be made, cutting out at the base those removed, and shortening them back somewhat. The plants should be sunk in coal-ashes or gravel, or the soil only; in that case, the worms must be kept out somehow. The spot should be the sunniest there is in the garden. The plants may receive manure-water during June and July, but growth must not be made gross or unduly prolonged.

**MARKET CRESS:** *E. G.* Garden Cress (*Lepidium sativum*) is not commonly grown, but a form of it called Common Garden Cress, which has larger leaves, of a deeper green colour, and more abundantly produced. As cress is used in this country, the plant is not allowed to produce the true leaves, but is cut in the seed-leaf, when it is 1½ to 2 inches high. There is a golden-yellow Cress called "Australian Cress" in the trade, and you may have got this variety, but without seeing the plant (true leaves) we cannot say with certainty.

**MARKET VEGETABLES:** *Market Gardener.* We do not think you have so much knowledge of the subject as your signature would imply. All good varieties of the different kinds of vegetables in common use should be grown by market growers, but they are not grown, and generally it is only the heaviest cropping, largest, or most prolific, that find favour with them, excellence as regards shape or edible qualities finding but little consideration.

The really good varieties are seldom grown by the trade till years after their adoption by private growers. You would do well to inspect the various big markets, and make your own selection.

**NAMES OF FRUITS:** *Sherrington* Your Apples are much past their season, and not suitable for identification.—*A. Cockerell.* Apple, Annie Elizabeth.—*Mid-Kent.* Apple No. 1, New or Winter Hawthornden; No. 2, resembles Forge, but we are not quite sure of it.

**NAMES OF PLANTS:** *A. L.* 1, *Polypodium aureum*; 2, *Osmunda palustris*; 3, *Gymnogramma ochracea*; 4, *Nephridium molle*; 5, *Blechnum polyodioides*.—*H. G.* *Dendrobium barbatulum*.—*J. B., Guildford.* *Eria bracteacea*.—*W. J. P.* 1, *Dendrobium primum*; 2, *Nephrolepis exaltata*; 3, *Leucothoe spicata*; 4, send when in flower; 5, *Berberis nepalensis*; *Daphne Cœorum*.—*N. C.* 1, *Thuopsis dolabrata*; 2, *Cupressus glauca (sienensis)*.—*K. W.* 1, *Cryptomeria japonica*; 2, *Cupressus Lawsoniana* var.; 3, *Abies Nordmanniana*; 4, *Abies cephalonica*; 5, *Cupressus Nikaensis*, *alias Thuopsis borealis*; 6, a *Picea*, which cannot be identified from the foliage only.—*J. W. J.* A very good form of *Dendrobium nobile*. The *Narcissus* are 1, *N. incomparabilis cynosuroides*; 2, *N. princeps*.

**OIL STOVES IN GREENHOUSES:** *B. B.* No harm would be likely to accrue from using these means of affording heat in cold weather, if the products of combustion are allowed to escape—and a small hole in the highest point of the roof would secure this. If used in connection with some kind of hot-water apparatus, the heat would be more lasting, as well as beneficial to the plants than if oil-stoves alone were used.

**ORCHID FLOWER SENT IN A LETTER THROUGH THE POST:** *F. E. W.* As you are probably aware, the species of *Pleurothallis* are very difficult to determine—except a few, which are tolerably common. All that we found of your flower was a splash of purple colour, and a bit of dry tissue in the letter. Send specimen of flower and leaf in a small box with a little damp moss, and we will endeavour to identify it.

**POISONOUS PART OF THE LEAVES OF PRIMULA OROONICA:** *Welham.* The hairs are the parts which are capable of causing irritation to some persons. There is much irritation of skin, with minute pustules and redness.

**PRIMULA BLOOMS:** *J. W.* The colour is not exceptional, but the shade is a trifle uncommon.

**SPELLING OF NAME:** *J. M.* It is spelled Snowdon, after the Welch mountain of that name.

**VINE LEAVES:** *W. B. J.* The effect of deleterious fumes from sulphur or fumigation, probably. There are no evidences of insect agency or fungus. Such recently unfolded leaves on Vines under glass are very liable to injury from ammoniacal and sulphurous fumes.

**ZONAL PELARGONIUM CUTTINGS:** *Ignoramus.* The scabbiness seems to be a result of rough handling with grit on the hands when the skin of the cutting was very tender. The long cutting was placed too deep in the soil—a common cause of the loss of cuttings.

**COMMUNICATIONS RECEIVED.**—*H. Hastings.*—*J. B.*—*J. D. N.*—*R. Mahr.*—*Pope & Sons.*—*Ad Old Subscriber* (next week).—*P. W. W.*—*C. R. De la Salle.*—*W. B.*—*A. K. B.*—*W. L.*—*H. Hunter.*—*L. Maurer.*—*Hortus.*—*J. H. B.*—*H. B.*—*Chester Courant.*—*J. Mayne.*—*A. T. O.*—*Dr. R. W.*—*R. J. M.*—*J. O'B.*—*B. W. J.*—*McIntyre.*—*W. H. W.*—*A. D. W.*—*Attwood, Binsted & Co.*—*E. C. R. L. H.*—*H. D.*—*W. A. C.* (Carnation aower next week).

**SPECIMENS, PHOTOGRAPHS, ETC., RECEIVED WITH THANKS.**—*T. R.*—*H. C.*

**DIED.**—On February 23, at Eltham Court, Eltham, **RICHARD BLOXAM.**

**CONTINUED INCREASE** in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

**IMPORTANT TO ADVERTISERS.**—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

## THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes. The result of many years' experience. Largely used both at home and abroad.

Agent for London:—**J. GEORGE**, 14, Redgrave Road, Putney, S.W.  
Agent for Channel Islands:—**J. H. PARSONS**, Market Place, Guernsey.  
Sole Makers:—**WM. THOMSON AND SONS, LTD.**, Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application. Analysis sent with orders of ½-cwt. and upwards.  
**SOLD BY ALL SEEDSMEN.**

## STANDEN'S MANURE.

ESTABLISHED OVER 30 YEARS.  
Exceeds all others in General Fertilising Properties and Staying Powers.

It promotes a rapid, healthy, and robust growth to plants generally.

It is a clean and dry powder, with very little smell. The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

THE ANALYSIS SHOWS—  
Insoluble Phosphate ... .. 35.74 per cent.  
Soluble ... .. " 83 ..  
Nitrogen ... .. " 8.93 ..  
(Equal to Ammonia) ... .. " 10.85 ..  
Sold in Tins, 1s., 2s. 6d., 5s. 6d., and 8s. each; and in Kegs, well secured, to prevent loss through exposure, 25 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s.

To be had from Seedsmen and Florists.  
MANUFACTURERS—  
**CORRY & CO., Ltd., LONDON**

## WEBB'S GARDEN FERTILISERS

Specially Prepared for all Crops.  
For VINES ... .. per bag of 28 lb. 6/-  
For POTATOS ... .. ditto 5/-  
For TOMATOS ... .. ditto 6/-  
For CHRYSANTHEMUMS ... .. ditto 7/6  
For LAWNS ... .. ditto 6/-

**WEBB'S COMPOUND MANURE**  
The Best General Manure for Vegetables and Flowers.  
1 lb., 1s.; 3 lb., 2s. 6d.; 7 lb., 5s.; 28 lb., 13s.  
Reduced Rates for large quantities on application.

OUR MANURE WORKS AT SALTNEY, CHESTER, ARE 5 ACRES IN EXTENT.  
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## XL ALL LIQUID INSECTICIDE, (PATENT),

For Syringing, Dipping, and Washing Plants and Fruit Trees.

Manufactured in Bond, from pure Nicotine of Tobacco, by special permission of the Hon. Board of H.M. Customs.

**ADVANTAGES CLAIMED—**

It is always of uniform strength, and perfectly safe when used as directed. Kills every insect which affects Plants and Fruit Trees. Does not stain Foliage, Flowers, or Fruit. A clear Liquid (no sediment), herein differing from the crude, thick, soapy preparations frequently recommended. Being the Strongest in the Market, it is cheap in use, standing twice the amount of dilution of any other safe preparation. As an example, Kills Fly at 1 to 40 parts of water.

1 Pint, 2s.; 1 Quart, 3s. 6d.; ½-Gallon, 5s.; 1 Gallon, 10s.; also in 4 and 6-Gallon Drums.

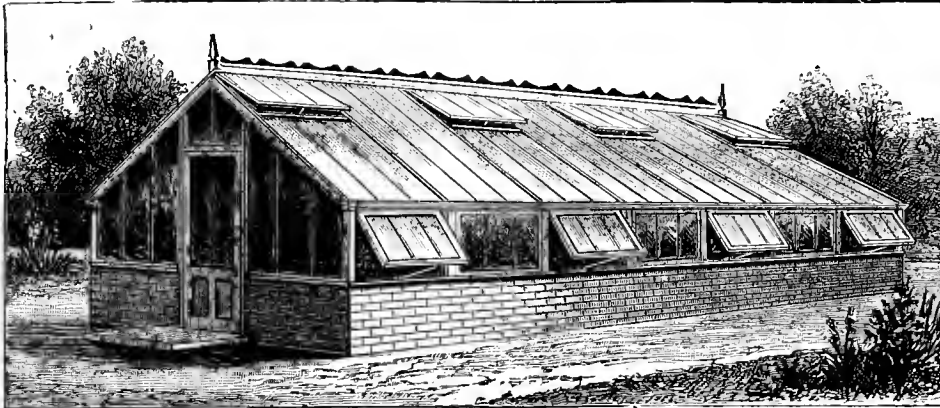
To be had from all Nurserymen, Seedsmen, and Sundriesmen; or direct from the Manufacturer and Patentee—  
**G. H. RICHARDS,**  
Old Shot Tower Wharf, Lambeth, London, S.E.  
Telegraphic Address—"Vaporizing, London."

# W. DUNCAN TUCKER,

HORTICULTURAL BUILDER AND HOT-WATER ENGINEER,

EVERY DESCRIPTION of CONSERVATORIES, GREENHOUSES, GARDEN LIGHTS, &c.  
BUILDER TO THE PRINCIPAL GROWERS IN THE UNITED KINGDOM.

ORCHID  
HOUSES,  
PEACH  
HOUSES,  
VINERIES,  
and  
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HOUSES.



CUCUMBER  
and  
TOMATO  
HOUSES,  
PLANT  
and  
FRUIT  
HOUSES.

HEATING IN ALL ITS BRANCHES.

SEND FOR ILLUSTRATED CATALOGUE, JUST OUT. ESTIMATES FREE.

FIRST-CLASS WORKMANSHIP and BEST MATERIALS ONLY.

**TUCKER, TOTTENHAM.**

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**HEATING! HEATING!! HEATING!!!**

## THE THAMES BANK IRON COMPANY

Undertake the complete erection of HEATING APPARATUS for GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c. Have the largest stock of BOILERS, PIPES, and CONNECTIONS in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

Patent HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, &c.;  
VENTILATING GEAR AND VALVES.

AWARDED THE ONLY GOLD MEDAL at the INTERNATIONAL HORTICULTURAL EXHIBITION, 1892, for HOT-WATER APPLIANCES.

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Telegraphic Address—"HOT-WATER, London." Telephone. No. 4763.

### THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM \_\_\_\_\_ TO \_\_\_\_\_  
\_\_\_\_\_ THE PUBLISHER,  
41, Wellington Street, Strand,  
LONDON, W.C.

Please send me "THE GARDENERS' CHRONICLE" for \_\_\_\_\_ 1896.  
commencing \_\_\_\_\_, for which I enclose P.O.O. \_\_\_\_\_ Months

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,  
GREAT QUEEN STREET, London, W.C., to H. A. STRATTON.  
Cheques should be crossed "DRUMMOND."

G. C.  
Feb. 29, 1896.

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OF  
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**WOOD LATH ROLLER BLINDS**

(The Coming Shading for Greenhouses).

SEND FOR PRICE LIST AND TESTIMONIALS TO

**W. WALTERS & CO.,**

GREENHOUSE BLIND and ORCHID BASKET  
MANUFACTURERS,

707, HIGH STREET, LEYTONSTONE,  
LONDON, E.

**FOWLER'S MEALY-BUG DESTROYER.**

—It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.—CORRY & CO., Ltd., E.C. Sold by all Seedsmen.

# SPRING CAMPAIGN

## ATTACK ON THE PROVINCES.

NORTH, SOUTH, EAST, WEST. IN EVERY PART OF ENGLAND.

THE rapid strides made during the last few years in horticultural pursuits, and the constantly-increasing demand for Greenhouses (by which alone success in the perfection of floral beauty can be maintained) has induced Messrs. W. COOPER, Ltd., PIONEERS OF CHEAP GREENHOUSES FOR THE MILLION, to extend their operations in a way that will tend to encourage and further develop the art of floriculture in every part of England. THE FOLLOWING ADVANTAGEOUS TERMS ARE OFFERED FOR ONE MONTH ONLY:—

- 1.—All orders to be sent in before March 14, after which date no order will be booked below list prices.
- 2.—A deposit of 10 per cent. to accompany all orders, the balance to be paid to our foreman in charge of job upon completing erection, and price to be strictly Net.
- 3.—All houses will be complete as mentioned below, and painted two coats of good oil-colour at our works, and delivered free of any charge to your nearest station, erected and glazed complete.
- 4.—Customers to advise us immediately upon arrival of goods at their station by telegram, and to cart same, at their own expense, from station on to site, ready for erection, within 24 hours after arrival.
- 5.—Customers to have all ground cleared and level for our men to erect.
- 6.—Our men erect and glaze house complete and ready for use, free of any charge outside prime cost of house.
- 7.—We do not bind ourselves to erect on any particular date, which must be left entirely to us; but shall not exceed one month after date of arrival.
- 8.—We reserve to ourselves the right to refuse any order or orders that may be sent in upon these terms.

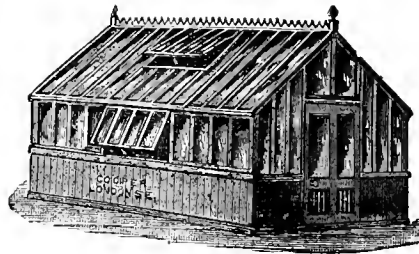
N.B.—Prices quoted for Heating Apparatus are only on condition that we supply the house as well; on no account could we deliver and fix Heating Apparatus at these prices without order for house, although we are prepared to fix houses without heating apparatus.

### AMATEUR SPAN-ROOF GREENHOUSE.

TENANT'S FIXTURE.

This Greenhouse is made especially for Amateurs at a nominal figure, thereby coming within the reach of those who require a strong but not expensive structure, and being constructed in complete sections.

The framework is substantially constructed of red deal, the lower part being filled in with good, sound, well-seasoned, tongued and grooved matchboards. The house is fitted with door, complete with rim-lock and brass furniture, painted two coats of good oil colour, supplied with all necessary ironwork end stages for each side, and good 16 oz. English-cut glass throughout.

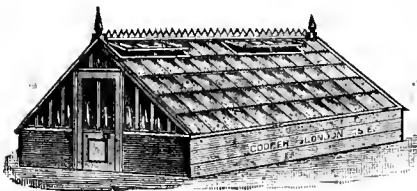


Carefully packed and delivered carriage paid to nearest station, and erected complete, at the following respective prices:—

Long.	Wide.	High.	To Eaves.	Erected Complete.
7ft. ...	5ft. ...	7ft. ...	4ft. ...	£4 0 0
8ft. ...	5ft. ...	7ft. ...	4ft. ...	5 0 0
9ft. ...	6ft. ...	7ft. 3in. ...	4ft. ...	5 10 0
10ft. ...	7ft. ...	7ft. 6in. ...	4ft. 6in. ...	6 15 0
12ft. ...	8ft. ...	8ft. ...	5ft. ...	8 0 0
15ft. ...	10ft. ...	8ft. 6in. ...	5ft. ...	12 0 0
20ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	16 0 0
25ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	21 0 0
30ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	40 0 0
100ft. ...	10ft. ...	9ft. ...	5ft. 6in. ...	70 0 0

### THE AMATEUR FORCING-HOUSE.

TENANT'S FIXTURE.—SPAN-ROOF.



These Houses are offered at an exceedingly low rate, and should be readily approved by both amateur and professional gardeners, as brickwork, which is very expensive to a small house, is entirely dispensed with.

The utility of such a house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown.

Specification.—Framework substantially constructed of red deal; the whole of sides, and 2 ft. 6 in. of ends, boarded with well-seasoned tongued and grooved matchboards. Half-glass door, complete with rim-lock and brass-fittings, in one end; glass 16 oz. throughout, English cut. Ventilators supplied according to size of House, and stays necessary for opening same; stages for plants each side of House; all woodwork painted two coats of good oil paint, and the whole structure securely packed and delivered carriage paid to nearest station, and erected and glazed complete, at the following respective prices:—

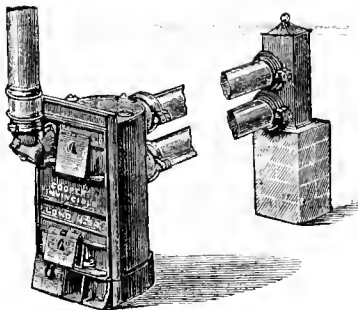
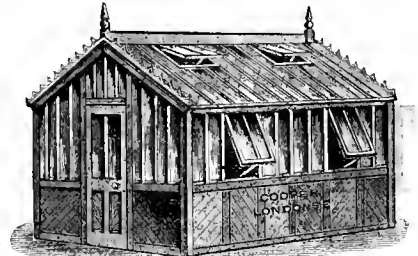
Length.	Width.	Height.	Erected complete.	Length.	Width.	Height.	Erected complete.
7ft.	5ft.	7ft.	£4 0 0	15ft.	10ft.	8ft. 6in.	£11 0 0
8ft.	5ft.	7ft.	4 10 0	20ft.	10ft.	8ft.	14 0 0
9ft.	6ft.	7ft. 3in.	5 0 0	25ft.	10ft.	8ft.	19 0 0
10ft.	7ft.	7ft. 6in.	6 5 0	30ft.	10ft.	8ft.	38 0 0
12ft.	8ft.	8ft.	7 10 0	100ft.	10ft.	8ft.	65 0 0

### SPAN-ROOF VILLA CONSERVATORY.

This House is adaptable for the lawn of a villa residence, being well and substantially built, constructed of the best materials, and artistically finished, with diagonal panels. The framework is composed of 2 in. by 3 1/2 in. red deal, the lower part doubly-lined with tongued and grooved matchboards, and the roof properly fitted with sashes, which facilitates fixing or removing of same without disturbing glass.

The house is fitted with a half-glass door, complete with rim-lock, brass-fittings, and key, and is supplied with lattice staging for each side, footpath the entire length of house; gutters, down-pipes, top and side ventilators, according to size, and necessary ironwork for opening same. All woodwork painted two coats of good oil-paint, glass cut to sizes, and all parts securely packed and delivered carriage paid to nearest station, and erected complete, at the following respective prices:—

Long.	Wide.	High.	To eaves.	Erected compl.	Long.	Wide.	High.	To eaves.	Erected compl.
7ft.	5ft.	7ft.	4ft.	£5 0 0	15ft.	8ft.	8ft. 6in.	5ft. 6in.	£15 10 0
8ft.	5ft.	7ft.	4ft.	7 10 0	20ft.	9ft.	8ft.	6ft.	22 0 0
9ft.	6ft.	7ft.	4ft. 6in.	9 0 0	25ft.	9ft.	8ft.	6ft.	28 0 0
10ft.	7ft.	7ft. 6in.	5ft.	10 0 0	30ft.	9ft.	8ft.	6ft.	55 0 0
10ft.	8ft.	7ft. 6in.	5ft.	11 0 0	100ft.	9ft.	8ft.	6ft.	90 0 0
12ft.	8ft.	8ft.	5ft. 6in.	12 0 0					



### "INVINCIBLE" HOT-WATER APPARATUS.

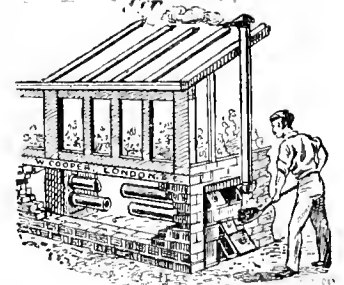
MOST EFFICIENT and CHEAPEST IN EXISTENCE.—Tenant's Fixture.

Requires no sunk stovehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. A child can stoke it. Success guaranteed.

Cost of Complete Heating Apparatus. Fixed Complete.

Size of Green-house.	With two rows of 4-in. pipes along one side of house.	Two rows 4-in. along one side and end of house.	Two rows 4-in. pipes along two sides and one end of house.
7ft. by 5ft. ...	£3 15 0	£4 12 0	£5 10 0
9ft. by 6ft. ...	4 0 0	4 14 0	5 14 0
10ft. by 7ft. ...	4 0 0	4 15 0	5 15 0
12ft. by 8ft. ...	4 10 0	5 10 0	6 15 0
15ft. by 10ft. ...	5 15 0	7 0 0	8 10 0
20ft. by 10ft. ...	6 15 0	8 0 0	11 0 0
25ft. by 10ft. ...	7 15 0	9 0 0	12 15 0

Estimates for Complete Apparatus for any size house free on application.



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4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
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6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.  
If set across two Columns, the lowest charge will be 20s.  
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Page, 2s; Half Page, 2s 10s.; Column, 2s.

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26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.  
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All Advertisements should be addressed to the PUBLISHER.

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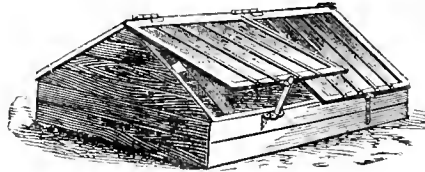
### SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. A. STRATTON.

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OUR WELL-KNOWN MAKE.



## PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Size	Price	Glazed and Painted
6 feet long, 3 feet wide	CASH	2 0 0
6 feet " 4 feet "	PRICES,	2 5 0
12 feet " 4 feet "	CARRIAGE	4 0 0
6 feet " 5 feet "	PAID.	2 15 0
12 feet " 5 feet "		4 15 0
12 feet " 6 feet "		5 12 6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,  
ROYAL HORTICULTURAL WORKS,  
MIDDLETON, MANCHESTER.  
London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.



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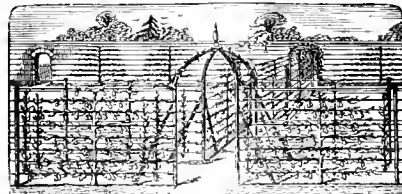
W. JONES' Treatise, "Heating by Hot-water,"  
Second Edition, 216 pages and 98 Engravings,  
2s. 6d. nett. per post, 2s. 10d.



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MANUFACTURERS, NORWICH.

EVERY REQUISITE FOR THE GARDEN, PARK, ESTATE, AND PLEASURE GROUNDS.



## WIRE ESPALIER TRAINERS.

Size	Price
4 ft. high, with standards 10 ft. apart, and 6 lines of galvanised wire	0s. 6d.
Terminal Posts and Raidisseurs...	8s. 0d.
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Terminal Posts and Raidisseurs...	8s. 9d.
6 ft. high, with standards 10 ft. apart, and 9 lines of galvanised wire	0s. 8d.
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GARDEN ARCHES, COVERED WAYS, ROSE BOWERS, WIRE LATTICE, MATERIAL FOR WIRING WALLS, &c.  
Send for ILLUSTRATED CATALOGUE, free. Orders of 40s. and upwards Carriage Paid.

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NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt. sample bag sent carriage paid to any station in England, on receipt of P. O. for 6s. Extracts from 20th Annual Collection of Reports:—

NATIVE GUANO FOR POTATOS, VEGETABLES, &c.  
B. LEE & SON, Market Gardeners, Burham:—Used for three years for Vegetables, Strawberries, Cucumbers, Tomatos, and other Market Garden Crops, and it has "gived great satisfaction for all crops." T. REASON, Gardener to Lord Windsor:—Used for several years for Potatos and general Kitchen Garden Crops. Results: "Oood. A capital manure."

NATIVE GUANO FOR FRUIT, ROSES, TOMATOS, &c.  
G. STONARD, Gardener to Sir A. T. Watson, Reigate:—"I have used your Guano for five years, and can bear testimony to its great value for fruit growing." C. ROUSE, Nazeing Park Gardens, Waltham Cross:—Used for Tomatos, Cucumbers, Chrysanthemums, and Roses. Results: "A marked improvement wherever used. A good and cheap manure."

Orders to the Natives Guano Co., Ltd., 29, New Bridge Street, Blackfriars, LONDON, where pamphlets of testimonials, &c., may be obtained. AGENTS WANTED.

BEESON'S MANURE, SHEFFIELD.—For Vines, Plants, and Vegetables. Sold with a Guaranteed Analysis. Has stood the test of the principal growers for over 20 years, and is admitted to be the Best for all Horticultural Purposes. In boxes, 1s. and 2s. 6d.; bags, 50 lb., 8s.; 1 cwt., 15s. May be obtained through any Seedsman; or, direct (bags only), carriage paid, and liberal discount for cash with trial order, from W. H. BEESON, SHEFFIELD. Pure Crushed Bones, all sizes, and other Fertilisers at market prices.

HORTICULTURAL BONES.—Pure Bones, Ho to 1/2, 1/4, 1-inch, and meal, specially prepared. For particulars and price apply to—  
E. S. WILES AND LEWIS, Bone Works, St. Albans.

# KILL-M-RIGHT

Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used.  
Sample Tio, 2 lb., free by Post, on receipt of P. O. for 2s. 10d. Price L15F ad testimonials on application.

The STOTT FERTILISER & INSECTICIDE CO.,  
BARTON HOUSE, MANCHESTER.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from PRICE'S PATENT OANDLE COMPANY (Limited), London.

The "DENNIS"  
HEATING  
APPARATUS.



Complete, 50s.

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12x10 14x12 18x12 16x14 20x14 20x16 24x16 22x18  
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**GARDENER (HEAD)**.—**H. FENNELL**, aged 28, single; for over four years Gardener to Lord St. Oswald, Appley Hall, Doncaster, is open to engage with any Lady or Gentleman requiring the services of a thorough practical man; life experience in good gardens; highly recommended by present and previous employers.

**GARDENER (HEAD WORKING)**.—Age 30, married, two children; thorough practical knowledge in all branches. Can be highly recommended.—**G. OISSON**, East Sutton Park, near Staplehurst, Kent.

**GARDENER (HEAD WORKING)**, where two or more are kept.—Age 42; thoroughly experienced in all branches. Eight and a half years' good character from present employer. Near London preferred.—**JAMES WORSLEY**, Warden House Gardens, Queen's Road, Maidstone, Kent.

**GARDENER (HEAD WORKING)**, married, no family. Life experience Inside and Out; early and late Forcing; Kitchen Garden and Pleasure Ground, &c. Good character.—**C. REFFOLD**, Cavendish Road, St. Albans, Herts.

**GARDENER (HEAD WORKING)**, where three or four are kept.—Age 38, married, no family. Ten years' good character; four and a half years' previous. Leaving through breaking-up the establishment; disengaged March 25.—Please state wages and full particulars to **KINGSLAND**, Ridgewood, Uckfield.

**GARDENER (HEAD WORKING)**.—Highly recommended as good all-round Gardener. Married, no family. Twenty-five years' practical experience in all branches. Eleven years in last, and four and a half in present situation.—**GARDENER**, Woodford House, Thrapston.

**GARDENER (HEAD WORKING)**.—Age 29; twelve years' experience in Early and Late Forcing, Flowers and Kitchen Garden; at present as General Foreman in the Gardens of the Earl of Mansfield.—**J. WILKINS**, The Gardens, Kenwood, Hampstead.

**GARDENER (HEAD WORKING)**, where help is given.—Age 31, married when suited. Sixteen years' good references. Five present, eleven previous. Experienced in all branches.—**B.**, Farnborough, Kent.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED)**.—Age 33, married; good all-round; good character.—**MUNDEN**, Balmer Lawn, Brockenhurst.

**GARDENER (HEAD WORKING)**; age 30.—**Mr. W. H. SHARPE**, The Gardens, Highwood, Rotherham, S.W., will be pleased to recommend his General Foreman, **G. STRICKLAND**, to any Lady or Gentleman requiring a good practical man as above.

**GARDENER (HEAD WORKING)**.—Age 40, married; thoroughly practical in all branches of Gardening. Twenty-five years' experience, the last fourteen as Head. First-class references and testimonials.—**D. ROWLAND**, Coney Weston, Ixworth, Suffolk.

**GARDENER (HEAD WORKING)**.—Age 29. Thorough good all-round. Practical experience in all branches, Inside and Out. Excellent references.—**F. BAKER**, Forest Cottage, Worth, Sussex.

**GARDENER (HEAD WORKING)**.—Age 33, married; understands Gardening in all branches. Three years' good character from last place, ten years' previous.—**GARDENER**, 22, Sidney Street, Melton Mowbray.

**GARDENER (HEAD WORKING)**.—Age 46, married, no family; practical experience in all branches. Good character.—**J. LOVELAND**, Steines Road, Bedford.

**GARDENER (SINGLE-HANDED or otherwise)**, age 27, married.—A Gentleman wishes to recommend a Second Gardener; he is a steady, respectable man, understanding Glass and other branches.—**HUGGETT**, Elmore Gardens, Chipstead, Surrey.

**GARDENER (SINGLE-HANDED)**, or one under.—Age 25, single. **Mr. STOCKING** will be pleased to recommend **J. BATFELLEY** as above. Eleven years' experience. Excellent references.—**The Gardens**, Marden Park, Osterham Valley, Surrey.

**GARDENER (SINGLE-HANDED, or otherwise)**.—Age 27; experienced in Grapes, Cucumbers, Tomatoes, Mushrooms, Greenhouse, Flower and Kitchen Garden. Good characters.—**A.**, 35, Fleet Road, Hampstead, N.W.

**GARDENER (SINGLE-HANDED, or with help)**.—Age 30, married when suited. Glass, Kitchen, and Flower Garden. Excellent character and testimonial. Total abstainer.—**BISHOP**, Kimberfield, Hampton Wick.

**GARDENER (SINGLE-HANDED or SECOND)**, where two are kept.—Respectable married man, age 26. Good character and references.—**E. BAXTER**, 16, Sunnyhill Road, Streatham, S.W.

**GARDENER (SINGLE-HANDED)**.—Age 28, married; three years' excellent character.—Please address, with full particulars, to **A. B.**, 3, Cromwell Avenue, Cheshunt, Herts.

**GARDENER (SINGLE-HANDED, or with help)**.—Age 37, single. Good practical, all-round experience. Highly recommended. Ten years with present employer.—**C. SANFORD**, The Gardens, Chedington Court, Crewkerne.

**GARDENER (SINGLE-HANDED)**.—Age 26, single; could manage Small Greenhouse. Willing to make himself useful. Four and a half years' good character.—**J. PITTOCK**, jun., Chapel St. Mary, Ipswich.

**GARDENER (SINGLE-HANDED, or where help is given)**.—Age 26, single; life experience; good character.—**G. S.**, Mr. Atwood's, Halstead, Essex.

**GARDENER (SINGLE-HANDED, or otherwise)**.—Age 23; eight and a half years' experience Inside and Out; three years in Florist work. Good character.—**F. BARNARD**, Woolstanwood, Nantwich.

**GARDENER (SINGLE-HANDED)**.—Age 25; ten years' experience. Five and a half years in the North. Excellent references.—**C. B.**, 9, Church Road, Watford, Herts.

**GARDENER (good SINGLE-HANDED or otherwise)**.—Age 27; good experience amongst Glass, Kitchen Garden, and Pleasure Grounds; excellent characters; married man's place required.—**S. WHEELER**, Hurst House, Midhurst, Sussex.

**GARDENER**.—Well recommended by a Lady. Upwards of twenty years' references.—**J. J.**, 100, Mansfield Cottages, North Hill, Hightate, London, N.

**GARDENER**.—Age 42, married. A LADY wishes to recommend her Gardener, Thoroughly experienced in all its branches. Total abstainer.—**A. B.**, Oaklands, Great Berkhamsted.

**GARDENER**, where help is given, or good SINGLE-HANDED.—Age 30, single; good character; life experience; abstainer. Particulars—**PERL**, Church Street, Stanwix, Carlisle.

**GARDENER**, where a thorough, practical, all-round man is required, or any place of trust; good references.—**GEORGE BONE**, Islington Lodge, King's Lynn.

**GARDENER (SECOND)**, in good establishment.—Age 24, married when suited. Well up in all branches. Four years' excellent character from last place.—**J. RICHARDSEN**, Slate Cottage, Boreham.

**GARDENER (SECOND)**, where three or four are kept.—**F. ADAMS** would be pleased to recommend **W. LUFF** as above.—**Bye Farm**, Crazeleigh, Surrey.

**GARDENER (SECOND)**.—**JOSEPH RUSSELL**, would be pleased to recommend **WM. BENNET** as above, to any Gardener requiring a trustworthy man. Age 27, single.—**Berrington Gardens**, Leominster.

**GARDENER (SECOND)**, of four or more.—Age 25.—**Mr. NORRIS**, Gardener to T. Bevan, Esq., Stone Park, Greenhithe, can thoroughly recommend a man as above. Nine years' experience.—**G. HUNTLEY**, The Gardens, Stone Park, Orsenhithe, Kent.

**GARDENER (SECOND)**, or **JOURNEYMAN (FIRST)**.—Age 25; nine years' experience. Can be well recommended. Abstainer.—**W. SOFFE**, Roseneath Gardens, Fulford, Winchester.

**GARDENER (SECOND)**, where four or more are kept.—Age 23; nine years' experience Inside and Out. Five years' good character. Well recommended.—**J. HILLIER**, 6, Doods Road, Reigate, Surrey.

**GARDENER (SECOND, or otherwise)**.—Age 24; abstainer. Nine years' experience, Inside and Out.—For particulars, **A. SPEAKMAN**, 32, Richmond Road, South Tottenham.

**GARDENER (SECOND, or UNDER)**.—Age 25; abstainer. Eight years' experience Inside and Out. Good character from previous and present employer.—**J. WARREN**, 6, Nursery Road, Twickenham, Middlesex.

**GARDENER (SECOND)**, Inside.—Age 25; well up in all branches. Ten years' experience. Four years and a half in last place. Good character.—**W.**, 44, Caistor Road, Balham.

£2 to any Gardener obtaining a situation as Second, Inside, or Inside and Out, for young man, age 26. Eleven years' experience in all branches. Three years' good character. Distance no object. Disengaged.—State wages, &c., to **W. M.**, 34, King Street, Twickenham.

**GARDENER (UNDER)**.—**J. FLEMING**, Architect and Surveyor, Land and Estate Agent, Rothery Garth, Ambleside, wishes to recommend a young Man of 19 as above. Indoor preferred.

**GARDENER (UNDER)**.—Age 24, single; bothy preferred. Inside and Out. Five years' good character.—**E. SPEKE**, Valeswood, Nesacliffe, Shrewsbury.

**GARDENER (UNDER)**, or **JOURNEYMAN**.—Age 20; two years in present situation, four previous. Excellent character.—**M. PAGE**, Ward's Lane Cottages, Elstree.

**GARDENER (UNDER)**, or **JOURNEYMAN**.—Age 20; six years' experience, Inside and Out. Good character. Total abstainer.—**C. EDWARDS**, Stone Lodge, Ipswich, Suffolk.

**GROWER**, age 25, seeks engagement.—Well up in Palms, Ferns, Hard and Soft-woods, Vines, Cucumbers, &c., and general Market Growing.—**F. SMITH**, 81, Angel Road, Edmonton.

**GROWER**, age 30.—Palms, Foliage Plants, Chrysanthemums, Cucumbers, and Tomatoes. Four years with Rochester; good reference.—**FLORIST**, 5, Merthyr Terrace, Clactonau, Barnes, Surrey.

**GROWER**.—Age 26; life experience in large Market Places. Well up in Plants, Cut Flowers, and general routine of Nursery Work. Good references.—**A. Z.**, 41, Wellington Street, Strand, W.C.

**GROWER**.—Age 25; life experience in good places. Well up in Plants, Cut Flowers, Tomatoes, Cucumbers, &c.; also in making-up.—**R.**, Rose Villa Nursery, Harrogate.

**GROWER**.—Age 27. Ferns in quantity Soft-wooded, Stove, or General Stuff, for Pot or Cut; Tomatoes, &c. Good references. London preferred.—**AZALEA**, 41, Wellington Street, Strand, W.C.

**TO NURSERYMEN**.—Situation wanted as **GROWER** of Palms, Ferns, and General Market Stuff (age 27). Twelve years' experience. Good references.—**J. OGRAM**, 50, Maygrove Road, Brondesbury, N.W.

**FOREMAN**; age 25.—**Mr. J. RODERICK**, Gardener to Captain Sykes, Cringle House, Chesdale, Cheshire, can with confidence recommend **H. MOTTRAM** as above, who has been in these Gardens six years, two and a half as Foreman. Experienced in all branches.—**H. MOTTRAM**, Bollin Walk, Wilmstow, Cheshire.

**FOREMAN**, age 28.—**Mr. G. ROWLS**, The Gardens, Mickleham Downs, Dorking, will be pleased to recommend **J. KILLICK** as above, has been with him four years; previously at Downside, Leatherhead. Abstainer.

**FOREMAN**, Inside.—Age 22; eight years' experience in Fruit and Plant-houses, and general Routine of Gardening. Good testimonials.—**B. JONES**, Elythorpe, Aylesbury.

**FOREMAN**, or **JOURNEYMAN (FIRST)**.—Age 25; well recommended.—**E. HUBBARD**, Monk Sherborne, Basingstoke, Hants.

**FOREMAN in the Houses**, age 26.—**B. HINNELL**, Leeds Castle Gardens, Maidstone, wishes to re-engage as above. Ten years' experience; good references. Bothy preferred.

**FOREMAN or JOURNEYMAN (FIRST)**, in a good establishment.—Age 23; eight years' good experience in the general cultivation of Stove and Greenhouse Plants. Well up in Fruit Culture, House and Table Decorations. Can be highly recommended.—**H. RANSON**, Emilian Cottage, High Street, Fleet, Hants.

**FOREMAN and GROWER**.—Age 35; life experience in London and Provincial Nurseries. Well up in growing in quantities Tomatoes, Cucumbers, Cut Flowers, and Plants in every branch; Palms, Ferns, &c., also Erection, Heating Greenhouses, and all requirements of the trade. Excellent testimonials.—**FOREMAN**, Croxtop Nurseries, Bishopsworth, Bristol.

**FOREMAN, or JOURNEYMAN (FIRST)**, Inside, in a good establishment.—Age 26; good experience in Fruit and Plant Houses. Can be well recommended. Three years in present place.—**S. A. CHEFFINS**, The Gardens, Campsall Hall, near Doncaster.

**FOREMAN or GARDENER (SECOND)**.—Age 24; three years as second in present situation; leaving of own accord. Ten years' experience; good references. Bothy preferred.—**G. HOOKEY**, Gardens, Ribden, Updown Hill, Bagshot, Surrey.

**FOREMAN in good establishment**.—Age 27; thirteen years' experience; good Plant Grower and Decorator; well recommended from past and present places.—**G. COOPER**, Sarsden Gardens, Chipping Norton, Oxon.

**FOREMAN**.—Age 26; life experience. Good knowledge of Orchids and Decorating. Eighteen months Foreman in present place; leaving for no fault. Good characters.—**OGGINGSBY**, Rawdon Hill, Arthington, Leeds.

**FOREMAN (MARKET NURSERY)**.—Age 36, married. Life experience in Fruit, Ferns, Roses, Chrysanthemums, and Cut Flowers. Four years and nine months Foreman in last place. Well recommended.—**W. KINGS**, 7, Montague Road, Swanley Junction, Kent.

**FOREMAN, or HEAD of three or four**.—**Mr. LOW**, Buston Hall, will recommend **E. IRELAND** as above. Married. Life experience in good places.—10, Engleheart Road, Catford.

**FOREMAN (Inside)**.—Age 26; life experience in Plants and Fruit, and general routine of gardening; well recommended.—**WHEELER**, Blackmore End, Kimpton, Welwyn, Herts.

**FOREMAN**, or **SECOND** in a good establishment.—Twelve years' experience, both Inside and Out.—**MR. PIPER**, West Ham House, Basingstoke, will be pleased to recommend.

**FOREMAN**, or **JOURNEYMAN** (FIRST).—Age 23. **MR. WILLIAMSON** of Langley Park Gardens, Wokingham, Berks, can highly recommend **H. RUSK**, as either of above. Nine years' experience. Inside and Out.

**FOREMAN**, in a Market Nursery, or take charge of department: Plants, Roses, Cut Flowers, Tomatos, Propagating.—**H. MR. COOK**, 17, Millward Street, Woolwich.

**FOREMAN**; age 26.—**MR. WARD**, Longford Castle Gardens, Salisbury, will be pleased to recommend **E. BERTON** as above. Has been with him two years; ten years previous at Easton Hall, Draycot House, and Bodorgan.

**FOREMAN** (Inside or General).—Age 30, single; first-class references.—**A. SMITH**, Birstwith, near Leeds, Yorks.

**FOREMAN**.—Age 26; strong; life experience in all branches, Inside and Out. Well recommended.—**GOULD**, The Gardens, Terrace House, Southampton.

**MR. WARREN**, Gardener to Carl Meyer, Esq., can with confidence recommend **WILLIAM DENNIS**, as **FOREMAN**, in a small establishment. Has lived with him four years, and is a reliable trustworthy young man. Age 24.—**Balcombe Place Gardens, Hayward's Heath, Sussex.**

**FOREMAN**.—Age 29; well up in Grapes, Cucumbers, Tomatos, Strawberries, Melons, Mushrooms, &c.; or as **GRAPE GROWER**. Excellent references.—**X. Y.**, 41, Wellington Street, Strand, W.C.

**FOREMAN**, in the Houses.—Age 26; had ten and a half years' experience in good establishment. Four and a half years present place.—**A. WOODS**, The Gardens, Mill House, Halifax.

**£1 BONUS**, to anyone securing for Advertiser (age 20) situation in the Houses for two or three years. Bothy preferred. Give premium to a good place. Five years' excellent character.—**A. H. FULKER**, Compton, Newbury, Berks.

**JOURNEYMAN**; age 20.—**T. GRESSWELL** wishes to recommend young man as above. Six years' experience Inside and Out. Good references. Bothy preferred.—**The Gardens, Ives Place, Maidenhead.**

**JOURNEYMAN** (FIRST), age 23.—**G. KIMMINS** would be pleased to recommend **F. GVERILL** as above, having been with him three years.—**The Gardens, Albury Hall, Little Hadham, Herts.**

**JOURNEYMAN** (UNDER), in a good establishment.—**MR. J. DYER**, Fulbourn Manor Gardens, Cambridge, wishes to recommend a young man, age 19. Three years' good character.

**JOURNEYMAN**, Inside and Out.—Age 22; six and a half years' experience. Bothy preferred.—**G. HALLAM**, Grimsthorpe Castle Gardens, Bourne.

**JOURNEYMAN** (Inside).—Age 21; seeks a situation in a good garden; seven years' experience; good character; bothy preferred.—**C. ASHMORE**, Dunstall Hall Gardens, Burton-on-Trent.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 22; nearly three years in present situation, five previous; bothy preferred.—**J. BEAUCHAMP**, Bowesfield Gardens, Salisbury, Wilts.

**JOURNEYMAN**, Inside, or Inside and Out.—**MRS. MORRISON** can highly recommend as above. Six years' good character, five years previous. Bothy preferred.—**F. JONES**, Hampworth Gardens, Downton, Salisbury, Wilts.

**JOURNEYMAN**.—**MR. GRAY** wishes to recommend **S. ADAMS** as above, who has had four years and a half experience Inside and Out.—**S. A.**, Leybourne Grange, Maidstone.

**JOURNEYMAN** (FIRST), in Houses.—Age 24. **J. MALTRY**, Denton Manor Gardens, Grantham, can with confidence recommend **WALTER BRADLEY**, who has been in the above gardens three and a half years, to any Gardener requiring a Journeyman under Glass, either Plants or Fruit, or both.

**JOURNEYMAN**, Inside.—Age 23; four years' experience. Used to Plants, Cucumbers, and Tomatos.—**LEWIS**, Bryn Terrace, Ammanford, South Wales.

**JOURNEYMAN**, Inside, under a Foreman.—Age 22; five years' experience in Palms, Ferns, Crotons, &c. Excellent character.—**G. WATKINS**, 1, Murray Terrace, Hampstead, N.W.

**JOURNEYMAN**, age 20.—**A. PARRY** can with confidence recommend **F. ALLEN**. Has been with me six years in the Houses.—**The Gardens, Cut Edge, Halstead, Essex.**

**JOURNEYMAN** (FIRST)—age 23; inside preferred. Good character last four years at Wentworth Castle, Barnsley, Yorks. Disengaged. Bothy preferred.—**F. SHARP**, New Cottages, Snaillwell, Newmarket, Cambs.

**JOURNEYMAN** (FIRST, in a good establishment), age 24.—**MR. WEEKS**, Penoyre Gardens, Brecon, can highly recommend a thorough hard-working, sober, industrious Man as above. Nine years' experience in Plant and Fruit-houses, and useful all-round man. Three years excellent character.

**JOURNEYMAN** (Inside).—Age 22; two years in present situation; good references; bothy preferred.—**H. PARKER**, Cobham Park Gardens, Cobham, Surrey.

**JOURNEYMAN**, Inside (private place).—Age 20; good experience with Fruit and Plants. At present with **MR. J. COWARD**, Gardener to the Earl of Winchelsea.—**J. ENGLISH**, Haverholm, Sleaford, Lincs.

**JOURNEYMAN**, Inside and Out.—Age 22; good general experience; eight years' good character.—**H. CLARKE**, Hilbro Gardens, Stokesby, Great Yarmouth.

**JOURNEYMAN** (FIRST), well up in Orchids, Fruit, and Flowers.—**J. POWELL**, Isington Gardens, Dorchester, Dorset, can well recommend **F. HAND** as above. Eight years' good character.

**JOURNEYMAN** (FIRST), in the Houses.—Age 22; two years' good character from present employer; previous at Hackwood Park.—**H. LANGDOWN**, The Gardens, Bearwood, Wokingham, Berks.

**JOURNEYMAN**, Inside; age 20.—**W. HICKS**, Packington Gardens, Coventry, can strongly recommend a young man as above.

**JOURNEYMAN**, Inside.—Age 22; six years' experience in Stove, Greenhouse, Fruit Forcing, and general Inside Work.—**J. HAYES**, The Gardens, Motcombe, Shaftesbury, Dorset.

**JOURNEYMAN**.—Situation wanted, by a young man (age 19) as above. Three years in present situation. Bothy preferred.—**H. STACEY**, The Chase, Farnham, Royal, Slough.

**JOURNEYMAN**, Inside.—Age 21; seven years' experience Inside and Out. Strong, and not afraid of work. Good character.—**F. WYLES**, The Gardens, Caversham Park, Reading.

**JOURNEYMAN**.—**H. WALKER** wishes to recommend a young Man as above, who has had six years' experience in good Gardens. Good character.—**H. WALKER**, Gardener, Forest House, Kinver, near Stourbridge.

**JOURNEYMAN**, in a good establishment, under a good Foreman.—Age 19; two years in last situation; disengaged; bothy preferred.—**ARTHUR BAXTER**, 84, Sheep Fair, Kugeley, Staffs.

**JOURNEYMAN** (FIRST); age 21.—**THOS. RYAN** strongly recommends **LINDLE LUCKOCK** to any Gardener requiring a smart, active man for the Fruit or Plant Houses.—**Croft House, Brigham, Cockermonth.**

**JOURNEYMAN** (Inside).—Age 22; seven years' experience. Three years in present situation, Bothy preferred.—**L. DRAGE**, Hill House Gardens, Saffron Walden, Essex.

**JOURNEYMAN** (UNDER).—**F. E. LANE**, Compton's Lea Gardens, Horsham, wishes to recommend a young man, age 19, as above; four years' experience; address as above.

**JOURNEYMAN**.—**FIRST OR SECOND GARDENER**.—**MR. ILES**, Head Gardener, Bovington House, Hemstead, Herts, wishes to recommend **H. COTTERRILL** to any Gardener requiring a steady, industrious man. Age 23. Eight years' experience.

**JOURNEYMAN**.—Advertiser can be well recommended for situation as above. Four and a half years' characters. Bothy preferred. Distance no object.—**E. BURTON**, Brighton Terrace, Bellis Street, Birmingham.

**JOURNEYMAN** (FIRST), in good establishment. Good experience in Fruit and Plant houses. Well recommended.—**F. SAUNDEES**, Packington Gardens, Coventry.

**JOURNEYMAN**, Inside; age 22.—**H. SENSCALL**, Shendish Gardens, Hemel Hempstead, wishes to recommend **F. GURNEY**, who has been here nearly three years. Six years' experience.

**TO NURSERYMEN AND OTHERS**.—Situation wanted by TWO young Men as **FIRST** and **SECOND JOURNEYMEN**, in Houses, with good experience in the Trade &c. Willing and obliging.—**H. B.**, 41, Wellington Street, Strand, London, W.C.

**IMPROVER**, Inside; age 19.—**A. CHUDLEIGH** seeks situation as above. Two years in present situation.—**F. MULLINS**, The Gardens, Cromwell House, Royal Fort, St. Michael's, Bristol.

**IMPROVER**.—A young Man (age 20) seeks a situation as Inside and Out. Three years' good character. Strong, able, and willing.—**A. HITCHMAN**, Souldern, near Banbury.

**IMPROVER**, under good practical man, where two only, or two and boy are kept.—Age 23, single; good references. Country preferred. Bonus given if suited.—**J. G.**, 41, Wellington Street, Strand, W.C.

**IMPROVER**, Inside, or Inside and Out.—Age 19; four years' experience Inside and Out. Good character.—**LETTIS**, Chiddingstone, Edenbridge, Kent.

**IMPROVER**, Inside.—Age 19; two years' good character from present situation; three and a half previous. Bothy preferred.—**T. PAYNE**, The Gardens, Bridgen Place, Bexley, Kent.

**IMPROVER** (Inside).—**R. WEST**, The Gardens, Northlands, Salisbury, can highly recommend a Youth, age 17. Three years in the above Gardens.—Address as above.

**IMPROVER**, Inside, or Inside and Out.—**HEAD GARDENER**, Warneford, Highworth, Wilts, wishes to recommend a strong, active, willing young Man (age 21) as above. Six years' experience.

**IMPROVER**, in good Garden.—Age 19; four years' experience; can be well recommended by Head Gardener.—**F. LUXFORD**, Warth Park, Crawley, Sussex.

**IMPROVER** (under Glass).—Five years' experience. Age 23.—**LONGLEY**, Mall Nursery, Faversham, Kent.

**TO GARDENERS**.—Wanted, by active young Man, age 22, situation in the Kitchen Garden, or Kitchen Garden and Pleasure Grounds. Good experience; good references.—**L. D.**, 4, Crown Lane, Chislehurst, Kent.

**TO GARDENERS**.—**H. OTMAN**, Brentry Gardens, Westbury-on-Trym, Bristol, recommends a young Man, age 17, to help in the Houses, or Inside and Out. Has had three and a half years' experience here.

**TO GARDENERS**.—Young Man, age 20, desires situation, six years in present situation, inside and out; good reference; inside preferred, and bothy; strong, willing to learn.—**A. C.**, 40, High Street, Gt. Berkhamsted, Herts.

**TO GARDENERS**.—Wanted to place a Youth, age 19, strong, in a Gentleman's Garden; a little experience; can be well recommended.—**G. BOLTON**, The Gardens, Westou Manor, near Bicester, Oxon.

**TO GARDENERS**.—Young Man (age 25), seeks situation Inside and Out. Six years' experience. Three years in present situation.—**G. RICHARDSON**, Ringwood, Dover.

**TO GARDENERS**.—A young Man seeks situation to help under Glass; also Flower and Kitchen Garden, &c. Good character. Bothy preferred.—**F. REYNOLDS**, Vine Cottage, Northwold, Branden.

**TO NURSERYMEN**.—Wanted to APPRENTICE a well-educated youth, age 15, to the Nursery and Seed Trade.—**H. TYLER**, The Gardens, Grange, Wareham.

**TO NURSERYMEN**.—Situation wanted in a Market Nursery. Well-up in Ferns, Soft-wooded Stuff, Tomatos, &c. Ten years' experience. Age 26.—**G. R.**, 9, Fordyce Road, Lewisham, London, S.E.

**TO NURSERYMEN**.—Young Man (age 23) wants situation. Eight and a-half years' experience in Palms, Ferns, and general Pot-stuff. Well used to the routine of Market and Trade Nurseries.—**D.**, 69 Byrre Road, Balham, S.W.

**TO MARKET NURSERYMEN**.—Situation wanted by a young Man, age 22. Experienced in Chrysanthemums, Peaches, Tomatos, &c.; good references.—**X. Y. Z.**, 41, Wellington Street, Strand, W.C.

**TO SEEDSMEN**.—Young man seeks situations in Seed and Florist's Trade. Age 23; experienced. Abstainer.—**Particulars, H. P.**, Belvedere, Lower Caversham, Oxon.

**TO SEEDSMEN**.—Young Man, age 19, seeks situation in Seed and Plant Trade; four years' experience. Good reference.—**H. EDMUNDS**, Rosslyn Villa, Hitchin Road, Biggleswade.

**TRAVELLER**.—Advertiser desires re-engagement; nineteen years' experience. Good connection among Gardeners and Farmers in the North of England and North Wales. Accustomed to attending Markets. Well up in all branches. Age 39.—**J. L. CARSWELL**, 55, Kempster Street, Lower Broughton, Manchester.

**TO NURSERYMEN**.—Advertiser wishes to obtain a post as **TRAVELLER** for a good Firm; is exceptionally well acquainted with hardy Perennials and Bulbous plants. Florist's Flowers, hardy Trees and Shrubs, Roses, Fruit Trees, besides possessing a good knowledge of Orchids, Greenhouse, and Stove-plants. Low salary accepted to commence with, or would push specialties on commission.—Highest references.—**HORTICULTURIST**, Claremont, Chelmsford.

**SEED TRADE**.—Middle-age man. Could Manage small Seed Business, Cut Flower Work, &c. Excellent reference.—**A. B.**, 3, Rotbes Road, Dorking.

**SHOPMAN**.—Young man requires situation in shop. Knowledge of Seeds, Bulbs, &c. Good Florist. Excellent references.—**GEORGE**, 15, Church Road, Ellacombe, Torquay.

**COWMAN and GARDENER** (UNDER or SINGLE-HANDED).—Age 36, married. Life experience in Poultry and Pigs. Excellent character.—**M. DAY**, 12, Martindale Road, Balham, S.W.

**TO FLORISTS**.—Situation wanted, by experienced young Lady. Well up in Wreaths, Crosses, Bouquets, &c. Could take charge of Shop. Highest references.—**VIOLA**, 41, Wellington Street, Strand, W.C.

**"MOTHER, I AM OUT OF SORTS."**—He who uttered these words was a strongly-built young fellow, with clean-cut, intelligent features, but a glance was enough to show that he was run down by work and worry; his head was heavy, his eyes lacked brightness, he was languid, and the fiend of indigestion had printed its marks upon his face. "My boy," replied the good and wise mother, "be advised this once by me: let me doctor you." The lad readily assented, and in a trice **HOLLOWAY'S** world-famed **PILLS** were produced. They soon did their work, and in a day or two the young fellow went about his work like a new man filled with strength and energy.



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No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from 300 to 400,000 gallons per day. Will force to a height of 800 feet.

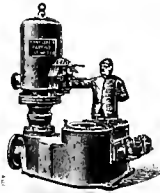
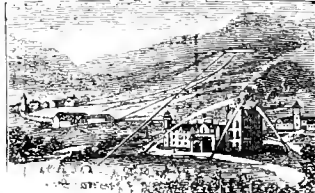


FIG. A.—This ram lifts part of the same water that works it. (Engraved from Photo. of Ram which raises 250,000 gallons per day of 24 hours to medium height, with good, working fall.)



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 532 ft., and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.



FIG. B.—This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to the RIGHT HON. LORD HINDLIP, Braley, Ashbourne, Derby.

DEAR SIR,— Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than 63 times that of the working fall. The Rams are worked by water from the River Dove, with the small working fall of 8 ft. 3 ins., and issuing from the rocky bank close by is a copious stream of pure spring water, 8000 gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of 523 1/2 ft. above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.—Yours faithfully, T. FERNYHOUGH.

From the RIGHT HON. THE EARL OF HARROWBY, 44, Grosvenor Square, London.

SIR,— I have pleasure in stating that the two Hydraulic Rams which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, whilst the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 ft. from a previously-existing mill-pool, the Rams supply reservoirs 168 ft. above the brook whence the water is forced, through pipes 1 1/2 miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.—I am, Sir, your very obedient servant, HARROWBY.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon.

DEAR SIR,—

In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 ft., with a working fall of driving water of 27 ft., and on your guaranteeing that performance, I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests, with the following results:—Working fall of driving water, 30 ft.; vertical height raised, 127 ft.; length of rising main, 850 ft., from Ram to outflow; length of supply pipe 200 ft.; gallons per hour raised, 1,812; driving water used per hour, 8,188 gallons, showing the remarkable and gratifying result of 83 per cent. of efficiency. The tests were carefully made and repeated, the water measured and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe, in order to reduce friction, with excellent effect.—Yours faithfully, T. DYNE STEEL.

USK WATERWORKS.

April 24, 1891.

From MARTIN CURTLER, Esq., Agent to the Right Hon. LADY NORTHWICK, Sansome Place, Worcester.

DEAR SIR,—

I have great pleasure in informing you that the Hydraulic Ram which you put in for the Right Hon. Lady Northwick, at Northwick Park, last year, has worked, and is working, most satisfactorily. The water, as you know, had to be raised to the height of nearly 400 ft., with 1,900 yards of rising main pipe, to a large tank on the top of a hill, in order to supply several farms on the estate with water for gravitation.

The supply to the tank is most ample, and there is an adequate overflow left below the Ram. Altogether the work is a very great success.—Yours faithfully, MARTIN CURTLER.

JOHN BLAKE, Oxford Street Works, ACCRINGTON, LANCASHIRE

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ESTABLISHED 1841 **24 FIRST PRIZES**

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# The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2880.

No. 480.—VOL. XIX. {THIRD SERIES}

SATURDAY, MARCH 7, 1896.

{Regt. as a Newspaper.} PRICE 3d. POST-FREE, 3d.

## CONTENTS.

Aldenham House Gardens, Elstree ...	295	Plant-breeding ...	300
Alpinia nutans ...	300	Plant portraits ...	303
Apple, Peasgood's Non-such, at East Sutton Park ...	304	Plants, new or noteworthy—	
Blackbird, early nesting of the ...	304	Bolbophyllum multiflorum ...	294
Botanic Gardens, Edinburgh, notes from the Royal ...	305	Propagation, methods of Rose, a new hybrid Tea. Roses, British, and their raisers ...	294 302
Boxes, the railway company's packing ...	304	Snowdrops ...	304
Chitral Ferns ...	302	Societies—	
Chrysanthemums ...	304	Chester Floral Fete ...	302
Cinerarias, garden ...	302	Derby Horticultural ...	306
Dendrobium Wardianum and others ...	296, 304	London Wholesale Fruit and Potato Trades' and Growers' Beneficent ...	301
Exhibitions, coming ...	302	National Carnation and Picotee ...	305
Fruit from Tasmania ...	302	National Rose ...	300
Gardeners in the United States ...	302	Shropshire Horticultural ...	302
Gladiolus, hardy ...	304	Wolverhampton Floral Fete ...	302
Honours to nurseryman Horticultural instruction Judging, the code of rules for ...	302 304	Timber, the, of Thuys gigantes or Lobbi ...	304
How notes ...	296	Week's work, the ...	
Larch disease ...	304	Flower garden, the ...	299
Literature of gardening, the ...	304	Fruits under glass ...	299
Monro, E. G., coming of age of ...	303	Hardy fruit garden ...	298
Orchid notes and gleanings ...	294	Kitchen garden, the ...	299
Orphan Fund, Royal Gardeners', the ...	302	Orchid houses, the ...	298
		Plants under glass ...	298
		Woodman, the late Dr. ...	302

## ILLUSTRATIONS.

Aldenham House, Elstree, views in the gardens at ...	295, 297
Alpinia nutans ...	301
Apple Peasgood's Non-such, an espalier tree of ...	303

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

**ASTER AND STOCK SEED.**—It is much to be regretted that every lover of the above have not afforded themselves the pleasure of seeing, and making an inspection, of our acres of these when in their full beauty; we give the assurance that all we have grown during the past eight years have been from our own Eynsford saved seed. Our new variety of Aster, Eynsford Yellow, is acknowledged a great acquisition. We ask all interested in these glorious flowers to send for our Catalogue containing full particulars of these and all other kinds of flowers of equally superior quality. Post-free.

H. CANNELL AND SONS, Swanley, Kent.

**SUCCESSFUL GARDENING.**—If you wish success in keeping a Garden, or as a Competitor, procure a copy of Dobbie's Catalogue and Competitors' Guide, 180 pages, Illustrated. Full Cultural Directions for Flowers and Vegetables. The Book free by Parcel Post for 6d.

DOBIE AND CO., Seed Growers to the Queen, Rothessy.

Demy quarto, printed on fine paper in grey, gilt top. Price, £1 11s. 6d.

**THE ART AND PRACTICE OF LANDSCAPE GARDENING.** By H. E. MILNER, A.M.I.C.E., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & CO., Ltd.

**CHRYSANTHEMUM CUTTINGS.**—Madame Carnot, Chas. Davis, Madame Therese Rey, and others, 3s. per dozen, free.

W. CAVILL, Penally, R.S.O., Pembrokehire.

**SUTTON'S SUPERB SINGLE CINERARIA.**  
—Every year we receive numerous letters from customers, expressing astonishment and delight at the immense size, splendour and variety of colouring, symmetrical form, and profusion of flowers, borne by plants of our superb strain. Per packet, mixed colours, 2s. 6d. and 5s. post-free.

**SUTTON'S SUPERB SINGLE CINERARIA.**  
—"Your Cinerarias are magnificent—simply perfection. I have many flowers measuring 4 inches across, and an endless variety of the most charming colours."—Mr. John Thorp, Gardener to Mrs. H. B. Dunlop.

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**CHOICE GERMAN FLOWER AND VEGETABLE SEEDS.** CATALOGUES free on application. FRED. REMER, Seed Grower, Quedlinburg, Germany.

**LARGE PALMS & DECORATIVE PLANTS.** Immense Stock. All sizes up to 20 feet for Sale or Hire. Inspection Invited. Prices on Application. B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

**TOMATO PLANTS, Chemin Rouge, strong plants, showing flower bracts in 60's, 20s. per 100; smaller plants, fit for planting out in 60's, 16s. per 100.** W. WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

**GLOXINIA "AIGBURTH CRIMSON."**—Matchless vivid crimson self variety, of great size, finest form and substance; reproduced quite true from seeds—the most brilliant variety ever raised. First-class Certificate. Per packet, 2s. 6d. from leading seedsmen, or post-free from the raisers.—ROBT. P. KER AND SONS, Basnet St., Liverpool.

**"CYCLAMEN, and How to Grow Them."**—Second edition, giving valuable information for their entire Culture. Post-free, 1s. 2d. F. C. EDWARDS, Sholebrooke View, Leeds.

**CARNATION SEED.**—Sow now for next year's bloom. Choicest English saved seed, 1s. 6d. to 2s. 6d. per packet. Send for Carnation Catalogue to—JAS. DOUGLAS, Great Bookham, Surrey.

**NEW HERBACEOUS PLANT CATALOGUE for SPRING, 1896, now ready.** All interested in good Hardy Plants are invited to send for a copy, post-free. M. PRICHARD, Riverside Nursery, Christchurch, Hants.

**WANTED, consignments of CUCUMBERS, TOMATOS, &c.**—BENNETT, WALKER, & HEDGES, Spitalfields Market, London.

**WANTED, CALANTHE VEITCHI and VESTITA.** Quote price and particulars to—Mr. L. LINDEN, Managing Director, L'Horticulture Internationale, Parc Leopold, Brussels.

**WANTED, fifty plants of ARALIA RETICULATA for Grafting or budding Aralia Veitchii.** State price, and carriage paid. G. MATHESON, Rosetta Nurseries, Belfast.

**WANTED, large SEAFORTHIAS, 6 to 10 feet, in Exchange, or Cash.**—Particulars to—WIMSETT AND SON, Florists to the Queen, Chelsea, S.W.

**WANTED, CALCEOLARIAS, Crimson Queen, Invincible, Prince of Wales, Sparkler, Sultan, FUCHSIAS, Minnie Banks, Try-me-Oh (Banke), ACHIMENES, Longiflora alba, Harry Williams. Old Double PANSY.** Say quantities and prices. H. CANNELL AND SONS, Swanley.

**WANTED, RHUBARB PLANTS, early varieties; also few good plants of Globe Artichokes.** Apply by letter, with price, to—W. DENNING, Shenley, Herts.

**LINDEN'S ORCHIDS.**—SALES BY AUCTION, in London, are held on the First and Third Thursday in each Month, at Mr. C. STEVENS' Great Rooms, 33, King Street, Covent Garden, W.C. Catalogues on application.

**BARR'S SEEDS.—UNEQUALLED.** VEGETABLE SEEDS, best in the world for growth. FLOWER SEEDS.—Upwards of 2000 species and varieties. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c. PLANTS.—Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets. DESCRIPTIVE CATALOGUES of above sent free on application. BARR AND SON, 12, King Street, Covent Garden, London.

**SEEDS.—THE BEST IN EUROPE.**—Cineraria, 1s. 6d. per packet; Calceolaria, 1s. 6d. per packet; Begonia, 1s. 6d. per packet; Primula sinensis, 1s. 6d. per packet; Cyclamen, 1s. 6d. per packet; Canosa, 1s. 6d. per packet. SKED CATALOGUE, with everything priced, containing Novelties of sterling merit, both in Flower and Vegetable Seeds, post free on application to—WILLIAM HULL, F.L.S., Establishment for Seeds and Plants, 536, King's Road, Chelsea, London, S.W.

**SELECTED SEED POTATOS, all hand-picked tubers.**—For the best and most reliable varieties, see our Illustrated CATALOGUE OF GARDEN SEEDS, No. 459, post-free on application. DIKSONS, Seed Growers, CHESTER.

**PHLOXES, PENTSTEMONS, ANTIRRHINUMS, &c.**—For the best and most complete collections extant of these deservedly popular high-class flowers, obtain FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 148 pages. Free on application. JOHN FORBES, Hawick, Scotland.

**ASPARAGUS.**—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

**Special Offer to the Trade.** **YELLOW MARGUERITE (Feu d'Or).**—Strong rooted Cuttings, autumn struck; also Cuttings of White Marguerite, 6s. per 100. Not less than 50 sent out.—C. W. LAW, Nurseryman & Florist, East Finchley, London, N.

**PRITCHARDIA (LICUALA) GRANDIS.**—This, one of the most beautiful of Palms, is offered in good plants, about 1½ foot high, by—WILLIAM HULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

**Important to Mushroom Growers.** **CUTHBERT'S SPECIALITE MUSHROOM SPAWN.** Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

**The Sensation of the Century.** **CROZY'S NEW FRENCH GLADIOLUS-FLOWERED DWARF CANNAS** produce gorgeous masses of brilliant colour, either in the flower garden or conservatory. Strong dry roots of best kinds, free by Post, 9s., 12s., and 18s. per dozen.—B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

**THE "LONDON" TOBACCO JUICE.**—Duty free. Will bear diluting with from four to eight parts of water. In Bottles: Pints, 1s.; quarts, 1s. 9d.; half-gallon, 2s. 6d.; gallon, 4s.; or in casks of 10 gallons and upwards at 2s. 6d. per gallon. Sold by all Seedsmen. Sole Makers: C. CURRY & CO. (Ltd.), LONDON, E.C.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertiliser for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, ½ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc. Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.

SALES BY AUCTION.

Monday Next. PLANTS, LILIES, BULBS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, March 9, at half-past 12 o'Clock precisely.

- A Grand Collection of BORDER PLANTS, comprising CARNATIONS, PINKS, PICOTEES, HOLLYHOCK, DELPHINIUMS, PLOXES, PRIMULAS, POPPIES, PYRETHRUMS, PÆONIES, PANSIES, IRIS GERMANICA, IRIS KEMPERT, AQUILEGIAS, HELIANTHUS, HEPATIAS, &c., &c.

Beautiful and Popular LILIES, BEGONIAS, GLOXINIAS, GLADIOLI, CHINA, TEA, and DWARF ROSES, ANEMONES, TIGRIDIAS, and MONTBRETIAS, CLEMATIS, IVIES, and other CLIMBERS, JAPANESE LILIUMS.

WEDNESDAY NEXT.

300 Clivias from Ghent, Imantophyllams in Flower and Bud, LILY OF THE VALLEY crowns, SPIRÆA, Choice Collection of IRIS, CARNATIONS, PINKS, PICOTEES, PÆONIES, BEGONIAS, DAHLIAS, PYRETHRUMS, and other BORDER PLANTS.

Standard, Dwarf, and Climbing Roses, to name from a leading Grower; Pyramid and Dwarf-trained FRUIT TREES, well-grown PALMS, ANEMONES, a variety of GLADIOLI, TUBEROSES, GLOXINIAS, &c.

Japanese Liliams, comprising L. auratum, L. auratum MACRANTHUM, L. SPECIOSUM ALBUM and RUBRUM, L. KRÆTZERI, L. MELPOMENE, L. LONGIFLORUM, SACRED LILIES, &c. And a Fine Collection of Ornamental Shrubs from Holland.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 11, at half-past 12 o'Clock precisely. On view morning of Sale, and Catalogues had.

Thursday Next.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 12, at Half-past Twelve o'Clock precisely, by order of Messrs. W. L. Lewis & Co., an importation comprising CATTLEYA INTERMEDIA, including some magnificent masses; C. INTERMEDIA SUPERBA, seven fine plants; LÆLIA ALBIDA BELLA, an enormous mass of 700 BULBS; ONCIDIUM ORISIPUM, and CATTLEYA GUTATA, &c. Also ESTABLISHED ORCHIDS, including Lælia autumnalis alba, Cattleya Trianae plumosa, Dendrobium Wardianum album, Cattleya Schocheldiana, Lælia elegans, and Cattleya Lawrenceana, &c., &c.

Thursday Next.

An IMPORTATION of CYPRIPEDIUM VILLOSUM in splendid condition, arriving in London on the 6th inst., ex. S.S. Lancashire. The Collector writes: Amongst them are some very fine masses and varieties from an entirely new district; a distinct-looking plant, Dendrobium Jamesianum, D. Dalhousieanum, Vandas, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 12, On view morning of Sale, and Catalogues had.

The Somerhill Collection of Established Orchids.

MR. J. C. STEVENS has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Tonbridge, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., towards the end of March, the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

- Cattleya Mossie Reineckiana, Odontoglossum vexillarium, Wagneri, Cobiauum, exoniensis, Lycaste Skinneri Imperator, Cologyne cristata alba, Dendrobium nobile albiflorum, Dendrobium Cooksonii, Vanda teres, Sanderiana (Goldsmid's variety), Thunbia Veitchii, Lælia tenebrosa (extra good varieties), Anthurium Andreanum, aniceps (do do), album, Anthurium Le Flambeau, Ferriense, Laingii, Odontoglossum Uro-Skinneri, rotundispatum, &c. &c. &c.

N.B.—Further particulars will be given in future Advertisements.

Monday Next, March 9

100 AZALEA MOLLE, 100 A. INDICA, 48 CAMELLIAS, and 36 RHODODENDRONS from the Continent; 30 lots of Stove and Greenhouse FRERNS and PLANTS, Double Chinese PÆONIES, America Pearl TUBEROSES, BEGONIAS, GLADIOLI HYBRIDS, TIGRIDIAS, JAPANESE LILIUMS in variety, SPIRÆA JAPONICA, ASTILBOIDES and COMPACTA.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 9, at 12 o'Clock. On view morning of Sale, and Catalogues had.

Tuesday Next, March 10.

Special Sale of CARNATIONS (the newest and best varieties), new VIOLETS, VIOLAS, Hardy CYPRIPEDIUMS, IRIS, CALCEOLARIAS, BEGONIAS, TIGRIDIAS, HOLLYHOCKS, LILIUMS in great variety, and a great assortment of RARE HARDY PLANTS, HERBACEOUS PLANTS, 300 Dwarf ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C. On view morning of Sale, and Catalogues had.

Tuesday Next.—Notice of Non-Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that the ORCHID SALE advertised for TUESDAY NEXT, March 10, WILL NOT TAKE PLACE, as the expected plants have not yet arrived. The consignment will be offered at an early date. The consignment will be offered at an early date. Auction Rooms, 67 and 68, Cheapside, London, E.C.

Wednesday Next.

A CONSIGNMENT OF LILIES

Received direct, comprising:—

- 15,000 LILIUM AURATUM, 430 RUBRO VITTATUM, 5150 SPECIOSUM RUBRUM, 8100 ALBUM, 1700 MELPOMENE, 110 WATTEL, 400 ELRGANS, 140 BROWNII.

450 Standard and Dwarf Tree Climbing and Sweet Briar ROSES; 50 lots of very fine clean-grown PALMS from an English grower; 30 RHODODENDRONS; 70 AZALEA INDICA in bud; DEUTZIAS, PALMS, LARUSTINUS, and DRACÆNAS from the Continent; 30 Climbing Plants.

12,000 DOUBLE PEARL TUBEROSES, 15,000 GLADIOLI BRONCHLEYENSIS, 7500 LEMOINEI HYBRIDS, DAHLIAS, HEMEROCALLIS AURANTIACA MAJOR, Amaryllis Species, ACHIMENES, BEGONIAS, &c.

9100 ASPIDISTRA LURIDA or Viridis Leaves, 125 Bushels RHAPIS HUMILIS, 29 FLABELLIFORMIS.

IMPORTATIONS OF PALM SEEDS,

(To be sold at Four o'Clock.)

- Comprising:— 393,100 KENTIA BELMOREANA, 251,300 FORSTERIANA, 1400 CANTERBURYANA, 90,000 ABECA BAUERII, 40,000 PHENIX REOLINATA, 50,000 RUPICOLA.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 11, at Twelve o'Clock. On view morning of Sale, and Catalogues had.

Friday Next, March 13.

By order of Messrs. F. Sander & Co., St. Albans. CYPRIPEDIUM SANDERÆ (provisionally named), a grand importation of 1000 plants, in magnificent order and condition. The grandest Cypripedium for cutting purposes ever introduced. Flowers of great size. Dorsal sepal broadly spear-shaped, the basal portion and veins crimson-maroon, central portion yellow, shaded with green; the remainder pure white. Upper half of each lateral petal crimson-maroon, lower half clear yellow. The pouch is unique in shape, yellow shading into ochre. See drawing on view day of Sale, made by my own artist from Collector's description and photographs.

1000 Plants of CATTLEYA LABIATA VERA, Sander's unapproachable type. See description and extract from Collector's letter in reference to this new and superb importation of over 1000 plants of the grandest of all types from the hitherto unknown woods of Mount Anna. Plants are in simply perfect condition, and are finer than any before introduced into Europe.

The above are two of the most useful and beautiful Orchids known for cutting purposes. Also MILTONIA SPECTABILIS VAR. MORELIANA, the dark, large flowered atrobens type, in superb masses. Condition simply perfect.

DENDROBIUM WARDIANUM GIGANTEUM, the gigantic, richly-coloured, Upper Burmese type—the finest of all; unequalled for size and brilliancy of the flowers.

We shall also include in this Sale, a new importation of a large number of plants of our celebrated and magnificent LANG TANG variety of Dendrobium nobile, just to hand in finest order.

HABENARIA SUSANNE, a beautiful snow-white flowered Orchid, awarded a First-class Certificate Aug. 28, 1892.

ONCIDIUM VARICOSUM ROGERII, DENDROBIUM FINDLEYANUM, a grand Orchid for cutting purposes.

VANDA CERULEA.—From the district which has yielded the finest forms. DENDRODIUM ANOSMUM DAYANUM.—A splendid Dendrobe, plants in fine order.

VANDA HOOKERIANA GIGANTEA.—Flowers very large, white, rose and amethyst-purple. Also 20 PLANTS of ANGULO CLOWESII. The large yellow-flowered scented Cradle Orchid, now seldom imported, &c.

Also a fine specimen of CATTLEYA TRIANA ALBA (guaranteed true), either in bud or flower; with 22 bulbs and several leads (another property).

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 13, at half-past 12 o'Clock. On view morning of Sale, and Catalogues had.

The Green Bank (Sheffield) Collection of Established Orchids.

By order of Daniel Duncaster, Esq., of Green Bank, Sheffield, who is giving up his collection owing to going abroad.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, March 18, at half-past 12 o'Clock precisely.

Amongst the plants will be found the following:—

- Cattleya Trianae albicans, Cypripedium, Borallistratum, Mendolii triumphans, Ptochocarpum superbum, Skinneri oculata, insigne, Sanderianum (true), Callyso, Canham, Charles Richman, Morganie, Doncasterianum, Volanteanum Lowii, Arthuriatum, Cythera, Dendrobium nobile Cooksonii, Enfieldense, dark variety, splendissimum grandiflorum, Rotschildianum, Harveyanum, Lælia Gouldiana, orphanum, aniceps Dawsonii, Lecanum giganteum, Oncidium bronchium, Statlerianum, 100 Odontoglossum Alexandrae, T. F. Hayward, many fine plants, Nisibe, and many other Cool-house Orchide, Sanderæ (true).

The plants will be on view morning of Sale. Catalogues may be had of Mr. J. Malcolm, Head Gardener, on the Premises, Green Bank, Sheffield, and of the Auctioneers, Valuers, and Estate Agents, 67 and 68, Cheapside, London, E.C.

Friday Next, March 13.

IMPORTANT SALE of HARDY PERENNIALS, Exhibition HOLLYHOCKS, PANSIES, IRIS, CYPRIPEDIUM SPECIABLE, LILIUMS in variety, ANEMONES, TIGRIDIAS, BEGONIAS, MONTBRETIAS, GLOXINIAS, DAHLIAS, CLEMATIS, TEA and other ROSES, CARNATIONS (new and old varieties), PINKS, PLOXES, Double and Single PÆONIES, AMARYLLIS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 13, at half-past 12 o'Clock. On view morning of Sale, and Catalogues had.

Friday, March 13, 1896.

CYPRIPEDIUM SANDERÆ (PROVISIONALLY NAMED).

A grand Importation of 1000 Plants, In magnificent order and condition.

CATTLEYA LABIATA VERA, SANDEY'S UNAPPROACHABLE TYPE.

See Description, and extracts from Collector's letter in reference to this new and superb importation of over 1100 Plants of the grandest of all types, from the hitherto unknown WOODS OF MOUNT ANNA.

Plants are in simply perfect condition, and are finer than any before introduced into Europe. The above are two of the most useful and beautiful Orchids known for cutting purposes.

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Messrs. F. SANDER & CO, St. Albans. TO BE SOLD BY

MESSRS. PROTHEROE & MORRIS, 67 & 68 CHEAPSIDE, LONDON, E.C.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO., LTD.,

Have just received a large and splendid importation of ORCHIDS, consisting of—

CATTLEYA LABIATA AUTUMNALIS, in grand condition. DENDROBIUMS in great variety, and splendid condition. CYPRIPEDIUMS in several varieties, and in splendid condition. ODONTOGLOSSUMS in several varieties, and in splendid condition.

VANDA CERULEA and other VANDAS, all fine. The Company have also a large and splendid stock of ESTABLISHED ORCHIDS, all in grand condition.

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FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLOBIST, 11, Dafforne Road, Totham, Surrey.

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Die Commission: G. KRAUSE, 1. Vors.; T. J. SEIDEL, 11. Vors.

**ROYAL BOTANIC SOCIETY OF MANCHESTER.**

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BRUCE FINDLAY.  
Royal Botanic Gardens, Manchester, March, 1896.

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J. HUBERT GREGGAN & CO., Railway Nurseries, Worthing.

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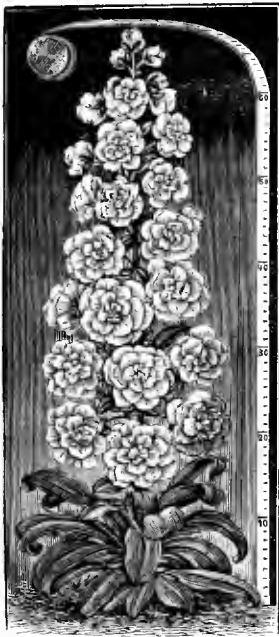
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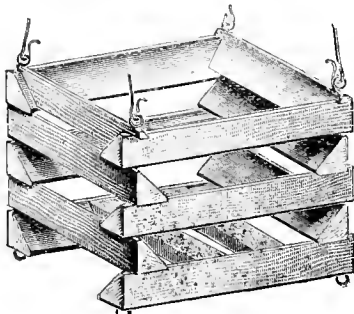
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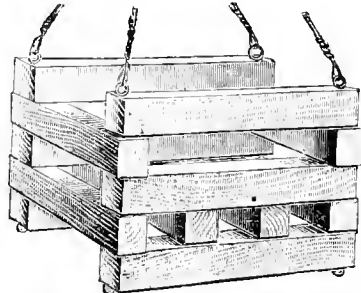
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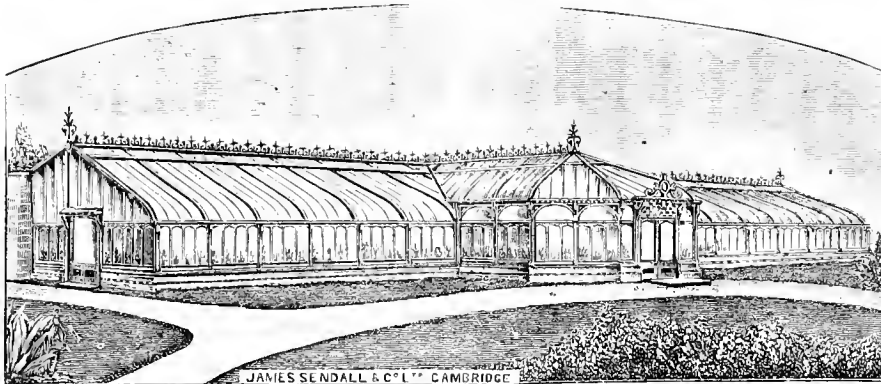
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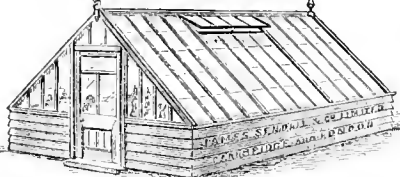


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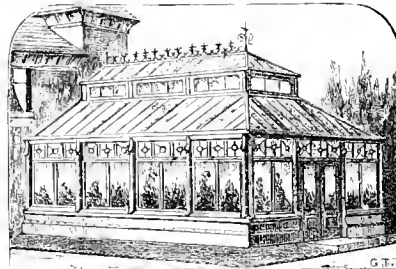
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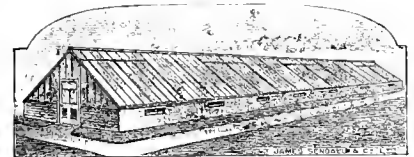
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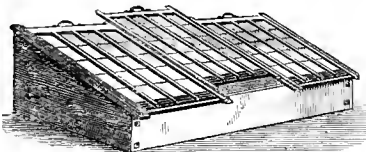


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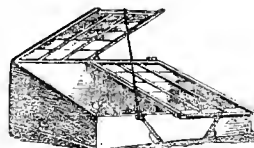
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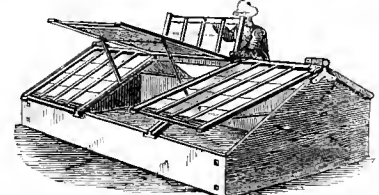
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6 " " 12ft. by 6ft.	... ..	5 10 0
8 " " 16ft. by 6ft.	... ..	7 0 0

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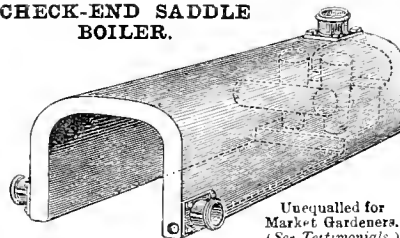
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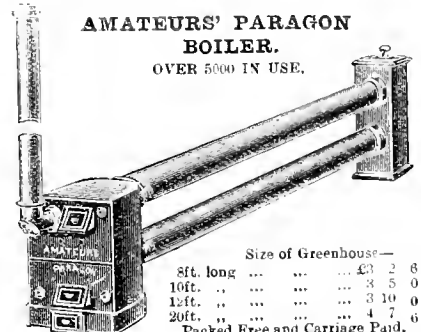
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# HUMULUS LUPULUS

(PERENNIAL).

## The wonderful-flowering CLIMBER.

THE QUICKEST, HARDEST, AND PRETTIEST IN THE WORLD.

The "Bazaar, Exchange and Mart," Dec. 30, 1895, writes:—

"Most people seem fairly well acquainted with the economic uses to which the common Hop are put, but comparatively few seem to be aware of its value as an ornamental plant, or it would assuredly be oftener found in our gardens. Amateurs are frequently in need of a subject which will cover an unsightly fence, verandah, or what not, in a short space of time, and that will look fresh and green over a long period. Now all this and more they would find in the Hop (*Humulus lupulus*), as we know it in Kent and elsewhere. Its foliage is of a lovely green in early summer, changing gradually as autumn comes; while its graceful panicles of greenish-yellow flowers afford a pretty contrast. Not the least desirable of its many recommendations is its perennial character; for, when once planted, it seldom needs replenishing.

**ITS FIRST COST MAY THEREFORE BE SAID TO BE ITS LAST.**

"There are many objectionable spots in gardens that might be rendered at least pleasing to the eye by means of this plant, and those who have such may be glad to learn of the decorative qualities of the Hop. No particular soil is required to grow it, though a deepish loam is conducive to its well-being; but there is no need for the amateur to be deterred on account of soil.

"There is another species (*Japonica*) which is oftener seen in gardens than the one to which attention is directed; but my own preference is for our native plant, whose merits I consider deserve to be more widely known."

"Amateur Gardening" says:—"An interesting and decorative plant."

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- .. WIERII LACINIATUM, 10 to 14 feet.
- .. NEGUNDO VARIEGATA, Standards, 8 to 10 feet.
- .. REITENBACHII, 12 to 14 feet.
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- .. WORLEVII, 12 to 14 feet.
- .. LEOPOLDII, 12 feet.
- BEECH, Purple, Pyramids, and Standards, 10 to 20 feet.
- BIRCH, Silver, 12 to 14 feet.
- ORANUS SEROTINA (American Bird Cherry), 12 to 16 feet.
- HESTONTS, Horse, 14 to 20 feet.
- .. Double White, 14 to 16 feet.
- .. Scarlet, 12 to 18 feet.
- .. Briotii, 10 to 16 feet.
- ELMS, English, 10 to 12 feet.
- LIMES, 12, 16 to 20 feet.

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- .. EUCHLOA or DASYSTILA, 12 to 14 feet.
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- POPLAR CANADENSIS NOVA (the true variety), 12 to 16 ft.
- SYCAMORE, Common, 12 to 17 feet.
- .. Purple, 14 to 16 feet.
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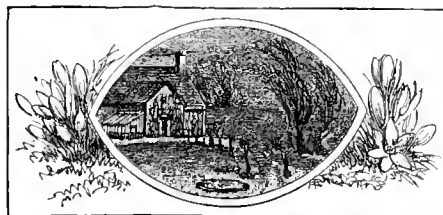
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THE

# Gardeners' Chronicle.

SATURDAY, MARCH 7, 1896.

## BRITISH ROSES AND THEIR RAISERS.

FOR a long period after the appearance of the first hybrid perpetuals, France may be said to have possessed the monopoly of Rose-origination; but of late years her rosarians, of whom the more illustrious are Guillet, Verdier, Pernet-Ducher and Nabonnand, have found formidable competitors in the great British cultivators, and especially in such specialists as the late Mr. Henry Bennet, Mr. William Paul of Waltham, Mr. George Paul of Cheshunt, and Mr. Alexander Dickson, Jun., of Newtownards, in Ireland, who have given us many varieties of remarkable merit, too numerous to be fully characterized here. To an eminent Scottish firm, the Messrs. Cocker, of Aberdeen, we are indebted for Duke and Duchess of Fife, of which the latter is the more highly esteemed. A later production of the same cultivators is Duchess of York, which has, among other Roses in my garden, a very artistic and distinctive aspect. As it is, however, only semi-double, it is chiefly valuable for decorative purposes, rather than for exhibition. But this limitation, however great in the eyes of the ardent exhibitor, who is necessarily exacting, does not prevent it from being, if only on the ground of its exquisite colour, a genuine acquisition. The Messrs. Croll, of Dundee, who are among the foremost of our northern rosarians, and their rivals, Messrs. Thomas Smith, of Stranraer, in this county, have each succeeded in producing very interesting variations from Mrs. John Laing; which, however, have not yet been introduced. I hope to describe them on some future, and not far-distant, occasion.

Among the finest creations of the late Mr. Bennet, is that reigning queen of the hybrid perpetuals (so far at least as regards popularity) to which I have just referred; Viscountess Folkestone, one of the most fragrant of existing hybrid Teas—and a Rose that should be in every garden and rosary, however circumscribed; Grace Darling, much loved by the Dean of Rochester, with whom it is almost the first variety to bloom; and Princess of Wales, which is one of the loveliest of Tea Roses, and well worthy of its exalted name. From Mr. Bennet's Heinrich Schultheiss have been derived those Bedale and Cheshunt introductions, which are undoubtedly very valuable for beautiful complexion and early-flowering qualifications. I refer to Mrs. Harkness and Paul's Early Blush, which may be regarded as highly endowed English sisters, though the one was raised in Yorkshire, the other in Hertfordshire; their parentage being the same. The law of heredity, which, as a general rule, is not greatly admired by rosarians who aim at originality, is strongly manifested in these.

To Mr. George Paul we have to express our recognition of the merits of his Duke of Teck, a brilliant seedling from Duke of Edinburgh; brightness of Cheshunt, another lustrous Rose; Cheshunt Scarlet, a bright autumnal bloomer, but not very full; Charles Gater, a noble dark crimson, of velvety hue; Carmine Pillar, an acquisition almost rivalling Turner's Crimson Rambler in artistic effect; and Mrs. Paul, a magnificent Bourbon, remarkable alike for its colour, its fragrance, and majestic dimensions. It occupies a central position in my garden. Its companion is Spenser, a native of Waltham Cross, which has been expressively described by the Cheshunt rosarian as "a perfected Baroness Rothschild." It was raised by Mr. William Paul of Waltham Cross.

From Newtownards, in the co. Down, whose Mountains of Mourne I can see from this parish, have come some notable Roses, which have gained the highest honours that England could bestow. Among these the most impressive are Earl of Dufferin, Mrs. Sharman Crawford, an Irish beauty of great charm—one of the Messrs. Dicksons' finest introductions; Marchioness of Downshire, hardly less attractive, but here, at least, not equally prolific; Mrs. James Wilson, a Tea Rose of great substance, but somewhat difficult to open; Marchioness of Dufferin, whose extreme difficulty in expanding from bud to blossom, I have always regarded as a serious limitation in this temperate clime; Marchioness of Londonderry and Margaret Dickson, the former of which has been splendidly exhibited, especially by Mr. Frank Cant, of Colchester (who is, however, a consummate artist in this special direction); while the latter is a superbly decorative garden Rose. Mrs. J. W. Grant, recently Americanised by its present proprietors into "Belle Siebrecht," I have not yet added to my already almost sufficiently extensive collection of 170 distinct varieties; but I must do so ere long, as it bids fair to become, through the medium of unremitting and elaborate advertisement, the fashionable Rose. It is, I understand, a cross between La France and Lady Mary Fitzwilliam. With such a distinguished parentage, it can hardly fail to be imposing, and in any case it is certain to be very expensive. But we have this consolation—that its value in America will thereby be greatly increased.

Of the numerous hybrid Briar Roses originated by Lord Penzance, and introduced into cultivation by the enterprising firm of Keynes, Williams & Co., Salisbury, the most successful, in my opinion, are Amy Robsart, intended to commemorate the heroine of Scott's *Kenilworth*, and Lady Penzance. My only regret in connection with those Briars is, that though possessing very delicate and fascinating hues (with which Madame Adelina Patti recently told me she "had fallen quite in love")—they have not the fulness and endurance of the Persian Yellow, or Rosa Harrisoni. When grown in a long line with the Austrian Roses, and alternating with these, they are, as I can testify, marvellously effective; but like all summer Roses, they are a dream of tender beauty too bright to last. I hope his lordship's latest introductions, which have not yet produced such a sensation as their graceful predecessors, may prove somewhat more perpetual.

Mr. Benjamin R. Cant, of Colchester, a veteran rosarian, has been the raiser of a Rose of remarkable merit, viz., Prince Arthur, a luminous dark crimson, invaluable for exhibition purposes; while Mr. Prince of Oxford has given us the beautiful Tea Rose that bears his name.

From Mr. Cranston of Hereford we have received Sir Garnet Wolseley and the Crimson Bedder, which I cannot but deem precious for their brightness, fragrance, and productiveness. Mrs. Harry Turner and the Crimson Rambler have come to us from the Royal Nurseries, Slough; though one of these, popularised by those clever florists, Messrs. Harry and Arthur Turner, is of Japanese origin.

Mr. William Paul, of Waltham Cross, has probably produced a larger number of original Roses—many of these of the highest eminence—than any other living British rosarian. His first introduction of merit was Beauty of Waltham, derived from Jules Margottin; followed by the still more celebrated Duke of Edinburgh, which was raised by him at Cheshunt in 1868. The latter, as Mr. W. Paul once told me himself, was a derivation from the venerable General Jacquemont, and is, perhaps, the most famous of all existing Roses—a lofty distinction. Pride of Waltham, Crown Prince, Star of Waltham, Clio, and Duke of Albany have been acquisitions to the race of hybrid perpetuums. But Mr. Paul has also contributed very effectively to the Chinas, hybrid mosses, and Teas, as Corinna, Medea, Sappho, Zenobia, and Duke of York have sufficiently manifested; and Enchantress and Empress Alexandra of Russia, which I have had the privilege of seeing at Waltham, will, ere long, still more emphatically prove. Considering the extent of his efforts and achievements in widely-varying departments of horticulture—all of them necessitating incessant application—it is marvellous that Mr. Paul should have achieved so much and so honourably in the special direction of hybridisation. *David R. Williamson, Kirkmaitlan, Wigtownshire, N.B.*

## NEW OR NOTEWORTHY PLANTS.

### BOLBOPHYLLUM MULTIFLORUM.\*

GARDENERS are sometimes surprised to see their "genera" set aside by botanists who, without respect to sacred tradition, look only to the essential points of discrimination, the column and the lip. But even the most zealous defender of garden orchidology must admit that the little plant I have described once more, unites the character of a *Bolbophyllum* with those of a *Cirrhopetalum*. The creeping rhizome, the distanced, one-leaved bulbs, the yellowish-white flower-stalks, with their capitate flowers, are exactly as in *Cirrhopetalum*. The sepals are contracted from a very broad cordate base into narrow points; the petals are nearly the same as in all the other *Bolbophylla*; the lip contrasts by its dark colour with the yellowish-white sepals and petals, and has a white fringed border, which has a mealy look. The plant was described (not very accurately) and figured by Mr. Breda in Kuhl and Van Hasselt's *Genera and Species of Orchidaceous Plants*, t. 4, fig. 2, under the name of *Odontostylis multiflora*, Breda. The genus "*Odontostylis*" cannot be maintained, and undoubtedly has been many years united with *Bolbophyllum*. Mr. H. Ridley has overlooked this fact, and has described a *Bolbophyllum multiflorum* from

\* *Bolbophyllum multiflorum* (Breda), Krzl.—Caulis repente radicebus crebris sub ipsis caulibus in bulbum inornassatis secundariis; bulbis basi cataphyllis 2 altero majore altero maximo vestitis cylindricis subtrigonis, sulcatis 2.5 cm. altis, 5 mm. diametro monophyllis; folio oblongo lanceolato v. ovato-oblongo ad 5 cm. longo ad 1.5 cm. lato, firmo coriaceo; scapis strictis more *Cirrhopetalorum* capitatis quam bulbi paulum longioribus; bracteis ovaria aequantibus pellucidis acutis; sepalis 5 basi cordata coccinea longe productis linearibus; petalis naeis ovato-oblongis obtusis; labelli hypochilio lineari brevi, apichilio minuto oblongo margine alborinaceo, apice reflexo; gynostemio utriusque longe dentato. Flores vitellini 2-3 mm. diametro, labellum atratum. (*Odontostylis multiflora*, Breda, in Kuhl & Van Hasselt, *Gen. et Sp. Orchid.*, and Asclepiad. Favre (1827), t. 4, fig. 2.

Madagascar. According to the strict laws of botanical nomenclature, this latter name must be changed. The nomenclature of the two species should run as follows:—*Odontostylis multiflora*, Breda = *Bolbophyllum multiflorum*, Krzl.; *Bolbophyllum multiflorum*, Ridley = *Bolbophyllum Ridleyi*, Krzl. *F. Kränzlin.*

## ORCHID NOTES AND GLEANINGS.

### CYPRIPEDIUM VICTORIA MARIA.

In a Belgian note, which will be published next week, the resemblance of this species to *C. Chamberlainianum* will be pointed out. The last-named is, no doubt, a variable species, but *Victoria Maria* seems distinct in its glabrous, cream-coloured upper sepal, the nerves of which are green—in the more twisted lateral petals, which are of a dull purple colour, shining and destitute alike of hairs and of spots. The lip is more elongate, of duller colour, and quite destitute of spots. The staminode is very like that of *C. Chamberlainianum*, but less rhomboid, more elongate, acuminate even and green at the tip. We have not seen the foliage. The flower was sent to us by Messrs. Sander & Co.

### CATASETUM SCURRA.

A raceme of seventeen pretty white flowers delicately veined with green, which shows most attractively on the spreading side lobes of the lip, whose front is curiously bearded, comes from M. Chas. Maron, Orchid grower to M. L. Fournier, of Marseilles. The flowers well represent this rare and singular species, which was figured in the *Gardeners' Chronicle*, n. s., vii., p. 304, from a plant which flowered in Sir Trevor Lawrence's garden. The plant has again appeared, this time in the collection of botanical Orchids belonging to the Hon. Walter Rothschild, whose plant has a dark red base to the lip. In the variety flowered by M. Fournier, the colours of the base of the lip are yellow and orange, so there would appear to be variation in this particular in the different specimens noted. The species is a delightfully fragrant, and attractive curiosity.

### TRIGONIDIUM LATIFOLIUM.

This is a very singular and rare Orchid, with the habit of growth somewhat resembling that of *Maxillaria picta*, and with solitary flowers on slender wiry stems nearly 1 foot in height. At a distance, the flower resembles a small Iris in the regular arrangement of its three yellowish sepals, which are striped and tinged with purple; and the resemblance is still further enhanced by the erect, spatulate, yellowish-white petals, which are veined and heavily tipped with purple. The inconspicuous lip is green and yellow, and the plant when in flower forms a very elegant object. A specimen has been received from M. Louis Fournier, of Marseilles, in whose collection it has flowered; and the fine blooms of *Phalenopsis Schilleriana*, *P. Aphrodite* var. *Gloriosa*, and *P. leucorrhoda*, indicate that the beautiful moth Orchids, which puzzle so many growers, are doing well in the care of M. Chas. Maron, M. Fournier's Orchid-grower. *J. O'B.*

## METHODS OF PROPAGATION.

(Continued from p. 271.)

The Roses disposed of, we may now take evergreen subjects, as *Aucubas*, *Arbutus*, and the many handsome species and varieties of Holly, not forgetting the *Rhododendron*, though there are grave reasons for the latter being increased by layers.

The *Aucuba*, since R. Fortune introduced the male form from Japan (see *Gardeners' Chronicle*, April 27, p. 385, and August 10, p. 735, both in 1861), has greatly increased in favour and popularity, and there are many fine-foliaged varieties which the advanced gardener may desire to multiply. For this purpose select strong-growing green-foliaged seedlings for stocks, and pot them early in the autumn into 60's. Cut your scions from the plants you wish to increase, and lay-in by their heels till wanted. Early in January take one of these stocks, and cut it down

with a horizontal cut 2 inches from the level of the soil, and then split it down to the ground-line, taking care to avoid bruising the bark. Now cut your scion, which may be from 3 to 9 inches long, and form the base into a wedge by a slanting cut on either side; insert it into the split stock, and bind tightly with raffia, smear over with the clay mixture, or use grafting-wax, and plunge in the inside pit as directed for Roses. In about a fortnight the tie may be loosened, and the grafted plant brought out into the open pit, and in the spring it may either be potted into  $\frac{1}{2}$ -inch pots or planted

the high ground nearer London, is thought by Norden and other antiquaries to have been a Roman city, though others place the site upon the adjacent Brockley Hall. Aldenham finds but little mention in the older records; it lies within an easy walk from Watford, and is reached through pleasant lanes and fields. There are two main entrances to the park, one from Elstree and Edgware, and the other from Bushey and Aldenham. On approaching either, the visitor sees a stretch of land extending away in every direction, and in the centre, Aldenham House and its charming and well-

others—some of them denizens of the spots for many years. There is a broad lawn, and lofty Elms lining the roadway on either side, which reach to the main entrance on the Bushey approach, from which the mansion is distant about 200 yards.

The present mansion is a stately erection of red brick, dating from about the end of the seventeenth century; but several of the principal rooms are of the time of Charles I. Since it was occupied by the present owner, many important additions have been made, and the local chronicler further informs us that it has been inhabited for the past three cen-

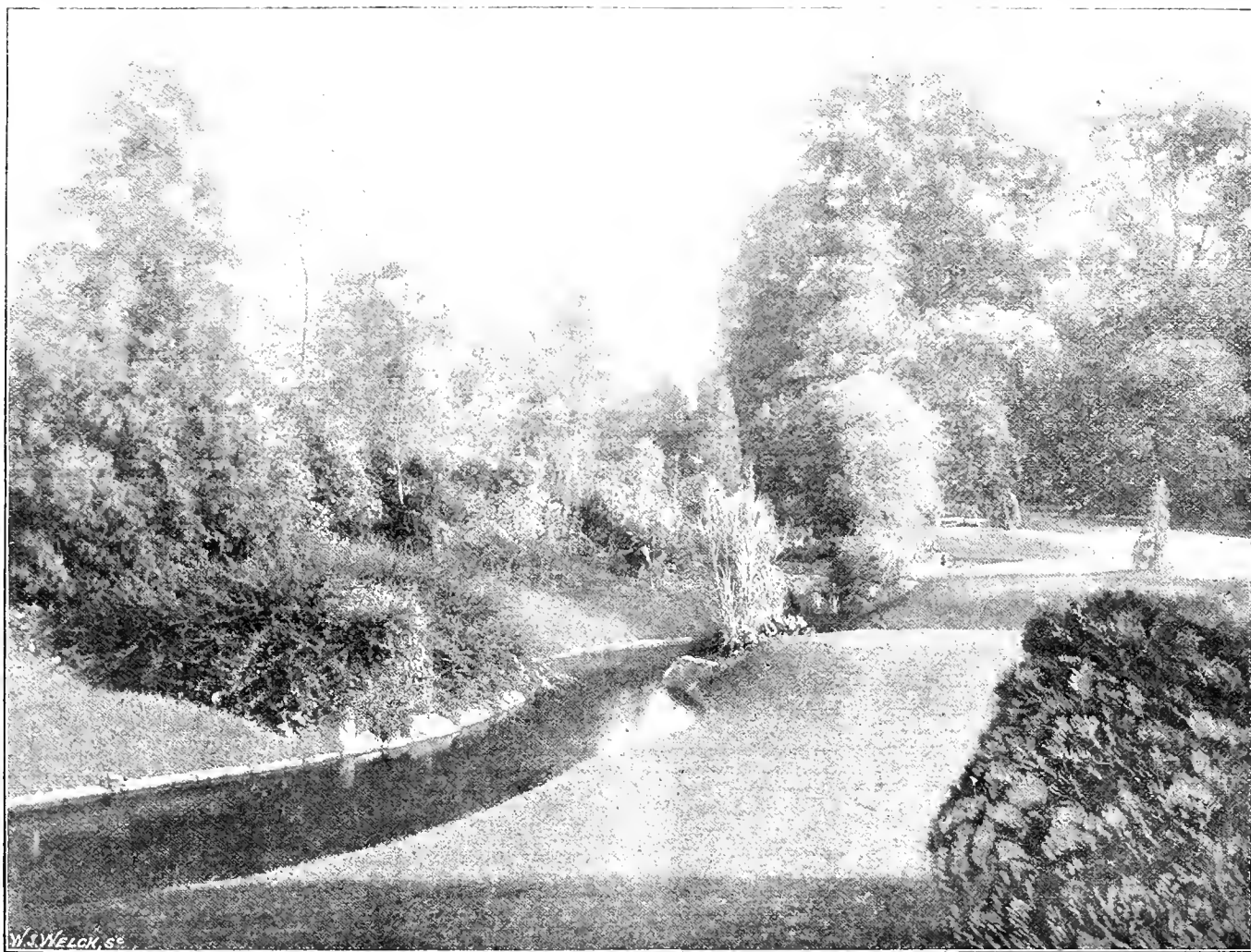


FIG. 40.—VIEW IN THE GARDENS AT ALDENHAM HOUSE, ELSTREE.

out in nursery beds, taking care in both cases to let the soil cover the union, and make it firm around the roots. *Experience.*

(To be continued.)

### ALDENHAM HOUSE, ELSTREE, HERTS.

[ This fine residence, situated so thoroughly in the country, and yet so adjacent to London, stands in a park of about 200 acres. At one point it nearly or quite touches Elstree, and at the other the peaceful and picturesque village of Aldenham, from which the newly-created peer (H. H. Gibbs, Esq.), the owner of Aldenham House, takes his title. The village of Elstree, which occupies a commanding position on

wooded grounds. The local chronicler states that on entering the demesne from the main road leading from Edgware "the visitor becomes more and more impressed with an estate which stretches to the right and left, over a considerable area. About half-way along the drive a pretty rustic bridge spans an artificial lake, which under the genial influence of the sun, resembles a shining sheet of silver, and is an additional attraction to the beautiful grounds. On either side of the drive runs a row of fine young Chestnut trees, which, in years to come will form a grand avenue; there is also a velvety lawn extending right up to the mansion, effectively dotted with trees and shrubs." There are very fine examples of Elm, Oak, Ash, the silver Birch, representatives of the Fir tribe, and

travies by ancestors of the present family. The present noble owner takes the greatest interest in the garden and grounds, and is fully concerned in every alteration and improvement in them, the details of which he keenly follows; while his son, the Hon. Vicary Gibbs, the representative in Parliament of the St. Albans division of Herts, spends a considerable portion of his time on the estate and in the gardens, taking an intelligent interest in trees, of which he possesses a varied knowledge, and representatives of all those who do well in the locality find a place in the grounds. Within the past few years, an extension of the pleasure-grounds of some magnitude has been effected, something like 10 acres being incorporated, and laid out with taste and skill under the personal surveillance of Lord



Aldenham. Formerly a high road ran along by the side of the grounds towards Edgware from Aldenham and Bushey, and much nearer to the mansion than at present. When the extension of the grounds was determined upon, permission was obtained to alter the course of the road, one result being that the residence of Mr. Edw. Beckett, Lord Aldenham's head gardener, which was formerly on the opposite side of the road, is now included in the grounds. In carrying out the extension, which was done at considerable cost, a large number of labourers were employed, and every detail was executed with scrupulous care and close attention to effects. This extension has enormously added to the attraction of the grounds; and the laying out and planting of the same afforded excellent scope for the inventive skill of Lord Aldenham and his able gardener, and some most delightful features were introduced (see fig. 41).

To be fully appreciated, a visit should be made to Aldenham House in the height of the summer; or later on, at the end of August, when the beauty of full development has spread over tree and plant, when the green sward so admirably kept is seen to perfection; and the brilliant hues of multitudinous flowers light up the scene with a radiance peculiarly their own.

The gardens may be said to encircle the house, and with the pleasure-grounds they cover an extent of seventy-five acres. To attempt to describe in detail the new portion of the grounds would require considerable space; suffice it to say, that mounds were formed and planted with various shrubs and flowering plants, with glades of turf and winding walks intersecting them; and that all which is choice among evergreen and deciduous shrubs find a place here; and that the skill and resources of the landscape gardener have been so applied, that new features and delightful pictures meet the eye at every turn. Through it all runs an artificial water-course, obtained by bringing water from the reservoir at Elstree; the bottom of the stream is concreted, and there is provision for letting off the water at any time, and cleaning the bed. The skill of Mr. Pulham has been applied with great success in forming patches of rockwork at various points, and where it can be done, these are appropriately planted and furnished with relative subjects in plants and shrubs (see fig. 40).

The visitor, in passing along the right-hand side of the front entrance to the mansion, sees patches and panels of effective evergreens and beds of flowers; then through an archway, festooned with various creepers, a stretch of lawn is reached planted with large beds and panels of evergreens and flowering shrubs, such as *Rhus Cotinus*, *Corona sanguinea*, with its fire-coloured stalks, *Rosa rugosa*, &c., and at last the flower-garden is reached; encircling this garden is a handsome balustrading formed of red brick and terra-cotta, with vases at intervals.

The flower garden has undergone but little change in recent years; it is admirably planted, and always effective. Adjoining it is a huge bed of *Andromeda floribunda*, edged with *Erica carnea*, which must be an exquisite sight in spring; and near it is another bed of *Pernettya mucronata*. Here is an arched path, 62 yards in length, running towards the house, variously planted with appropriate climbers, *Aristolochia Siphon* being a prominent plant. Here also are beds of Japanese *Acer*, Golden-leaved *Privet*, *Berberis*, &c., all in keeping with the general plan of adornment.

On the north-east are the Rose and American Gardens, enclosed by an evergreen hedge, and a huge bed, with an angular front line was planted last summer with Oscar Wilde Sunflower, *Wigandia caracasana*, *Solanum* with ornamental leafage, *Brugmansia*, *Abutilon*, &c. In this respect Mr. Beckett introduces with much judgment some of the features of subtropical gardening which seem to fall into their proper places, and greatly enhance the general effect. A bed of fifteen plants of *Dracæna indivisa* was a commanding feature; succulents of the better sort also found a place here. *Heliotrope*, *Miss Nightingale* formed most pleasing beds; batches of *Ivy-leaved Pelargoniums*, *Calceolaria amplexicaule*,

*Grevillea robusta*, &c., were also to be found here; also *Malva arborea variegata*.

A Limetree-walk leads to the wilderness, a semi-wild spot, planted with various subjects, yet to be laid out in a fitting manner by forming grassy walks. In the distance can be seen the Shenley Hills. Next comes the "rootery," a spot in which roots of arboreal giants are utilised in working out various effects, with winding walks about them, many kinds of plants being utilised with considerable judgment.

Visitors to Aldenham House Gardens know that the fruit department is well maintained, and excellent results follow high culture. A new orchard has been formed which promises well for the future. Strawberries are somewhat extensively cultivated, the favourite varieties being *Vicomtesse Héricart de Thury*, *President*, *British Queen*, and *Sir J. Paxton*. *Stevens' Wonder* and other new sorts are under trial. *Vinerier*, *Peach-houses*, &c., are all in admirable condition. So are the plant-houses, in which there is a considerable variety of useful plants; cut flower and furnishing stuff abounding. Open-air plants for cut flowers are varied and numerous; one subject Mr. Beckett was growing largely was *Comos bipinnata* and its varieties, an excellent subject to cut late in the summer. *Dahlias*, and other summer and early autumn-flowering plants find a place; and such an expert with the *Chrysanthemum* as Mr. Beckett would not, of course, be without a well-selected collection of his favourite flower. As a grower and judge, he ranks high among gardeners who cultivate the golden flower.

And remembering the magnificent collection of vegetables Mr. Beckett produced some months ago at one of the meetings of the Royal Horticultural Society, it will not surprise anyone to know that the new kitchen garden of 2 acres produces them in the finest character. A many-sided man, he succeeds with every subject he takes in hand. A combination of intelligence, industry, and courage, he cannot fail to be in the front rank of his profession; as a servant, he enjoys the entire confidence of his employer. R. D.

## KEW NOTES.

*DIMORPHOTHECA ECKLONI*.—Seeds of this herbaceous shrub have lately been distributed from Kew, and as it does not appear to have ever been in cultivation before, the following particulars may be useful. It is said to be the handsomest of the twenty or so species found in South Africa. Mr. Galpin found it growing on grassy slopes at an altitude of 4000 feet in Barberton, where it was in flower in September and October. The flowers are 3 inches across, with deep, purplish red-ray florets, and a brown disc. It forms a strong half herbaceous bush about 2 feet high, freely branched, the branches erect, leafy; the leaves are narrow, spatulate, 3 inches long; the peduncles are 6 or 8 inches long, erect, with a solitary terminal flower-head like that of *D. nudicaulis*, the ray florets  $1\frac{1}{2}$  inches long. In the *Flora Capensis*, the ray florets are described as white above, purple beneath. The plant is likely to become useful for the greenhouse. Seeds of the plant have germinated freely at Kew.

### WELDENIA CANDIDA.

This pretty and interesting little plant improves under cultivation. It was introduced to Kew in 1894 from Guatemala, where it is known to occur only in the crater of the Volcan de Agua. It has a fleshy perennial rootstock, from which springs an annual stem 9 inches long and half an inch in diameter, bearing a cluster of spreading bright green leaves, 3 to 4 inches long, channeled, acuminate, with sheathing bases. The flowers are borne in a central capitulum, from which two or three at a time are developed; they have slender tubes, 2 inches long, divided at the top into three ovate, concave segments, forming a shallow cup, an inch in diameter, with the slender filaments and pale yellow anthers in the centre. The whole flower is of the purest white. The plant is something out of the common; it

flowers freely and continuously, and it is easily cultivated in a cold greenhouse along with *Diea*, *Primula imperialis*, &c. *Weldenia* is a monotypic genus of *Commelynaceæ*, and is a near ally of *Zebriua* and *Rhoeo*, both known in gardens as *Tradescantias*.

### MOREA ROBINSOONIANA.

The large specimen of this gigantic *Iris*, which has been a conspicuous feature in the succulent-house for the last ten years, and which flowered for the first time at Kew in 1891, is again pushing up numerous flower-spikes. The plant now spreads to a width of 9 feet, and the Phormium-like leaves are from 7 to 8 feet high. The position in which this plant stands, near the south doors, where there is abundance of air and all the sunlight possible, appears to suit it, and the drip from a frequently used water-tap, partly screened by its leaves, is no doubt to its liking. In 1891 the plant developed only three scapes, each 8 feet long, branched, and upon these were produced in succession 457 flowers, each about 4 inches in diameter, pure white, with a golden-yellow, crescent-shaped blotch at the base of three of the segments. The first flower opened on June 21, and the last on September 24. There were from twelve to eighteen flowers open at one time. This year there are a dozen or more spikes developing, so that the plant when at its best will probably be very fine. By some authorities this plant is known as *Iris Robinsoniana*.

### SENECIO BOURGÆI.

Plants of this species are now in flower in one of the greenhouses. It was first introduced to Kew from the Canary Islands in 1853, and a figure of it was published in the *Botanical Magazine*, t. 4994, under the name of *Doronicum Bourgæi*. It is a near ally of *S. cruenta*, the supposed parent of the garden *Cineraria*, but is easily distinguished from that plant by its leaves, which are pale green, with white wool on the under-surface, and by the petioles which have broad wings at the base, and several small ear-like lobes on each side, so that the leaf might almost be described as lyrate. The flowers are borne in large loose heads, as in *S. cruenta*, but they are larger, with a broader disc and fewer ray florets; their colour is bright purple. This species is worth growing for the decoration of the conservatory during the winter. It might also be useful to the breeder of *Cinerarias*; and it is probably an annual. We are indebted to the Cambridge Botanic Gardens for its re-introduction. [A figure of this plant will be shortly given in these pages. Eo.]

### ASARUM MAXIMUM.

This, the largest and handsomest of the twenty or so species known of this remarkable genus, is now flowering for the second time in the Begonia-house at Kew. It first flowered in March last year in the same house. This time the leaves are much larger, and they are so crowded upon the plant that the short-stalked flowers are completely hidden from view. The flowers, too, are larger and richer in colour than they were last year. Imagine a plant in a 6-inch pot with a cluster of cordate leaves very similar to the leaves of *Cyclamen persicum*, but three times as large. In a cluster at the base, and resting almost upon the soil, are the flowers, which are 2½ inches across, and of a rich maroon-purple colour, velvet-like, with a large three-lobed blotch of creamy-white in the centre of each. *A. macranthum*, *A. geophilum*, and *A. caudigerum* are also in flower in the same house. *A. maximum* is a native of Ichang, in Central China, where it was discovered by Dr. Henry. W. W.

## DENDROBIUM WARDIANUM AND OTHERS.

THE remarks in the *Gardeners' Chronicle* at p. 145 imply that some information on the cultivation of this type of *Dendrobium* may be useful. There are two distinct forms of this—perhaps the finest of all *Dendrobiums*. The Assam form was introduced so long ago as 1856, and flowered in March, 1858, in Messrs. Jackson's nursery at

Kingston. Sir W. J. Hooker figured it in the *Bot. Mag.*, t. 5058 as a variety of *D. Falconeri*, and not until another plant flowered in the hothouse of Dr. Ward, at Southampton, was it recognised as a distinct species. This variety was very scarce, and probably is so still, although it is most likely forgotten since Messrs. Low, of Clapton, introduced the Burmese variety in 1875. Some of the specimens from that importation were of immense size, and one of them was sold at Stevens' sale rooms, as imported, for 100 guineas; but Orchid fanciers soon found out that these very large specimens were past their prime, and that it was much more profitable

warmest house, where the temperature rises in the afternoon to 95° and 100°. I noted it once at 105°, but I do not care for the temperature to rise above 100° after the house has been shut up in the afternoon. The result of this great heat and humidity was very satisfactory, the plants making vigorous growth, some of the stems being 2 feet in length, and these are now studded with flower-buds. The plants require a moist house, and to be freely watered at the roots while growing; but when growth is completed, water must be gradually withheld, the plants taken into an intermediate-house for a week or ten days, and afterwards into a warm greenhouse,

is an admirable position for *Dendrobium* when at rest. I have tried them in various positions, and would choose the back wall of a lean-to house in preference to any other. When placed in the current of air from the front and top ventilators, they are liable to be injured; even plants in baskets are placed on the stage in preference to being suspended from the wires. The plants are taken from the cool-house to a warmer, moister atmosphere as they are required. A temperature of 50° to 55° is best to start with, and they do not need a higher temperature until the flowers have passed away. In fact, the blooms will last considerably longer in a

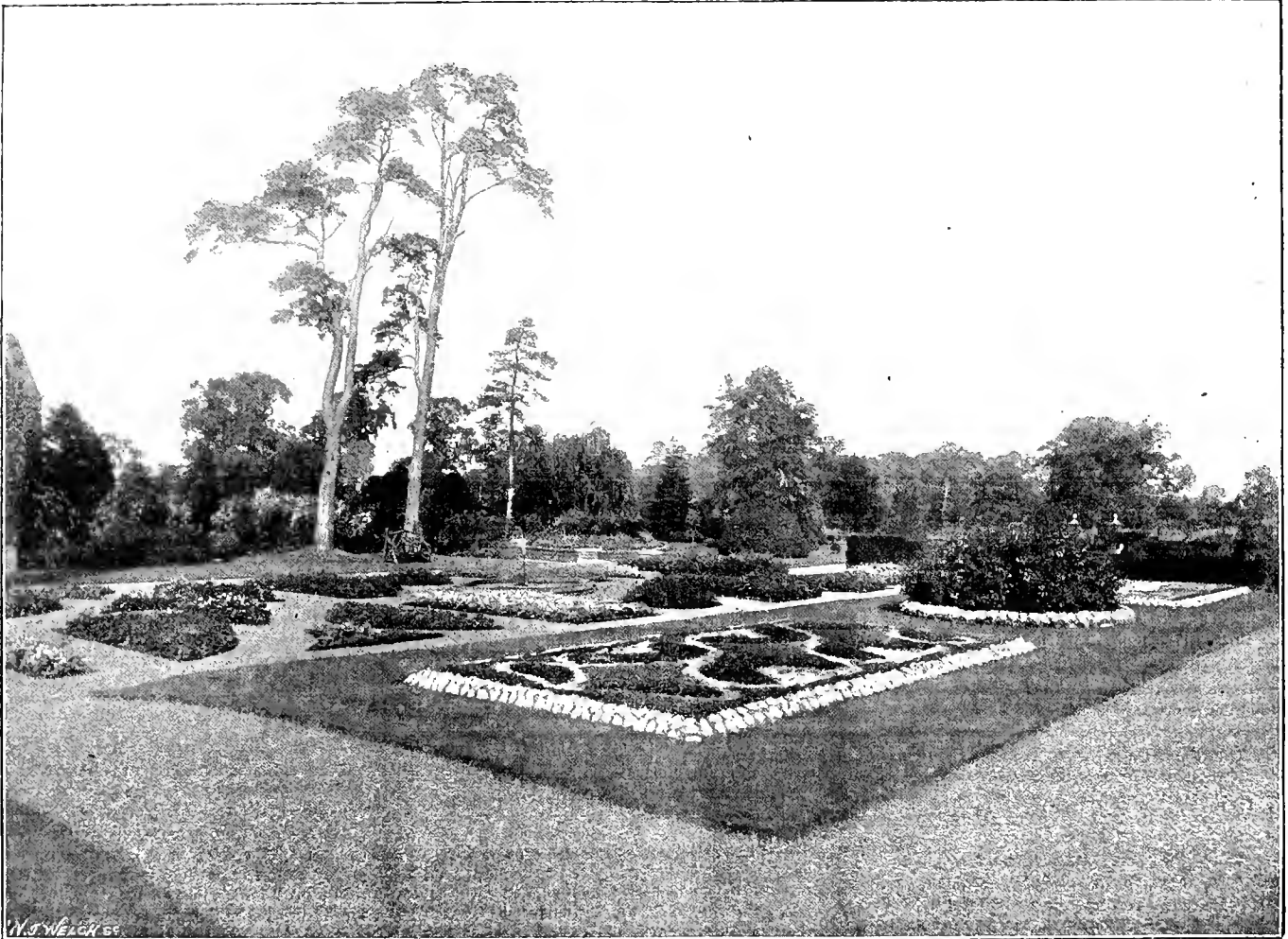


FIG. 41.—VIEW IN THE GARDENS OF ALDENHAM HOUSE, ELSTREE. (SEE P. 295.)

to purchase smaller and younger specimens. This distinct type of *D. Wardianum* has been suitably named Low's variety in compliment to its introducers, and it is this variety which is now found in general cultivation. I purchased some of the early-introduced plants, and still have some of them, but they now lack vigour; indeed, this is one of the faults of *D. Wardianum*, whether it be of the Assam or Burmese varieties. I bought two or three bundles of imported plants as late as May last year. They were apparently dried up, and looked as if they would take a year or two to recover their vigour. They were carefully planted in teak baskets, with the result that every plant made strong growth by the end of the season. They were grown in the

Two points are absolutely essential in the culture of these plants, which are a period of growth, and one of rest; and while at rest water may be entirely withheld, unless, indeed, the young growths show signs of shrivelling—but this must not be allowed to go on to any great extent, and it is wise to afford a small quantity of water occasionally so as to prevent it. I have a stage erected against the back wall of a late vinery, and here it is that my *Dendrobium*s are placed. There is heat enough to keep the temperature well above the freezing-point, and the air is kept dry and buoyant in order that the Grapes may keep well. For nearly thirty years I have worked on this principle, and find that the late vinery, even with the Grapes hanging and the leaves on the Vines,

greenhouse, even if the temperature falls below 45° to 50°. I have had handsome specimens of *D. Wardianum*, and also of *D. nobile*, in full beauty as late as the middle of June, which have been kept in the cool vinery aforesaid until the end of March. In this way a succession of bloom may be kept up from *D. Wardianum*, *D. crassinode*, *D. nobile*, *D. Ainsworthii*, *D. Leechianum*, and all varieties of the *D. Ainsworthii* type, for fully six months, beginning in January. Of course, a certain number of plants are taken into the warm-house at regular intervals, in the same way as other plants are forced; and the plants that flower earliest in one year also flower the earliest the year following. Of course, as soon as they pass out of bloom the plants are re-potted

should they need it, and they are immediately placed in the warmest house to make their growth, and naturally those that are placed in this house the earliest make their growth first, and pass out into a cooler house first, and thence into the lateinery again. All Dendrobes should, when making growth, stand near the roof of the glasshouse, and have ample space in which to grow. I place all my varieties of *D. Wardianum* near the glass roof in teak baskets—no sticks are allowed; but the growths hang over the sides of the baskets, and the points of the growing shoots are generally within a few laches of the roof glass. These growths, when the plants have rightly passed through the various stages of growth, been inured to a cooler temperature, and afforded a rest of not less than two months' duration, are usually found to be studded with blossoms for at least two-thirds of their length. As an illustration of a different course of treatment, I may mention that, some fifteen years ago, I bought twelve plants which had made their growth in small pots and stood crowded together on the stage of a span-roofed house. The young growths on some of the plants were 3 feet in length; but owing, I assume, to the distance at which they stood from the glass and being crowded together, few flowers were produced the following season. I had them turned out of their pots, and planted three or four together in baskets made of teak, and in these they made splendid flowering specimens the next year. It goes without saying, that all Orchids require a season of growth, and a season of rest, and the cultivator who hits upon the right periods for these will be the most successful with them.

In respect of *D. Wardianum*, it is well known to cultivators that the plants do not retain their constitutional vigour for many years. When a plant begins to decline it should be turned out of its basket or pot, and the dead and rotten roots and stale compost removed and be put into a new basket of a smaller size, using the best Orchid-peat and fresh sphagnum-moss in about equal portions. *D. nobile* and the crosses raised from it do not decline in vigour where in the case of the latter *D. nobile* is the seed-bearer, but a great deal depends upon following up a regular routine of culture, and in being very careful that the plants receive no material check during the time that they are growing. There are now many fine varieties of *D. nobile*, and the crosses in which this species is the seed parent are also very numerous. *D. Wardianum*, Low's variety, is being annually imported, and imported plants may be purchased from half-a-crown a-piece and upwards, so that there is not much need to fret about their decline in vigour after five or six years. *J. Douglas.*

## THE WEEK'S WORK.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

**STEPHANOTIS.**—Permanently planted out in the stove, the *Stephanotis* grows well and flowers freely four or five months during the year; but if grown on balloons for show purposes, the plant is not so easily managed. Those which have been rested and wintered in a cool end of the stove or intermediate-house, ought now to be given attention. Repot them if necessary into good loam two parts, peat one part, and some coarse silver-sand, adding some charcoal broken in pieces. Pot the plant firmly, then untie the shoots, and remove the balloon or stakes. If roof space is available, place the specimen at one end of the house, and run the shoots all their length along the roof, 4 or 5 inches from the glass, using ordinary twine in the place of wire. When growth has been made, and the plants are well set with flower-buds, take down the threads and train the shoots on balloons or stakes. Do this three or four weeks before they are wanted, in order that flower and foliage may regain their natural appearance. Care must be taken while they are growing on the roof to direct the young growths. Attention thus given simplifies their removal to the balloon or stakes. During growth, the specimens may be much benefited by frequent applications of Clay's fertilizer, or liquid manure from the farmyard.

**THE CONSERVATORY.**—Where the stock of plants is sufficiently varied and large, there need be little difficulty experienced in keeping the conservatory gay. Amongst hard-wooded plants are the Australian species of *Acacia*, which under cultivation of the simplest kind will flower abundantly. If these are pot-bound, as may readily be the case, farmyard liquid-manure applied frequently will do the plants much good. If planted out, a top-dressing of good loam and decayed manure in equal proportions is very suitable. One of the finest *Acacias* for a conservatory border is *A. Riceana*, a graceful plant when not in bloom, but at this season and later it is certainly one of the best roof, wall, or pillar plants in the conservatory. Established plants possessing pendent shoots 2 to 3 feet long, laden with their golden-yellow bead-like flowers are very fine objects, and the flowers make fine material for "sprays," and for filling tall flower-glasses. Most species of *Acacia* are handsome when in bloom, being very floriferous, and of bright shades of yellow. They delight in fibrous loam two parts, one part hard peat, and enough sharp sand as will render the peat and compost sufficiently porous. If grown in warm conservatories, the *Acacias* are subject to be infested by thrips and red-spider; and to kill the former fumigation two nights in succession with tobacco-paper is necessary, unless when in bloom, when fumigation must not be employed, as it causes the flowers to drop. Against red-spider use flowers-of-sulphur intimately mixed with soft-water, and applied with a syringe, the sulphur being allowed to remain on the plants two or three days before cleansing them with clean water and the syringe. Another good and showy flowering plant is *Cliveia miniata* in its many varieties, plants that are now showing very effective, gorgeous trusses of flowers. All the varieties are of robust habit, and should be potted in good loam two parts, leaf-mould and sand one part. Whilst growing, the plant requires abundance of water at the root. Specimens of *Cliveias* not yet showing flower, but wanted in April or May for show purposes, should be placed forthwith in gentle heat; and those now pushing into flower may be placed in a cold greenhouse to retard them.

**AZALEA INDICA.**—The principal part of the stock of plants which are to be forced should now be showing for flower. *Azaleas*, if required in full bloom in the month of April, may now be introduced into a temperature ranging from 50° to 55°, and be syringed night and morning. If the plants are infested ever so little by red-spider or white thrips, apply, by means of the syringe, Fowler's insecticide at the rate of 4 oz. to 1 gal. of soft-water at a temperature of 90°. The more effectually to get at all parts of the plants, they should be laid on their sides, and small plants should be dipped overhead in a large deep tub of this mixture. Pot-bound *Azaleas* well on their way for flowering, if healthy, will be much assisted if they are afforded occasional waterings with mild liquid-manure. Forced plants, after flowering, should have all the spent flowers and seed-vessels picked off, and be repotted if this be needed. I rarely repot *Azalea indica* more often than once in two years, and in the case of full-sized specimens once in three years. As a potting compost for specimens, peat two parts, loam and silver-sand one part each, will be found very suitable. *Azaleas*, if not wanted in flower before the month of May or June, should be kept as cool as possible, and if they can be put in a house facing north, so much the better. Later on, weather permitting, they may even be turned out-of-doors in a shady place, merely putting a glass eash or sashes over them.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**FIG-TREES ON WALLS.**—Those trees which have been protected against frost may have the heavier portion of the protecting materials removed, and slighter protection afforded them for a short time longer, which will have the effect of gradually inuring the trees to the air, preparatory to being pruned and secured to the wall.

**THE FRUIT-ROOM.**—The fruit should be examined at frequent intervals, and those which show the least signs of rotting removed. Make note of the varieties that appear most suited to the locality, especially as to their flavour if dessert fruits, cooking quality if culinary, and the keeping qualities of all; making note of any varieties which may have become shrivelled by being immature when gathered, so as to avoid the mistake in the future.

**STRAWBERRIES.**—If the formation of new beds with the plants that have been forced is contem-

plated, the ground, weather permitting, should be trenched two spits deep, but keeping the lower spit in its place, mixing with it rotten manure if the soil is light; but if retentive, some that is partially rotted, in addition to old mortar, plaster, &c., road scrapings, and charred garden-refuse. The surface should be left rough as dug till planting is done.

**STANDARD TREES.**—Young specimens which were planted a year or two ago, when the necessary pruning is finished, should be fastened anew to their stakes, washing that part of the stem which was beneath the bands with soft-soap and water, to which a wineglassful of petroleum is added to each gallon. This will destroy any insects which may be hidden there. Do not use again any of the old tying materials, unless after dipping them in boiling water. The branches should be closely examined for American-blight, and if any be discovered the same mixture should be worked into the crevices of the bark with a stiff bristle brush. It will often happen that badly infested trees have the American-blight aphid on their roots, and it is always advisable to examine the roots by carefully uncovering them, and if the aphid be found there, the lower parts of the stem, and the larger roots should be washed with soap and water, and the soil about the roots drenched with the same, removing most of the soil and replacing it with fresh loam. No harm, but much good, will also be done by affording the soil a good soaking of gas-water, diluted with six times its bulk of clean water, which will be strong enough to destroy any of the insects it may come in contact with.

### THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorset.

**CHYSIS.**—The following epiphytal Orchids, *C. aurea*, *C. bracteata*, *C. laevis*, *C. Linnigheij*, and the distinct hybrid *C. Cheloni* are now fast developing their flower-spikes and young breaks, and will require more generous treatment in every respect. The plants must not be disturbed at the roots until after the flowers fade, when they will again emit new roots. At such time, afford plenty of drainage, and use a mixture composed of two-thirds sphagnum-moss and one of fibrous peat. During the summer, suspend the plants close to the glass in a shady corner of the Cattleya-house. Immediately the young leaves commence to unfold, they should be examined every day for small yellow thrips, for if these insects obtain a footing low down in the growths, it is exceedingly difficult to eradicate them, and the plants often refuse to make any further progress.

**CATTELEYA GIGAS AND C. WARNERI** will now be starting into growth; they should be placed at the warmest end of the house, and be afforded every encouragement until the flowers appear and growth is completed. The best time for repotting them is immediately the roots are seen pushing from the base of the new pseudo-bulbs, which is usually soon after their blooms fade.

**PACHYSTOMA THOMPSONIANUM** is a very pretty and interesting Orchid when in bloom. Being of West African origin, and from a moderately low elevation, it requires the hottest division. It succeeds admirably when grown in a small shallow pan, and suspended close to the roof-glass in the Cattleya-house. It is now commencing to grow, and if necessary, the plant may be given fresh material to root into. The pan should be half-filled with drainage, and use made of a compost of fibry loam, peat, and moss in equal proportions. When potting, keep the base of the bulbs just on the surface of the compost. When in full growth, the plant must be well watered each time it becomes dry, but carefully avoid keeping the soil in a saturated condition, or the small bulbs will decay. The species may be successfully propagated in the following manner:—If the plant is in good health, and there is no necessity for root disturbance, partially sever the rhizome between each of the old pseudo-bulbs with a sharp knife, and immediately some of the back eyes show signs of growing and rooting, the rhizome should be cut right through. Re-potting need not be effected until the following spring, when the severed pieces may with safety be divided, and placed in the smallest possible pots.

**INTERMEDIATE-HOUSE.**—Plants of *Oncidium incurvum* will require copious waterings until the flowers are fully open. The pretty *O. ornithorrhynchum* and its delicate variety, *album*, have already commenced to grow; as the young growths push out

their thread-like roots when only a few inches high, no time should be lost in affording them fresh material. Plants of *O. leucochilum*, of which there are several distinct varieties, are now in bloom. After the apikes have been open a few days it is advisable to cut them off, or the strain may affect the health of the plant for a considerable time afterwards. After the apikes have been removed, keep the plants rather on the dry side until growth recommences, when they may be repotted. Any plant of *Vanda cœrulea*, *V. Amesiana*, and *V. Kimballiana*, which requires more root-space should at once be attended to, growth having already started. Baskets (upright teak cylinders are the best receptacles for them in; as these allow of a free circulation of air amongst the roots, and this is indispensable to their well-doing. Plants that do not need re-basketing may have the old sphagnum removed, and be resurfaced with fresh material. Suspend them well up to the roof-glass in this house, and in the lightest and most airy position available. Abundance of water should be afforded throughout the growing season. Vandas of the *suavis* and *tricolor* sections should now receive a little extra water at the roots, their flower-spikes being just discernible. Every precaution should be taken that the plants are not placed in a position where they will receive drip from the roof, which accumulates at the base of the leaves, and causes the spikes to decay. These tall-growing Vandas require to be carefully protected from strong sunshine at all times, as they are liable to lose a number of their lower leaves if exposed for any length of time to the direct rays of the sun.

### THE KITCHEN GARDEN.

By C. HERRIN, Gardener, *Dropmore, Maidenhead.*

**MUSHROOM HOUSE.**—If beds that have been in bearing for a considerable time past begin to show signs of exhaustion, give them a good soaking with water at a temperature of from 80° to 90°; dissolve in the water about a tablespoonful of salt to each gallon as a slight stimulant. Use a watering-pot having a fine rose, and go over each bed three or four times, to make sure that the water penetrates the surface, which is not easy if the latter is rather dry. Any beds that are fully spent should be removed, choosing a warm day for the purpose, so that the door may be kept open without unduly chilling the remaining beds in bearing. If fresh manure has been prepared by frequently turning, as previously advised, the beds may be made and spawned at once. The soil, for casing the beds, should consist of good loam, and this must be in the house a day or two before it is applied, so as to get warmed. It requires to be spread over the bed rather more than half-an-inch in thickness, and be well patted down with the back of a spade. Ridges for Mushroom-growing in the open may also be made, and covered afterwards with dry, strawy litter 6 inches to 1 foot in depth, according to the weather. Continue to bring Seakale roots into this structure frequently in small quantities, so as to ensure a regular supply. Those roots left in the ground where they were grown, to produce the latest batch of Kale should now, or before growth commences, be well covered up, to exclude light. Fine leaf-mould laid on 9 inches in depth forms an excellent covering; or if the soil of the garden is of a light nature, this may be used.

**SEED SOWING.**—Another sowing of Turnips may now be made, giving preference to varieties of the Snowball type. Sow also a few seeds of Brussels Sprouts, Early London, Eclipse, and Autumn Giant Cauliflowers, and Self-protecting Autumn Broccoli, on a warm border.

**CAULIFLOWERS.**—Plants raised in the autumn and wintered under hand-lights or in frames may now be planted in a sheltered quarter of the garden. If hand-lights are in use, containing six plants each, the four corner plants may remain, and the others be transplanted to the open quarter, temporarily sheltering them with inverted flower-pots until established. Some of this stock of plants may be put out at the foot of warm walls, when, if well attended to in the matter of manure-water, they will produce excellent heads. Plants of Snowball or other early variety will now be ready for pricking-off at about 2 inches apart in other boxes or pans, or into a bed of soil in a frame on a slight hot-bed. The soil used should consist of some light kind, of which leaf-mould or old Mushroom-bed dung may form one-third, and it should be passed through a half-inch-meshed sieve. If there be space at command, some of them may be potted

in small 60's, and when grown on in this manner, they receive but little check when planted out. Air should be afforded the Cauliflower plants in sufficient quantity to prevent drawing, and to ensure starchy growth.

**VARIOUS.**—Carrots and Radishes in frames, where standing in a crowded condition, should be carefully thinned, and as neither are required of a large size, if they stand 1 inch apart it will suffice. After thinning them, afford a slight sprinkling with tepid water, and keep the frames rather close for a day or two. Potatoes in pits and frames sufficiently advanced should be afforded an earthing-up with light soil, freely ventilating them in mild weather. Cold winds have not been troublesome as yet, but in the event of their occurring, air should be given in the opposite direction to that from which the wind is blowing, and this applies to all frames containing tender vegetables. Peas that were sown in pots and on turves have made rapid growth, and will now be ready for planting out-of-doors. For the turves a drill should be drawn deep enough to lay the pieces in, pressing the soil firmly but gently up to the Peas. Those in pots should be planted with a trowel and line. After planting, all Peas should be staked without delay, and, if necessary, extra shelter may be afforded by putting a few Yew or Spruce branches on the colder side of the row. Broad Beans, sown in pots, should also be planted out, another sowing being made to follow those previously sown.

### FRUITS UNDER GLASS.

By W. POPE, Gardener, *Hitchlere Castle, Newbury.*

**PEACHES AND NECTARINES.**—In the early-house care must now be taken not to overcrowd the trees with young wood, but retain only what is sufficient for next year's fruiting, and for any desired extension of the trees. Shoots retained merely to induce sap to flow to the fruit, should be stopped at the second or third leaf, and the after-growths pinched to one leaf. Do not thin the fruit too severely at the present, in case a few should drop during the process of stoning; although if the trees are healthy, and in good condition generally, not much loss need be apprehended from this cause. In the final thinning, one fruit to each square foot of trellis will be sufficient to leave, if fruit of the highest quality be desired. Nectarines are often left much closer together, and this proportionately reduces their size. To secure the finest fruit they require just the same amount of space as Peaches. Keep the temperature at about 60° at night; or a few degrees lower in cold weather, maintain 65° by day with 10° to 15° rise by sun-heat, and close the house early at about 75°. Syringe the trees morning and afternoon in bright weather, to prevent red-spider getting a footing; but if this pest has already done so, syringe the trees with a mixture of soft-soap at a strength of 2 oz. to the gallon of water, or some other safe insecticide. Avoid cold draughts of air, and encourage the roots near the surfaces with mulchings of fresh, rich manure, and frequent waterings with tepid water. Trees started early in the year should now have dibbading completed. Any growths not required for furnishing the tree or extension should be stopped at the third leaf. Syringe the foliage regularly every morning and afternoon in fine weather, but sufficiently early that it becomes dry before nightfall. Thin the fruits gradually, removing first the smallest and those on the undersides of the branches. Keep a sharp look-out for aphides, and should any appear, fumigate the house on two or three successive nights. Trees started early in February will have set their fruits, and syringing should, therefore, be resumed. Dibbading should be done gradually, care being taken to retain a shoot near the base of the bearing shoots, and also beyond the fruit, which last must be stopped when three leaves have been made. Shoots required for extension should be laid-in thinly.

**TREES IN BLOSSOM.**—Syringing must be discontinued for a time, and sufficient moisture in the air maintained by damping all available surfaces in the morning and at closing time. The pollen may be distributed by sharply tapping the trellis in the middle of the day when the leaves are dry, or the flowers may be gone over daily with a soft brush, or a rabbit's tail tied to a stick. The temperature should not now exceed 45°, or 40° in cold weather, with 50° to 55° in the daytime. Allow as much ventilation as possible. Keep the latest trees very cool, so as to retard their flowering. Ascertain if the borders are thoroughly moistened, and should there be any suspicion of dryness, afford a good watering forthwith.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, *Aston Clinton, Tring.*

**TRANSPLANTING EVERGREENS.**—Although early autumn is the best season for this operation, where much transplantation has to be done, some of it is usually left over till the spring, notwithstanding a mild winter being likewise favourable for carrying out the work in the case of the hardier evergreens. The Laurels are most useful evergreens, generally succeeding where other species fail, and growing in almost any kind of soil, although most at home in one that is strong and retentive, if the drainage is good. For planting banks or forming a hedge, few evergreens are more suitable. *Prunus lauro-cerasus* var. *rotundifolia* is one of the best for the latter purpose, being compact in growth; it is also a suitable plant for the foreground of shrubberies, where by pruning, it may be kept at any desired height; although if the latter be a consideration, *P. l. colchica* is better. The last-named is free in growth, and soon affords shelter for less hardy plants. When planting is carried out at this season, the plants require to be copiously watered after being planted, and mulched with rotten manure. Aucubas, Box, Arbor-vitæ, Yews, as a rule, move well, having generally an abundance of fibrous roots, and in strong soils holding much about these.

**CONIFERS.**—*Picea Nordmanniana*, *Abies pinsapo*, and *Cedrus atlantica* are easily and safely moved if not very large or aged, and even their transplantation may be performed safely if care be used, and the necessary appliances, as a tree-lifter, &c. are at hand. For all choice specimens of Conifers, it is advisable to thoroughly prepare the stations beforehand, trenching them 2 feet deep, and adding new soil. Before the trees, if large, have all the soil put about them, large quantities of water should be thrown in among the roots, and then the remainder may be firmly packed around, but not covering the old ball by more than 2 or 3 inches in depth with new soil. A mulch is always desirable for newly-planted trees, and this may consist of leaf-mould, Mushroom-bed manure, &c. The trees, if tall, must be guyed, and this should be done in a manner that will cause no injury to the bark. If overhead syringings can be afforded the trees in dry weather until July or August, the formation of new roots will be quickened. Smaller trees and shrubs under 6 feet in height should be secured to three stout stakes in the usual manner.

**SEEDS.**—Bidding plants that have failed should be made good at once by means of a second sowing, and, if possible, the cause of failure ascertained, so as to avert future failures.

**BORDER CARNATIONS.**—Providing the borders have already been prepared, these plants may now be planted out. Select, if possible, a fine day for the operation, and make the soil thoroughly firm about the roots.

**LILIUM AURATUM BULBS** intended for use in the flower garden may now be potted up in suitably-sized pots. Use a compost of about two parts fibry loam, one part peat, and one part leaf-mould, adding sufficient coarse sand to keep the whole porous. If the soil be in a fairly-moist state when used, little or no water need be afforded until the bulbs show growth.

**ECHEVERIA SECUNDA GLAUCA.**—The old plants should now be trimmed, and all offsets removed. The latter may be dibbled thickly together in boxes or frames in light sandy soil; some of the largest may be used during the present season. Old plants are best potted singly into 3 or 4-inch pots, so that little or no check may be felt when they are planted out. Place the plants in cold frames for a few weeks, then gradually harden off.

**EARLY-FLOWERING CHRYSANTHEMUMS** may still be propagated, and cuttings that were rooted at the proper time will now need potting on. Keep these steadily growing until all danger of severe frost is over. Nothing is gained by planting them out too early, but there is the risk of their being destroyed or greatly injured by frost or cold cutting winds.

**SEED-LISTS.**—A List of Seeds Offered for Exchange for this year has been issued from the Science and Art Department of the Royal Botanic Gardens, Glasnevin, Dublin. From the Imperial Botanic Garden, St. Petersburg, is issued a similar *Delectus seminum*.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER. Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	MAR. 7	{ Isle of Wight Horticultural Meeting; Société Française d'Horticulture de Londres meet.
SUNDAY,	MAR. 8	{ Brussels Orchidéenne show.
MONDAY,	MAR. 9	{ United Horticultural Benefit and Provident Society, Annual Meeting in Caledonian Hotel.
TUESDAY,	MAR. 10	{ Royal Horticultural Society Committee's show in Drill Hall, Horticultural Club meet.
FRIDAY,	MAR. 13	{ Royal Botanical and Horticultural Society of Manchester show (two days).
<b>S A L E S.</b>		
MONDAY,	MAR. 9	{ Continental Plants, Tuberoses, Begonias, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	MAR. 10	{ Carnations, Lilliums, Herbaceous Plants, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	MAR. 11	{ Imported and Established Orchids, at Protheroe & Morris' Rooms.
FRIDAY,	MAR. 13	{ Japanese Lilies, Palm Seeds, Continental Plants, Roses, Gladioli, &c., at Protheroe & Morris' Rooms.
		{ Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.
		{ Hardy Perennials, Clematis, Anemones, Paeonies, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41° 9'.

It is rather remarkable, considering its extreme importance, how few books there are in this country devoted to this subject. The treatises of DARWIN, WALLACE, and others, which have excited so much interest in the scientific world, and which have revolutionised thought during the last thirty years, are not adapted for gardeners' use. The number of the craft who have read and mastered any of KNIGHT'S classic memoirs or DEAN HERBERT'S papers on hybridisation, which preceded DARWIN'S work by many years, are, we suspect, extremely few. Mr. BURBIDGE'S book on *Cultivated Plants*, barring sundry faults of arrangement, which do not materially interfere with its value, remains, and long will remain, a classic. It does not redound to the credit of the gardening community that so valuable a book should be allowed to remain in its first edition. Although not up to date, it comprises a body of information on the methods adopted for the amelioration of plants not to be found in equal amount in any other book known to us.

Professor L. H. BAILEY, of the Horticultural Department of Cornell University, Ithaca, N.Y., has now reprinted in one whole some lectures which he has given on various occasions on subjects dealing with the general principles of plant amelioration as viewed in the light of evolution. We commend this little treatise, which may be had from Messrs. MACMILLAN for a small sum, to the notice of all thoughtful practitioners, in the assurance that if digested and acted on, much fruitless labour will be avoided, and system and method introduced where now too much is left to chance. The subjects discussed are: variation and its causes, the struggle for life, the division of labour, the principles and practice of crossing. As an appendix, Professor BAILEY reprints the valuable lists of bud-variations drawn up many years ago by CARRIÈRE and VERLOT, but omits the

additions to them made in DARWIN'S *The Variation of Animals and Plants under Domestication*. As these papers are not very accessible, Professor BAILEY has rendered good service by repeating them, as also by translating and reproducing one of the chapters in Dr. FOCKE'S work on hybrids. There are many points which invite attention did our space permit it, but we may allude in passing to the acknowledged rarity of hybrids in nature. Prof. BAILEY, who is an authority on *Carex*, says that that large genus, though apparently favourably endowed for purposes of cross-fertilisation, produces few hybrids. We can say the same of the nearly-allied *Restiaceæ*. On the other hand, hybrid Orchids are more numerous, and one reason for the difficulty of identifying *Passifloras*, especially *Tacsonias*, probably arises from the way in which they intercross. These latter flowers are fertilised by insects, or perhaps also by humming-birds, whilst the *Carex* flowers, like the *Restias*, are, we presume, wind-fertilised. We cannot now do more than refer to Prof. BAILEY'S own experiments with *Squashes* (Vegetable-Marrows), Egg-plants, and other plants, which are very interesting. "And now," he says, "the sum of it all is this: encourage in every way crosses within the limits of the variety, and in connection with change of stock; expecting increase in vigour and productiveness; hybridise if you wish to experiment, but do it carefully, systematically, thoroughly, and do not expect too much. Extend DARWIN'S famous proposition to read: "Nature abhors both perpetual self-fertilisation and hybridisation." The Professor lays great stress on the necessity for the experimenter having before him a clear idea of what he seeks to obtain, and what are the most likely methods of accomplishing it. To this end he lays down certain rules, which we reprint, referring the reader to the original for the comments by which each rule is accompanied.

1. Avoid striving after features which are antagonistic or foreign to the species or genus with which you are working.

2. The quickest and most marked results are to be expected in those groups or species which are normally the most variable.

3. Breed for one thing at a time.

4. Do not desire contradictory attributes in any variety.

5. When selecting seeds, remember that the character of the whole plant is more important than the character of any one branch, or part of the plant; and the more uniform the plant in all its parts, the greater is the likelihood that it will transmit its characters.

6. Plants which have any desired characteristics in common may differ widely in their ability to transmit these characters.

7. The less marked the departure from the genus of the normal type, the greater, in general, is the likelihood that it will be perpetuated.

8. The crossing of plants should be looked upon as a means or starting-point, not as an end.

9. If it is desired to employ crossing as a direct means of producing new varieties, each parent to the proposed cross should be selected in agreement with the rules already specified, and also because it possesses in an emphatic degree one or more of the qualities which it is desired to combine; and the more uniformly and persistently the parent presents a given character, the greater is the chance that it will transmit that character.

10. Establish the ideal of the desired variety plainly in the mind before any attempt is made at plant-breeding.

11. Having obtained a specific and correct ideal, the operator must next seek to make his plant vary in the desired direction.

12. The person who is wishing for new varieties

should look critically to all perennial plants, and particularly to trees and shrubs, for bud varieties or sports.

13. The starting point once given, all permanent progress lies in continued selection.

14. Even when the desired variety is obtained, it must be kept up to the standard by constant attention to selection.

15. It is evident, therefore, that the most abiding progress in the amelioration of plants must come as a result of the very best cultivation, and the most intelligent selection and change of seed.

**ALPINIA NUTANS.**—Our illustration, fig. 42, p. 301, shows a plant of a genus not common in English gardens, but frequently met with on the Continent. The *Alpinia* (*Globba*) form a rather large genus of stove, herbaceous perennials of much beauty of flower, and elegance of habit. The flowers are disposed in terminal spikes, those of *A. nutans* being pink coloured, of agreeable fragrance, and the spike drooping. The leaves are lanceolate, smooth, entire, and sheathed at the base. The roots are fleshy, like most *Zingiberaceæ*, and have much the taste and aroma of ginger. *Alpinias* require a high temperature, rich soil, and plenty of root-space, therefore they succeed better when planted in borders or large tubs; and frequent applications of liquid-manure and rich mulches are essential to vigorous growth, and without this flowering is poor, or altogether repressed. Soon after flowering the leaves assume a yellow tinge, and water should be withheld, but much drying off must not be practised. They must not be exposed to less heat when at rest than at other times. The flowers appear in May. We are indebted to the kindness of the Marquise Strozzi, Florence, who sent us a photograph, for the opportunity of furnishing our readers with a figure of *Alpinia nutans*.

**ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, March 10, from 1 to 4 P.M. A lecture on Melons will be given by Mr. JAMES BARHAM, at 3 o'clock.

**NATIONAL ROSE SOCIETY.**—A meeting of the General Purposes Committee will be held, by kind permission of the Horticultural Club, at their rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 10th inst., at 2 P.M. Another meeting will take place at 3 P.M. of the Committee. The business to be transacted at the earlier meeting consists of a discussion on the supplement to the catalogue, and other matters. An essay will be read on "Hybridisation of Roses." At the later meeting, reports will be presented by the General Purposes Committee, and the Schedule Committee, &c.—Special Prizes. Offers of special prizes to be awarded at the Crystal Palace will be thankfully received. The following have been already promised:—

"An Amateur" ... ..	£16 0 0	and two Silver Cups.
Messrs. Bunyard & Co. ...	5 0 0	
Mr. B. R. Cant ... ..	5 0 0	
Mr. R. H. Langton ... ..	3 0 0	
Mr. H. V. Machin ... ..	5 0 0	
Mr. E. Mawley ... ..	2 0 0	
Mr. O. G. Orpen ... ..	2 10 0	
Mr. C. E. Shea ... ..	2 0 0	
Mr. J. T. Strange ... ..	2 0 0	
Veitch Memorial Committee	10 0 0	and two Medals.

H. HONYWOOD D'OMBRAIN { Hon. Secs.  
ED. MAWLEY }

**HONOURS TO THE GARDENING PROFESSION.**—An appointment has been made which is unique, and may not again occur. About a year ago, Mr. F. N. SHAPE, of Wisbech, the junior partner in the old-established firm of H. & F. SHAPE, seed-growers and nurserymen, of Wisbech, was appointed High Sheriff of the joint counties of Cambridgeshire and Huntingdonshire, and Deputy-Lieutenant of the former county; his brother, Mr. HENRY SHAPE (the senior partner), having been appointed three years previously to the same office. "This, I believe," says our informant, Mr. S. W. MITFORD, "is the only instance in England and Wales where a High Sheriff is appointed for two counties."

LONDON WHOLESALE FRUIT AND POTATO TRADES AND GROWERS' BENEVOLENT SOCIETY. — Mr. GEORGE MONRO writes:—"I have the pleasure to inform you that I have consented to

Although only established about three years, the necessity of the society is evidenced by the applications for help which have already been sent in; and it is a source of much satisfaction to me to be able

the other, the widow of a grower who had attended Covent Garden Market, 10s. a week. Seeing so short a time has elapsed since the formation of the society, I think you will agree with me that it is



FIG. 42.—ALPINIA NUTANS. Colour of flowers pink. Height to which a plant will grow, 12 feet. (See p. 300.)

preside at the annual Festival Dinner in aid of the funds of this society, to be held at the Holborn Restaurant on March 10, and as I am most anxious that the occasion should be a marked success, I very earnestly solicit your kind aid and co-operation.

to state that three deserving candidates, whose cases were of an urgent character, are now, to their great comfort, being assisted from its funds—two, who were formerly salesmen at Covent Garden and King's Cross, receiving pensions of 15s a week each; and

doing an excellent work, and one which commends itself to all those who are charitably disposed. In following such chairmen as my predecessors, viz., Sir STEART KNILL, the Hon. W. F. D. SMITH and Sir SAMUEL MONTAGUE, I cannot overlook the fact

that my task must necessarily be a somewhat difficult one; but I feel sure, as this will be the first festival at which a member of the trade will occupy the chair, I may confidently anticipate your practical sympathy and support. You are probably already a subscriber to the society, and I trust you will be present at the dinner. Should you, however, be unable to attend, I very earnestly appeal to you to induce your friends to send me a donation or annual subscription; and under the special circumstances I have mentioned, I beg you, in addition to your kind annual gift, to forward me a contribution to my dinner list in such proportion as you may be inclined. If, in my anxiety on behalf of the society whose claims I have to advocate, I may seem to be a little importunate, I would remind you that, "in the sacred cause of charity, extortion is a virtue." *Geo. Monro, Covent Garden.* [We sincerely hope that there may be many victims of this form of importunity.]

**GARDEN CINERARIAS.**—The *Revue Horticole* holds to the opinion that our garden Cinerarias are the result of the crossing of *Senecio cruentus* with *S. populifolius* in the first instance, and subsequently of further crosses with various species from the Canary Islands and Madeira.

**THE LATE DR. W. R. WOODMAN.**—The committee of the Woodman Memorial Fund propose to erect a memorial over the grave, and to make a further tribute to the memory of this well-known horticulturist, in the shape of an offering to the widow. Mr. SHERWOOD is Chairman of the committee, the Treasurer is Mr. E. J. JARMAN of Chard, and the Hon. Secretary, Mr. W. NAPPER, 489, Kiog's Road, Chelsea. Numerous subscriptions, ranging from 2s. 6d. to £1 1s. have been received.

**THE ANCIENT SOCIETY OF YORK FLORISTS** is a vigorous institution, and in addition to the shows annually held under its auspices, arrangements are provided for the discussion of horticultural subjects by its members. The annual report for 1895, and fixtures for the present year, are before us. The first show will be held on April 22, and the others on May 20, July 1, August 5, and September 2. These are for members only, but in addition there is held a great Chrysanthemum and fruit show, which includes classes open to all. This will take place on November 18, 19, and 20. There are ten occasions when papers will be read and discussion invited. It is satisfactory to find that the Society is stronger and more useful than ever.

**PRECIOSA: A NEW HYBRID TEA ROSE.**—This is offered for sale by Mr. L. VIEVEG, Quedlinburg, as a new Rose, flowering the whole season. It is stated to be the result of a cross between *Niphotos* and *Madame Pierson*, H.P. The flowers are described as glowing-carmine, very fragrant. "Preciosa is in spring the first in bloom, and in autumn the last."

**GARDENERS IN THE UNITED STATES.**—Mr. ROBERT FARQUHAR, the son of our old correspondent, whose death we recently recorded, sends us from Baton, United States, a paper which he read before the Gardeners' and Florists' Club of that city. The subject was "The Profession of Gardening in the United States, what it is, and what it may become." Mr. FARQUHAR traverses well-known fields, and concludes by proposing the formation of an American gardeners' association, the chief object of the society being the "ennoblement of the profession of gardening." The association is to comprise a board of examiners, consisting, say, of five of the best and most respected head-gardeners, men of acknowledged ability, who would proceed to test the ability of the candidates to dig, transplant, pot, prune, &c. Acquaintance, or the want of it, with plants, varieties, seasons of sowing, soils, and methods generally could be ascertained by oral examination. Candidates succeeding in this examination should receive a diploma, and be registered on the list of gardeners seeking situations.

**TECHNICAL INSTRUCTION IN HORTICULTURE IN ABERDEENSHIRE.**—The course of lectures on horticulture which is being given at Kintore, Aberdeenshire, by Mr. JAMES WILSON, F.R.H.S., the County Council lecturer, was resumed on Tuesday evening, February 25th, the subject for the evening being the cultivation of garden vegetables, which, in the capable hands of Mr. WILSON, proved very interesting and instructive. The lecture was, as usual, fully illustrated by means of diagrams and charts, and was listened to most attentively by the audience. The course was concluded on Thursday evening, following, when Mr. WILSON'S subject was, "Gardening as a Recreation." This was, perhaps, the most interesting lecture of the course. Mr. KEYS, who occupied the chair, in proposing a vote of thanks to the lecturer, spoke to the value of the instruction given, and to the interest manifested in the subject. Although this course of lectures is a new departure in the Aberdeen County Council's scheme for disseminating technical instruction, it bids fair to become a very popular and instructive one, the lectures having been very generally appreciated.

**'LES FONDERES, ORGANOGRAPHIE ET CLASSIFICATION,** par MM. HOOKER, BAKER et SMITH, is the title of a very good and well-illustrated translation of the useful work on Ferns so well-known to students in England. The French translation is by M. CHAS. MARON, and notes are appended from the pens of MM. L. FODANIER, of Marseilles, and MARON. The work is published by M. OCTAVE DOIN, Place de l'Odéon, Paris, and being illustrated by about 320 figures, it should do much to extend the culture of Ferns, so as to take in the botanical species more largely than they at present appear in continental gardens.

**CHITRAL FERNS.**—We are glad to see that military exigencies did not stand in the way of attaching botanical collectors to the Chitral expedition. In the current number of the *Journal of Botany* is an article by Mr. W. C. HOPE on the Ferns met with *en route*. Perhaps we may hear similar good news from the Ashanti expedition. The deletion of botany from the studies of medical men may in future operate injuriously in this matter. Formerly all medical students had to make themselves acquainted with some amount of botany, and a reference to the history of botany, especially in India, will show how very large a proportion of botanical work was done by medical officers.

**TASMANIAN FRUIT.**—We are advised that the first steamer with fruit from Hobart, is the Orient Company's steamer *Orinoco*, sailing about February 25, and due here about April 10; also that the vessel will be followed weekly by steamers of the P. & O. and Orient lines, until about the end of April. The total shipment for the season of both company's steamers is expected to be about 178,000 boxes.

**ROYAL GARDENERS' ORPHAN FUND.**—The first meeting of the Committee was held after the annual general meeting took place on February 28, at the Horticultural Club. Mr. WILLIAM MARSHALL was unanimously re-elected Chairman of the Executive Committee for the year ensuing. The minutes having been read and confirmed, the Secretary reported the results of the recent election, and guardians were appointed for several of those elected on the Fund. The Secretary announced special receipts as follows:—Mr. M. Todd, Maitland Street, Edinburgh, sale of flowers at Chrysanthemum show, £20; Mrs. Wills, Oslow Crescent, S.W., £5; Midland Carnation and Picotee Society, per Mr. R. Sydenham, £5; Mr. J. Hughes, High Street, Harborne (box), £1 17s. 3d.; Mr. H. Percy Dodson, Courtfield Gardens, S.W., £1 1s.; Penhurst Gardeners' Assoc. (Mr. E. Baker, Sec.), £1; collected from the Axminster Gardeners' Association, by Mr. J. Crooke, Chard Abbey, Chard, 17s. 7d.; Mr. R. Vanstone, Clive Nursery, Exeter, 16s.; Mr. W. P. Pearce, Belmont, Lee, 12s. 6d.; Mr. W. Whittaker, Stocklands, Bridgwater, 10s.; Mr. H. Perkins, Greenlands, Henley (box), 10s. Mr. F. Roberts, The Gardens, East Cliffe Lodge,

Ramsgate, was elected local Secretary, in the place of Mr. J. M. Miller of Margate, who had resigned; and Mr. R. Weller, The Gardens, Glenstall Castle, Nurree, was elected local Secretary for the Limerick district.

**COMING EXHIBITIONS.**—We have just received the schedule of Prizes to be awarded at the Wolverhampton Floral Fête, to be held on July 7, 8, and 9 next. The extent of the exhibition is likely to be larger even than usual. There are 100 classes including sections limited to amateurs, cottagers and gentlemen's gardeners, in addition to the open ones. For the important exhibits of sixteen stove and greenhouse plants, and a group of plants arranged for effect, the 1st prize in either case is £20. In the classes for Roses, fruit, &c., the committee are equally liberal, the prizes offered in the class for a collection of fruit being equal to £19. The horticultural secretary is Mr. W. A. GREEN, Jun., Corporation Street.

THE ECCLES, PATRICKGOTT, PENDLETON, AND DISTRICT CHRYSANTHEMUM SOCIETY held their annual meeting on the 24th ult. It was decided to hold their show this year on November 13 and 14.

THE BEDDINGTON, CARSHALTON, AND WALLINGTON HORTICULTURAL SOCIETY have arranged to hold their exhibition on Monday, August 3, in Carshalton Park.

SHROPSHIRE HORTICULTURAL SOCIETY.—The spring show under the auspices of this far-famed Society, will take place on Wednesday, March 25. The prizes are for spring flowering plants and bulbs, and there are forty-three classes, of which twenty-two are open ones. The great floral *fête*, Aug. 19 and 20, with its 190 classes, promises to be again one of the finest exhibitions of horticulture in Britain. We have not space to notice the schedule at length, but may mention only a very few of the most important of the classes. The groups of plants arranged for effect at Shrewsbury, are unsurpassed anywhere, and we notice that great encouragement is again given by the committee to exhibitors of these. The 1st prize in this class is £25, and the total sum of the four prizes is £63. Twenty-five pounds are also offered for the best collection of twenty stove and greenhouse plants. The best prize in the section for cut flowers is offered for a display of floral arrangements in a space 12 feet by 5 feet, this class accounting for £35. Turning to the fruit section, we find that the class for a "decorative table" of dessert fruits, of which we had occasion to speak favourably last season, again constitutes the principal competition. The four prizes are awarded in guineas, the winner of the 1st taking 15 guineas and a gold medal, of the 2nd 12 guineas, the 3rd 8 guineas, and the 4th 5 guineas. A list of fruits is given from which may be selected sixteen dishes for exhibition. The exhibits are to be judged by points, and the point value of each fruit is given in the schedule. The highest number of points for a bunch of Grapes or dish of fruit is that of ten to the Pineapple, black or white Grapes may receive six; Peaches, Apricots, and Nectarines, eight; and all other fruits, six. Twenty-four points may be awarded to different features in the arrangement of the exhibit. The number of points awarded to each collection will be placed on the exhibits obtaining the prizes. Entries should be made on or before August 12. The Hon. Secs. are H. W. ADMITT and W. W. NAUNTON.

CHESTER SUMMER FÊTE.—We have received the schedule of prizes to be offered at the horticultural show to be held in connection with the Summer Fête at Chester on August 5 and 6. The Chester people have awakened suddenly to a sense of their opportunities, and are now [with the Duke of Westminster as their president] displaying very great energy and speculation, in the hope of establishing a horticultural show on the lines of the successful exhibitions held annually at Shrewsbury and York, and latterly at Wolverhampton. As already announced, Chester was the first society to invite the Royal Horticultural Society into the province since the recent discussion upon this subject, and it is equally well known that Chester is one of the places that the Royal Horticultural Society has decided to honour with a deputation during the present

year, though it is less certain what power that deputation will be invested with. One of the most valuable of the disbursements the deputation will have at its disposal is a silver cup valued at £10, which a member of the Council of the Royal Horticultural Society has offered to celebrate the event of the Society thus patronising the provincial shows. Endeavours are being made to arrange a horticultural conference, to take place on the evening previous to the exhibition. The schedule embraces 117 classes, large and small, and is much similar to that of older societies. The thoroughness with which the committee have entered into the affair may be calculated by the high prizes in the principal classes that are offered on this first occasion. The class for a group of plants is allowed £55, the winner of the 1st prize taking £25. It is expected there will be considerable competition in the class for a group of Orchids occupying 150 square feet.

PLANT PORTRAITS.

- BOLBOPHYLLUM CARINATUM VAR. COGNIAUXI.—A new species from Borneo, remarkable for its attractive foliage and curious flowers. *Lindenia*, t. CDXCIV.
- CATASETUM FIMBRIATUM VAR. COGNIAUXI, *Lindenia*, t. CDXCIX.
- CATASETUM PUNCTATUM, Rolfe, *Lindenia*, t. CDXCVI.
- CATTLEYA [MOSSIE] ALICIE, L. Linden.—A lovely form with white segments, the frilled lip being carmine, with a white edge. At present the plant is unique. *Lindenia*, t. CDXCIV.
- CATTLEYA SKINNERI, Lindl., var. oculata, *Lindenia*, t. CDXC.
- CYPRIPEDIUM AYLINGI X, Stand Hall variety.—A cross between *C. niveum* and *C. ciliolare*. *Lindenia*, t. CDXCVIII.
- CYPRIPEDIUM EVENOR X.—A lovely hybrid, whose parents were said to be *C. Argus* and *C. bellatulum*, whilst others suppose it to be the offspring of *C. Argus* and *C. concolor*. *Lindenia*, t. CDXCVII.
- LELIO-CATTLEYA SCHULZIANA X, L. Lind.—A cross between *Lelio-Cattleya elegans* and a variety of *Cattleya labiata*. *Lindenia*, t. CDLXXXIX.
- ODONTOGLOSSUM CRISPUM, VAR. LUTEO-RADIATUM.—A form in which each of the pure white perianth segments is traversed with a central gold-coloured band. *Lindenia*, t. CDXCII.
- ONCIUM ONUSTUM Lindley, *Lindenia*, L. CDXCVIII.

COMING OF AGE OF MR. E. G. MONRO.

ON Saturday, February 29, Mr. G. Monro, the well-known salesman of Covent Garden Market, entertained the whole of his staff, together with the members of his family, the leading senders and customers with whom he has business connections, and a few friends, at a dinner, at Simpson's Divan, to celebrate the majority of his eldest son—Mr. Edwin George Monro. It is rarely seen that the head of an important commission salesman's business, with his working staff of all grades, meet at the same social board, together with the capitalists who produce the goods, and the wholesale traders who purchase them. Still rarer is it to find both producer or sender and buyer vying with each other in evident sincerity in paying tribute to the middle man, whose integrity and business capacity they unite in praising, and whose difficult

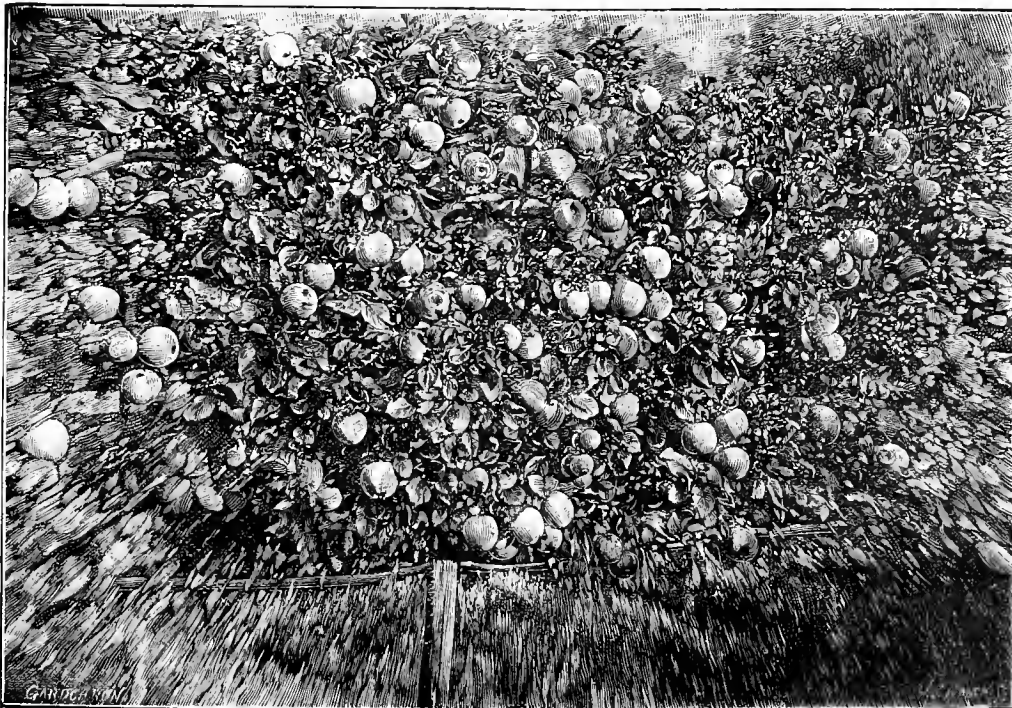


FIG. 43.—ESPALIER TREE OF PEASGOOD'S NONSUCH APPLE, AS GROWN AT EAST SUTTON PARK.

The prizes are £20, £15, and £10. The 1st prize for twelve stove and greenhouse plants is £15. The principal class in the cut flower section has been provided for with equal liberality. There is to be a tasteful arrangement of fruits as for dessert at Chester, and £30 will be awarded to the three best exhibitors. About forty-three classes have been reserved for cottagers. On the whole, the effort promises to meet with unequalled success, which we hope it may secure. The hon. secretary is Mr. J. WYNNE FEOLKES.

NEW PUBLICATIONS.—A Contribution to our Knowledge of Seedlings, by the Right Hon. Sir JOHN LUBBOCK, Bart., M.P. Popular edition. (KEGAN PAUL, TRENCH, TRÜBNER & Co.)—The Spraying of Plants, &c., by E. G. LODEMAN. (MACMILLAN & Co.)—Manuel Pratique de Culture Fourragère, C. & H. DENAÏFFE. (Paris, BAILLIÈRE.)—Nouveau Dictionnaire des Plantes Médicinales, par Dr. A. HERAUD. (Paris, BAILLIÈRE.)—Thirteenth Annual Report of the New York Agricultural Experiment Station.—Ausländische Kultur Pflanzen, with atlas, by KARL BOLLMANN. (HERMANN SIPPPEL.)

- RHYNOSTYLIS RETUSA, Blume, better known as Saecolabium Blumei, *Lindenia*, t. CDXCIII.
- STAUROSPIS LISSOCHILOIDES, alias Vanda Batemani, *Lindenia*, t. D.
- VANDA SPATHULATA, Sprengel.—A golden-yellow Vanda, growing from Mysore to Ceylon, long known to botanists, but not familiar as yet to cultivators. *Lindenia*, t. CDXCI.

PEASGOOD'S NONSUCH APPLE.

WE had recently the pleasure of illustrating a bush of Cox's Pomona Apple, as grown in the gardens of Thomas Oliveron, Esq., East Sutton Park, Staplehurst. By our illustration (fig. 43) is represented an espalier tree of the variety Peasgood's Nonsuch, from the same garden, equally remarkable for its excellent crop of large-sized and well-coloured fruits. This large exhibition variety is so well known, that no description is needed here, but Mr. Lewis, the gardener at East Sutton Park, may be congratulated upon such successful Apple culture as the photographs portray. Some of the fruits measured 1 foot 3½ inches in circumference, and they were exceedingly well coloured,

and delicate position they fully appreciate. No finer tribute could be paid to any man's character for honest dealing and to his business ability after a twenty-five years' business acquaintance. This notable appreciation and real good-will found expression in various presentations that were made and in the good-will shown toward the son. First the growers, represented by Messrs. Sweet and Kay, gave a handsome and massive gold albert chain and a ruby and diamond pin and stud; next, the buyers, represented by Messrs. Brooks and Webber, gave a useful case of table cutlery, evidently with an eye to the near future. Then the staff, ably represented by Messrs. North and Phillips, gave a dining-room timepiece, together with a handsomely-framed illuminated address, the work of one of their members, Mr. James, and signed by the fifty-seven employes. Amongst other presents were a valuable gold watch by Mr. Randall, and an umbrella and walking-cane by the Manchester friends. The speeches by the gentlemen making the presentation, and the response by Mr. E. G. Monro, were marked by earnestness and discretion.



The toast—the Health of the Chairman and giver of the feast, was entrusted to Mr. Butt, who happily and worthily performed the agreeable task. Mr. Monro's reply was full of feeling and earnestness, and his well-chosen words in praise of his staff indicated much personal interest in their welfare. The songs and recitations by the members of the company enlivened the evening, which was happily spent, and terminated by a verse or two of "Old Lang Syne."

## HOME CORRESPONDENCE.

**LARCH DISEASE.**—I have many Larch plantations of ages varying from ten years old to forty or fifty, which are quite free from disease, and growing healthily. I have others of similar ages which are more or less diseased. Your correspondent, "J. S. W." says that the disease is universal, and does not depend upon favourable or unfavourable conditions. What does "J. S. W." consider that it does depend upon? The Japanese Larch (*Larix leptolepis*) is hardy and healthy with me, and I have a good many seedlings from it, but it is said to be a smaller tree than the Swiss Larch, and it seems to be a slower-growing tree. The red and black American Larches are neither of them so good for general planting as the common Larch. The red Larch in some soils grows as fast as the common Larch, and to as large a size, but the timber is not so good. The black Larch is a swamp tree in America, and only thrives with me in wet sandy soils, and there it grows slowly. I do not know what is the quality of its timber. *C. W. Strickland.*

**THE TIMBER OF THUYA GIGANTEA OR LOBBI.**—Your correspondent, pp. 200 and 242, do well in calling attention to this valuable and quick-growing Conifer. On the estate on which I am employed, some hundreds of them exist, growing in very varied kinds of soil—in soft clay, on chalk, and in wet swampy places—and in all they are equally hardy and healthy. The plant can be easily propagated by cuttings, layers, or seeds, and 18° of frost, with a strong wind, which seared the common Yew on our hill-sides, did not mark the *Thuya gigantea*. As your correspondent, p. 242, makes allusion to the woods at the Colonial exhibition, I may say that I particularly noticed the polished shaft of *Thuya gigantea* in the Canadian collection, and thought it was one of the handsomest woods exhibited. *R. M., Newbury.*

**SNOWDROPS** have been fine this year. A great breadth of the turf under the trees is carpeted with them. The newer kinds do not, as a rule, increase very fast. I had a fine lot of *Galanthus Fosteri* two years ago, and was in hopes to get it strongly established, but disease appeared among the bulbs in 1892-1893, and nearly exterminated them. I suppose plants are in some respects like animals—the more highly they are bred, the less they are fitted to take care of themselves. *D. M., Dunrobin.*

**GLADIOLUS, HARDY.**—Your correspondent, "A. D.," at p. 208, says that these Gladioli "do not suffer from frost." Perhaps they do not, but they are certainly killed outright by it. Has "A. D." ever tried the experiment of exposing a choice collection of these valuable flowers? Surely not! If so perfectly hardy, why does every gardener lift them each year, and put them in a place "secure from frost?" Mr. Kelway, of Langport, says frost is harmful; and I supposed this fact to be commonly known. Some of the species and the *Lemoinei* section are hardier, but the latter are not absolutely so in all localities. A year or two back many thousands of *G. Colvillei* albe, which were in a cold frame and covered thickly with litter, were killed outright by frost; and even the well-known *Brenchleyensis* cannot be safely left in the ground during a severe winter. *J.*

**RULES OF JUDGING.**—The matter adverted to by "Judex" (p. 242) will no doubt receive the fullest attention in due course. So far, however, as relates to what he regards as defining quality, intrinsic worth, difficulty of cultivation, &c., it must not be forgotten that these are points to which intelligent and capable judges will always give weight in making awards. It does not of necessity follow that all the dishes in opposing collections should be identical, but, all the same, let these collections be ever so large, very many of the dishes will be of identical

kinds or varieties; but section 50 practically includes every description of fruit specially exhibited for competition. The points placed against each kind simply convey not so much actual as relative value; and in Grapes, for instance, whilst, with the exception of Muscat of Alexandria, always the highest flavoured, and one of the finest and handsomest of show Grapes, the giving to other white Grapes and all black Grapes a maximum of nine points is but a guide as to the merits of the very best specimens in each case, and whether white or black, if really first-rate they deserve the highest number of points, as if by second or third-rate, whether in quality or in finish, they can be pointed as low down as may be found desirable. Surely with a table of maximum points, as is found in paragraph 50, to indicate relative values, there should not be the slightest difficulty in coming to a right conclusion as to the relative merits of two or several competing collections of fruit. If all judges start from the same maximum, then some uniformity in judging may be eventually looked for. *A. D.*

**THE LITERATURE OF GARDENING.**—At first sight, this may appear to be a somewhat formidable heading! the object, however, is not to write an essay on a subject that commences with the earliest historic period, but to call brief attention as to what might be called an expansion of book (gardening) knowledge, amongst the younger members of the craft particularly. It must have often struck those who are given to thinking at all on the matter as to the (perhaps inevitable) high price of good books on gardening matters, books that should be in the possession of every young man who has made gardening his vocation, and means to excel in it. To illustrate what I mean, take the *Gardeners' Assistant*, by the late Robert Thompson of which it was announced some time ago that an up-to-date issue was being prepared—an issue that will be very eagerly looked for. Its very price, however, thirty-five shillings, prohibits its general possession by those to whom it directly appeals as a work that has been well-described as the most comprehensive one in the English language on the many subjects it treats. It is to be earnestly hoped that the publishers of the new edition may see their way to considerably reducing its price; such an enterprising policy would have the much-to-be-desired effect of increasing its circulation. This work was issued in parts, which perhaps, in a measure, mitigated the evil, but it is the experience of those who have anything to do with taking such publications by this method, that in the end this is an expensive way of purchasing books, and oft-times the buyers tire of the matter and never complete the purchase, and so all interest is unfortunately lost. In connection with a few *Gardeners' Improvement Associations* (whose rapid growth of recent years is a most satisfactory sign of the times), notably, the Birmingham Association, there is a library in which may be found all the best gardening books published, affording a real treat to those of a literary turn of mind, and who are likewise anxious to be well read in all that concerns their daily avocations, affording them, too, a profitable occupation of time that might be less auspiciously employed in these times of particular temptation to young men. It is Montesquieu, the famous writer, who has given expression to the opinion that "Study is a remedy against the ills of life; there is no vexation which an hour's reading cannot mitigate." Could not the library idea be extended to every gardeners' association in the country? The fee at present attaching to membership of these is but a nominal one, and a slight increase upon it would form the nucleus of a sum which could be spent annually in purchasing some reliable book or books which would be the common property of all, obtained at small personal sacrifice, and be the means of diffusing much horticultural light in what are at present dark places. In these days of universal education, when, indeed, knowledge is power, gardeners (of all professions) must not be behind in a thorough acquisition, theoretically and practically, as to the *pros* and *cons*, of that by which they subsist, and any scheme, library or otherwise, having for its main object the attainment of such a desirable end is well worthy of serious attention. *J. B.*

**DENDROBIUM WARDIANUM.**—Your correspondent, Mr. Hebden, deserves the thanks of a great many of your readers for his description of the treatment he adopts with this beautiful, if somewhat difficult, Orchid. Having lately had an invitation

from Mr. Hebden to visit him, I went to Welham Hall, Retford, and saw among other good things, his *Dendrobium*. These plants were in a stove, suspended in baskets from the roof, about 100 plants altogether, the greater part being full of flower, hanging in masses, quite a glorious sight, and a most unusual thing to see on plants imported seventeen years before. All were in the finest condition, with long stout pseudo-bulbs. On some of the plants I counted seventy-five large flowers. They were imported by Hugh Low & Co., Clapton. I may say that Mr. Hebden has told only one half of the story of his successes, for his *Dendrobium* form a sight of floral beauty not soon forgotten. *William Day, Sandycote, Sheffield.*

**RAILWAY PACKING-BOXES.**—"J. H." (p. 243) suggests that these may not be strong enough to stand the strain of a single journey by railway. Most of those that have seen them seem to think they are strong enough; the test of experience will soon set the matter at rest. The larger boxes have thicker ends than the smaller ones; the sides, tops and bottoms, are also strengthened. In the entire series as much lightness is given as is compatible with safety, and much weight has been got rid of, which is one of the greatest obstacles to the reduction of railway rates. Hence, this vigorous effort to lessen the cost of carriage through lightening the boxes. Space is also economized by the uniformity of the shapes and sizes; and the convenient innovations of the railway companies in this matter should be heartily welcomed by, and prove of special value to producers. They can certainly carry fruit as they now are made, or they may readily be strengthened sufficiently to do so; but even as they are, I see nothing to hinder several of the sizes being used to carry soft fruits, such as Cherries, Strawberries, Gooseberries, Currants, Plums, Apricots, Peaches, Apples, and Pears, in punnets, for delivery direct to the houses of consumers; while for such vegetables as Peas, Beans, new Potatoes, Seakale, Rhubarb, Aparagus, Cucumbers, French Beans, Tomatoes, Mushrooms, packed either in mass or in punnets, such boxes are invaluable. Neither will anyone contend that they are not strong enough for flowers. As to the divisions of tops and bottoms into two halves, a few sheets of paper will make the boxes air-tight and dust-proof. Most packers also welcome the abolition of ties and strig as a great boon, as "J. R." may rely on French nails that they will be the very last part of the boxes to give way. Since writing about these matters, I have had several opportunities of visiting Covent Garden Market, and examining some of the thousands of foreign packages which come there; and, with the one exception of the barrels of fruit, and a few foreign boxes, the one prominent feature that impressed me was the strength and lightness of the packages, and the freshness and general excellency of the products. Of the thousands of consignments of produce disposed of in this one market, one is obliged to admit all alike good, and all good alike. Assuredly they have not suffered on the journey through the flimsiness of the boxes, &c., in which they were sent. *D. T. F.*

**EARLY NESTING OF THE BLACKBIRD.**—It may interest some readers of the *Gardeners' Chronicle* as showing the mildness of the season, that in a tree, with a little Ivy clinging to it, growing near to a stoke-hole in this garden, I saw to-day (Feb. 26) a blackbird's nest, with four eggs in it, on which the hen bird was sitting. The nest has no protection, and is not more than 3 feet from the ground. It seemed to me very early for a blackbird to be sitting. *J. Slater.*

## FLORISTS' FLOWERS.

### SEASONABLE HINTS ON THE CULTURE OF CHRYSANTHEMUMS.

The mild weather is favourable to the growth of the earliest batch of young plants, and those which are meant to produce exhibition blooms are keeping robust and stocky-looking. My plants average 6 inches in height, and they are standing on a warm shelf to which the sun has access, close to the glass, and directly under the ventilators of a lateinery which is not yet started. Growth is in consequence

such as is desirable in the early stage, that which is weak or drawn being incapable of throwing first-class blooms. There is a great deal in laying a good foundation at the first, and I think many cultivators, who now do not come up to the mark, would do better if they bore this in mind. In a short time the earliest plants must go into fresh quarters, as the vinery will be closed for forcing, and no place is better for the plants than a cold frame placed in a sunny spot, sheltered from north and east winds. They should stand on a thick layer of finely-sifted coal-ashes, and the frame should be sunk in the soil, so that the plants may stand close to the glass, the frame being raised as the plants need more head-room. The frame should not be fully ventilated for a few days after the plants are put into it, to enable them to become accustomed to the cooler conditions of the frame. It would be prudent to use tepid water in watering for some time to come. Cold water, if applied to the roots on the removal of the plants from a relatively warm-house, will often cause the foliage to change from a deep green to a pale sickly hue. If such unhealthiness is observed in any of the plants, the proper course to take is to keep them on the dry side for a time—that is, till a change for the better is apparent. The earliest-rooted plants having filled their pots with roots, will need transference to larger ones—any curtailment of root space, if long endured, causing a check. Flower-pots 5½ inches in diameter will be large enough for the next shift; and the compost described on page 107 of the present volume will be suitable at this time, if half-a-part of half-decayed stable-manure and finely-broken charcoal, where the loam is of a heavy nature, be added. It should not be sifted, but chopped to pieces with a spade sufficiently small to render potting easy. The usual precautions in regard to affording good drainage and making the soil firm about the plants, should be strictly observed. The potting-soil should when used be moist, so as to do away with the need to afford water directly after repotting, and the plants should receive sufficient water before repotting, as to ensure the soil being thoroughly moistened. The frame should be kept close for a few days after potting, unless the weather should be very favourable for the production of roots. When a start in growth has been made, air may be admitted freely, the lights being drawn off the frame in fine weather. Precautions must be taken against attacks of mildew and injurious insects. Aphides, both black and green, play havoc with the plants, if allowed to infest the points of the shoots for any length of time.

The present is a good time to prepare a stock of plants of the early out-of-doors flowering varieties, of which Rycroft Glory, Madame Desgrange, and Gustave Grünerwald are types. It is not prudent to allow the roots of these varieties to remain in the open ground during the winter, they being liable to be killed by hard frost. I lift them in November, and store in cold frames, and early in the present month pull the roots in pieces, plant these bits in boxes filled with sandy soil, and return to the framer, protecting them from severe frost or too much rain, and nothing more. By the middle of the next month I plant them in the open ground. These varieties afford lots of bloom in September and the two following months. Strong cuttings may be struck at this season under hand-lights, placed within a cool-house. It is surprising what a large quantity of bloom is obtained from a well-grown plant of Rycroft Glory in the month of October. *E. Molyneux.*

being coral-red in colour, they are very attractive. It is a vigorous grower, and likes a rich loamy compost, a light position, and plenty of heat. It is a native of New Grenada, and was introduced in 1874.

BEONIAS.

A very free-flowering plant has for some time been in flower here, which is a cross between *B. hydrocotylifolia* and *B. manicata*. In habit the plant resembles the former parent, but has more vigour. The stems are creeping. The pinky-white flowers are borne well above the foliage, and they are strongly scented with a Boronia-like fragrance. It is an excellent winter-flowering plant, and has been in bloom here for more than a month. *Begonia Saundersi*, a bright red-flowering species, of small-growing habit, is another good plant, now commencing to bloom. Another early-flowering plant is *B. Paul Brnant*. There is a large specimen of this planted out here, which measures about a yard in height, and bears a mass of large clusters of flowers of a delicate pink colour. *Begonia President Carnot* has never ceased to bloom during the winter. The stems are now more than 6 feet in height; it is one of the best of the hybrid *Begonias*. The handsome *B. Gloire de Sceaux* is now coming into flower, and its large terminal clusters of flowers are very showy. The deep red foliage is also extremely handsome.

ROELLIA LILACINA.

When well grown this plant is useful, for stove decoration, and with careful attention to the pinching out of the longer growths during the growing season, shapely plants of about a foot or more in height may be obtained. The fleshy foliage is of a dark glossy green colour above, but paler beneath. The flowers are rosy-lilac, the lobes of the corolla being more than an inch across. These are produced during the early spring and summer months.

EUPOMATIA BENNETTII.

This small genus, embracing but two species, belongs to the order Anonaceae. *E. Bennettii* is a native of Australia, where it is stated in the *Botanical Magazine*, t. 4843, to grow in the woods and thickets in the colony of Port Jackson, especially in mountainous districts, and on the banks of rivers. Not only is the plant of botanical interest, owing to the peculiar structure of the flower, but the highly-coloured petal-like staminodes make it an effective decorative plant. Its habit is slender and bush-like, and the stems which spring from beneath the surface of the soil, bear oblong lanceolate alternate leaves, slightly undulated at their margin. The green hood-like calyx is thrown off by the opening of the flower, and the yellow or reddish staminodes appear at first eight to be petals. The stamens are reflexed, and completely covered by these staminodes. The plant is figured in the *Botanical Magazine* under the name of *E. laurina*, from a specimen flowered at Messrs. Henderson's Nursery, Maida Vale, in March of 1855, and it is still a rare plant in gardens.

OCHNA MULTIFLORA

Is a shrub-like stove plant, and bears fragrant yellow flowers. These are axillary, and although not individually very showy, are produced for a considerable time. The fruits have a red receptacle, and black carpels, and are very handsome. The foliage is serrate, and evergreen; and the plant is of slow growth. Its requirements are a warm, damp atmosphere, in a light position; and a light peaty soil, mixed with good loam, forms a suitable compost. *R. L. Harrow.*

£50 from the Crystal Palace Company; they acknowledge with thanks the presentation by Messrs. Benary, of Erfurt, of a Silver-gilt Medal in memory of the founder of the firm, Mr. Ernst Benary. This medal was, in accordance with the wishes of the donors, awarded to the finest exhibit. The "Turner Memorial" trustees gave a Silver Cup to be competed for; and the president, Martin R. Smith, Esq., for the fifth time gave £20 for border Carnations, shown as grown. This year's show will be held at the Crystal Palace on Wednesday, July 22.

The prize-list is considerably enlarged, and selfs and fancies, hitherto treated as one class, are divided into distinct classes, and receive the same recognition in the prize-list as bizarres, flakes, &c., a very proper sort of alteration, and one that will be welcomed by many cultivators of the flower.

A very useful recipe for destroying the destructive fungus, *Uromyces caryophyllinus* attacking Carnations, and employed with great success by Mr. F. W. Smith, of Villa Valetta, Cannes, is appended to the report.

The financial position of the Society should be very satisfactory to the members, the total income for 1895 being £401 16s. 7½d., the expenditure £205 19s. 1½d., leaving a balance in hand of £195 19s. 1½d.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 32° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.				No. of Heavy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.		
	Above (+) or below (-) the Mean for the week ending February 29.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.					Below 42° difference from Mean since December 29, 1895.	
0	1 +	5	28	+ 56	- 194	4 +	43	1:03	16	10
1	1 -	2	40	+ 32	- 139	3 -	30	2:8	16	19
2	2 -	1	39	+ 20	- 222	2 -	23	1:9	26	16
3	3 -	0	44	+ 2	- 120	1 -	26	2:2	35	21
4	3 -	5	50	+ 29	- 133	1 -	23	1:9	33	19
5	3 -	6	40	+ 16	- 117	3 -	20	1:6	41	20
6	1 -	5	29	+ 54	- 138	3 +	38	6:5	14	11
7	2 -	6	34	+ 82	- 138	4 +	29	3:9	17	15
8	2 -	12	32	+ 47	- 99	5 -	25	2:8	29	21
9	3 +	23	8	+ 83	- 144	6 +	32	4:8	20	17
10	2 +	29	4	+ 90	- 115	0 over	28	4:1	20	19
* 1	1 -	25	11	+ 70	- 67	3 -	28	2:3	49	27

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
- 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c., Districts—6, Scotland, W.;
- 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;
- 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending February 29, is furnished from the Meteorological Office:—

"The weather was fine and dry over England during the greater part of the week, and showery in Ireland and Scotland. Heavy rain fell, however, over the south and west of Ireland on Tuesday, and towards the close of the week unsettled conditions, with rain at times, extended to all parts of the Kingdom.

"The temperature was 2° or 3° below the mean in England, and 1° below in Scotland E. and W.; in Scotland, N., however, there was an excess of 1°, and in Ireland, of 2° or 3°. The highest of the maxima were recorded towards the end of the week, and ranged from 56° in England, S., and 58° in the Midland Counties and over Ireland, to 51° in Scotland, W., and 49° in Scotland, N. The lowest of the minima were registered on the 26th, when the thermometer fell to 15° in the Midland Counties, 17° in England, S., 19° in England, E., and to between 24° and 32° elsewhere.

"The rainfall exceeded the mean in Scotland, N. and W., Ireland, N., and England, N.W., but in all other districts there was a deficit. The fall in all the eastern and southern parts of England was very slight.

"The bright sunshine varied considerably in different parts of the kingdom, but was, as a whole, above the mean value in the south and east, and below it in the west and north. The percentage of the possible amount of duration ranged from 49 in the Channel Islands, 41 in England, S., and 35 in England, E., to 17 in England, N.W., 16 in Scotland, N. and E., and to 14 in Scotland, W."

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH.

PITCAIRNIA COBALLINA.—This species is one of the brightest-coloured of the genus, and is a very handsome plant. The silvery foliage is 3 to 4 feet long, erect, and has spines towards the base. The flowers are produced upon racemes, the peduncles of which are bright red, and a foot or more in length. Comparatively speaking, the size of the flowers is large, and

SOCIETY.

NATIONAL CARNATION & PICOTEE.

ANNUAL REPORT FOR 1895.—The nineteenth annual report of this society is issued, from which we gather there has been a continuous and satisfactory increase of members, who now number upwards of 250.

The exhibition of 1895 was most successful, and the exhibition held at the Crystal Palace was the finest yet witnessed in this country. The society received a handsome donation of

THE DERBY HORTICULTURAL ASSOCIATION has been very usefully employed in an effort to secure more land for garden purposes in several convenient parts of the town.

DEVON ROSERY AND FRUIT-FARM, TORQUAY. The first annual meeting of the shareholders of Messrs. Curtis, Sandford & Co., Devon Rosery and Fruit-farm Amalgamated (Limited), Torquay, was held recently, Mr. J. N. Whitehead (Chairman of Directors) presiding.

MARKETS.

COVENT GARDEN, MARCH 5.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report.]

Table with columns for plant names and prices. Includes 'PLANTS IN POTS - AVERAGE WHOLESALE PRICES' and 'CUT FLOWERS - AVERAGE WHOLESALE PRICES'.

VEGETABLES. - AVERAGE WHOLESALE PRICES.

Table listing vegetable prices such as Asparagus, Beans, Cauliflowers, Cucumbers, Mint, Mushrooms, Onions, Potatoes, Seakale, Tomatoes, and Turnips.

Since last reports markets have become comparatively dead again, and virtually buyers control prices, which varies much.

SEEDS.

LONDON: March 4. - Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report rather more inquiry. Prices of Clover and grass seeds continue at a low level.

FRUITS AND VEGETABLES.

BOROUGH: March 3. - Quotations: - Savoy, 4s. to 5s. per tally; Brussels Sprouts 2s. to 2s. 6d. per bushel; Onions, 4s. to 5s. per bag; Carrots, 1s. 9d. to 2s. 3d.; and Turnips, 2s. to 2s. 6d. per dozen bunches; Horseradish, 8s. to 12s. per dozen rolls; Apples, 4s. to 6s. per bushel.

SPITALFIELDS, March 3. - Quotations: - Brussels Sprouts, 1s. 6d. to 2s. per bushel; Kale, 9d. to 1s. do.; Broccoli, 9d. to 1s. do.; Turnip-tops, 1s. 6d. to 2s. per bag; Savoy, 2s. to 3s. per tally; Leeks, 1s. to 1s. 6d. per dozen; Onions, spring, 2s. to 2s. 6d. per dozen bunches; Rhubarb, 1s. 6d. to 2s. per dozen bundles; Seakale, 8d. to 9d. per bundle; Horseradish, 10d. to 1s. do.; Parsley, 1d. 6d. to 2s. per dozen bunches; Celery, 1s. 3d. to 1s. 6d. per dozen; Onions, bags, 2s. to 3s.

STRATFORD: March 3. - The improved clearances in the week ending 25th ult. have been fully maintained during the past week, and a fair trade has been done at undermentioned prices: - Savoy, 2s. 6d. to 3s. 6d. per tally; Greens, 1s. to 1s. 6d. per bag; do., 1s. to 1s. 6d. per dozen bunches; Cauliflowers, 1s. to 2s. per dozen; do., 7s. to 8s. per tally; Carrots (household), 23s. to 28s. per ton; do., cattle feeding, 20s. to 21s. do.; Parsnips, 4d. to 6d. per score; Mangels, 12s. to 15s. per ton; Swedes, 14s. to 17s. do.; Onions, Bordeaux port, 5s. to 5s. 6d. per case; Apples, English cookers, 3s. to 4s. per bushel; do., dessert, 3s. to 4s. do.; do. Nova Scotian, 12s. to 15s. per barrel; Scotch Kale, 3d. to 9d. per sieve; Beetroot, 4d. to 6d. per dozen; Horseradish, 1s. to 1s. 2d. per bundle; Parsley, 1s. 1d. to 1s. 6d. per dozen bundles; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; Rhubarb, forced, 1s. to 1s. 3d. per dozen bundles; white Turnip, 1s. 3d. to 1s. 9d. per bag.

FARRINGTON: March 5. - Quotations: - Cauliflowers, 1s. 9d. to 2s. per bushel; Broccoli, 1s. per bushel; Sprouts, 2s. to 5s. per half-bushel; Celery, 2s. 6d. per roll; Leeks, 1s. 6d. per dozen; Turnips, 2s. per dozen bunches; Carrots, 2s. 6d. do.; Greens, 1s. 3d. to 2s. per bushel; Savoy, 5s. per tally; Onions, 2s. per bag; spring, do., 2s. 6d. per dozen bunches; Parsley, 2s. 6d. do.; Turnip-tops, 1s. 3d. per bushel; Kale, 1s. do.; Seakale, 1s. 2d. per punnet; Cucumbers, 12s. per dozen; Mushrooms, 7s. per half-bushel; Apples, Nonpareils, 16s. per barrel; Baldwin, 15s. do.; Greenings, 15s. do.; Victoria, 15s. do.; Russets (No. 1), 20s. do.

POTATOS.

BOROUGH: March 3. - Quotations ranged from 40s. to 90s. per ton.

SPITALFIELDS, March 3. - Quotations: - High lands, Main Crop Kidneys, 40s. to 60s.; Bruce, 40s. to 55s.; Giants, 45s. to 65s.; Hebrons, 50s. to 70s.; Drones, 50s. to 60s.; Saxons, 70s. to 90s. Black lands, Bruce, 35s. to 40s.; Giants, 30s. to 40s.; Magnams, 35s. to 40s.; Scotch Main Crop, 50s. to 65s.; Bruce, 45s. to 55s. per ton.

STRATFORD: Mar. 3. - Quotations: - Dark soil Bruce, 30s. to 35s.; do. light, 40s. to 45s.; Reading Giants, 35s. to 50s.; Sutton's Abundance, 45s. to 60s.; Scotch Main Crop, 40s. to 60s.; Dunbar Magnams, 80s. to 85s. per ton.

FARRINGTON: March 5. - Quotations: - Saxons, 70s. to 90s.; Dunbar Main Crop, 65s. to 85s.; do., Bruce, 60s. to 80s.; Hebrons, 70s. to 85s.; Sutton's Abundance, 40s. to 60s.; Main Crop, 45s. to 55s.; Imperators, 40s. to 50s.; Magnams, 30s. to 45s. per ton.

CORN.

Averages. - Official statement of the average price of British Corn, imperial measure (qr.), for the week ending February 29, and for the corresponding period last year: - 1896: Wheat, 25s. 6d.; Barley, 21s. 10d.; Oats, 13s. 10d. 1895: Wheat 19s. 10d.; Barley, 21s. 9d.; Oats, 14s.

HAY.

Averages. - The following are the averages of the prices at the metropolitan markets during the past week: - Clover, prime, 65s. to 87s. 6d.; inferior, 35s. to 69s.; hay, best, 50s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 20s. to 40s. per load.

ENQUIRY.

A. BATEMAN wants to purchase a plant of Othonna (Othonopsis) chaerifolia, and would some reader of the Gardeners' Chronicle kindly state where he can obtain it.

NOTICES TO CORRESPONDENTS.

ARALIAS: E. James. Graft in a close case in the propagating-house on bits of the root of Aralia epinosa, or on the stems of A. goffoyei. This may be done in April after natural growth has commenced, or in August.

BOOKS: T. A. C. A Manual of Orchidaceous Plants, by J. Veitch & Sons, Royal Exotic Nursery, 544, King's Road, Chelsea, S.W.; Orchid Grower's Manual, by B. S. Williams, published at Victoria and Paradise Nurseries, Upper Holloway, N. - A Constant Reader. Henfrey's Elementary Course of Botany, published by Jan Van Voors, Paternoster Row. - C. Abbott. The Gentlewoman's Book of Gardening, published by Henry & Co., Bouverie Street, London, E.C. - L. Maurer, Jena. The Gooseberry Grower's Register is published by Messrs. Charles Leicester & Sons, Park Lane Nurseries, Macclesfield, and can be had from them, price 1s. 2d.; probably you can obtain back copies from this firm, as they have had the publication of it for some time past. It gives reports of a number of Gooseberry shows held during 1895, and as they may be regarded as fixed shows, you will be able to gather from the Register the places and dates of the several exhibitions; those which are held are mainly in Lancashire, Yorkshire, Cheshire, and Derbyshire. You may succeed in obtaining from Messrs. C. Leicester & Sons a copy of the rules of the leading Gooseberry show, and in addition, the modes of procedure at such an exhibition, which are full of interest.

CALYX AND SEPAL: Jack. The calyx is usually green and foliaceous, but in such flowers as the Anemone it becomes petaloid. The leaves of the calyx are called sepals. In the Fuchsia the calyx is absent.

CARNATIONS WITH DISEASED LEAVES: W. A. C. Both numbers sent are suffering from the same disease, the difference in appearance being due to different stages of development of the fungus, Helminthosporium echinulatum, Berk. The mature spores are very abundant on the specimens sent, and the rapid spread of the disease is due to their being conveyed from one plant to another by wind, rain, and other causes. This disease, which is very common on all cultivated plants of the Pink family, is easily checked, if the plants are sprayed with a solution of permanganate of potash of a deep rose-colour when the disease first appears. Your plants are in such a bad state that it is doubtful whether they can be saved. Try spraying with Bordeaux Mixture, or twice a week with a deep red solution of potassium permanganate, spraying the ground also. If you happen to have any plants not yet diseased, spray those also, if you wish to save them; and in future spray as a preventative of the disease, and not have to do it as a cure. G. M.

COTONS AND DRACENAS: E. James. "Ringing" is not much practised, unless in the case of a Dracena with a large head of foliage, which it is desired to lower without loss of leaves.

CUCUMBER: C. B. W. & Co. The appearance resembles the "rust" of grapes, and may be due to similar causes - sulphurous emanations from the hot-water pipes, or draughts of cold air touching the fruit when moist and warm.

CYRIPEDIUM INSIGNE: E. James. They will live in the cold greenhouse, but do better in the intermediate-house.

GREENHOUSE PLANTS FOR EXHIBITION: C. H. W. You would do well to include Bignonia Tweediana, Aphelxia macrantha purpurea, Azalea indica varieties, Bougainvillea glabra, Erica in early or late-flowering varieties, as required; Lapageria rosea and L. r. alba, Tremandra verticillata, Tetra-theca ericeifolia, Epacris in variety, Boronia Drummondii, Chorozema Lawrenceana, Statice Gilberti, &c. We are positively unable to give the necessary culture of these plants in this column, as the space is inadequate; but the cultivation of plants for exhibition, as well as for garden purposes, is given periodically in "Plants under Glass" column in our weekly Calendar. Consult this from the commencement of the year, and onwards.

**HYACINTH: D. and D.** The peculiarity seen in the specimen of Hyacinth sent is one of those freaks which flowers occasionally (and especially double flowers which are abnormal), exhibit. It may have been induced by some check in the growth, or some incident in the ripening, but the actual cause cannot well be named.

**LÆLIA ANCEPS: R. C., Filey.** The peculiarity in your *Lælia anceps* flower arises from the petals, by accident in the expanding, getting inside instead of outside the lateral lobes of the lip. Next time of flowering you will most likely find it come in the ordinary way. If not, we should like to see it again. The rose-coloured *Pelargonium* should make a fine pot plant, if not a bedder.

**MARÉCHAL NIEL ROSE-GROWING IN A FLOWER-POT: M. Niel.** The variety succeeds out of doors either in an open border or planted against a wall or trellis, only the position must be a warm one. Prepare the soil by manuring and trenching it, and be sure that the drainage is sufficient. Begin by loosening the roots, a nucleus may be left intact, and having noted the length of the longest make a hole 8 to 6 inches deep, and as wide as will accommodate them when spread out radially, proceed to plant them at various depths up to 2 inches from the surface, throwing some light sandy soil, Mushroom-bed dung, &c., over them, and then some of the etaple. If planted against a wall, the stem at the ground-level should be distant from the face of the wall about 4 inches. Finish off with the soil somewhat higher than the surrounding level, and be sure to make the entire bed or station very firm by treading it, before proceeding to plant, as well as afterwards. It is well to afford the roots a heavy watering with a watering-pot minus the rose, before the hole is quite filled in. If your land is light apply a mulch of short horse-dung. Pruning for this season may be done in April, when renewed activity is remarked, entirely cutting out all the weak and severely shortening back strong growths. If the crop of flowers showing in any one year is a heavy one, the plants should receive during May, June, and July two or three heavy applications of liquid-manure, not much diluted. If you treat *M. Niel* as a bush in the open, being a rather vigorous grower, it will need ample space—say 4 feet from plant to plant.

**MONEY WORT: R. P.** The plant *Lysimachia Nummularia*, called variously Creeeping Jenny, Herb Twopence, Springs of Sovereigns, Wandering Sailor, is indigenous to the more southerly parts of England, but is not found wild in Scotland or Ireland. Propagation by division.

**NAMES OF FRUITS: Wm. Higgin, Stanwick.** 1, Bismann's Red Winter Reinette; 2 and 5, Dutch Mignonne; 3, Waltham Abbey Seeding; 4, Hildburghary.—*E. H., Ascot.* 1 Lane's Prince Albert; 2, Bedfordshire Foundling; 3, Northern Greening; 4, Royal Russet; 6, Dutch Mignonne.—*Q. L., Scarlet Russet.*—*Hogg & Robertson.* Seems to be Blenheim Orange, much braided.—*Charles Eastell, Ilford.* Brabant Belle fleur.—*A. Sewell.* Flower of Kent.—*W. Camm.* The fruit sent is long past its best, and cannot, therefore, be named.

**NAMES OF PLANTS: P. C., Cypripedium insigne.** It may be of an importation sold as *C. insigne montana*, a name which means nothing in itself, although some very fine varieties have flowered out of the importation.—*J. A.* Both varieties of *Cypripedium barbatum*.—*J. T. A., Lonicera chrysantha.*—*G. B., Shrewsbury.* 1, *Dendrobium chrysetoxum*; 2, *D. thyrsiflorum*; 3, *D. Devonianum*; 4, *D. Falconerii*; 5, *D. suavisimum* probably, but the flower was decayed. Some of the tickets had also got detached.—*C. L. S., Aërides vandarium*, illustrated in the *Gardeners' Chronicle*, Nov. 14, 1885, p. 629.—*A Constant Reader.* 1, *Clerodendron speciosum*; 2, *Anthurium Scherzerianum*; 3, *Nerium Oleander*; 4, *Lasiandra macrantha*.—*Eric James.* 1, *Sedum spectabile*; 2, *Daphne indica*; 3, *Eunomia japonica areo-marginata*; 4, *Begonia argyrostigma*; 5, *Metrosideros floribunda*, probably; 6, possibly *Veronica Andersonii*: send when in flower.—*P. H. and W. P., Cornus mas.*—*H. H. H.* The leaf is that of *Chrysothylum (Theophrasta) imperialis*. Fruits next week.

**NOTICE TO QUIT: Foreman.** We think that you are entitled to one month's notice, or money in lieu thereof, and compensation for loss of house and garden, which you obtain in part payment for services rendered.

**ORCHID: F. De Last.** Your Orchid is suffering from disease, which has given much trouble to growers lately, and for which no cure has as yet been discovered.—*H. D., Leeds.* The damage to the Orchid leaves might have been caused by direct heat from the hot-water pipes, or from a sudden fall in the temperature, or from any other cause which would produce a harmful check. Such appearances are common in badly-ventilated houses.

**PEACH SHOOTS INFESTED WITH INSECTS: Arlington, Barnstable.** As far as we are able to discover, the pest you are bothered with is the black aphid, common to Peach trees. There appears to be no beetle on the specimens sent, but plenty of aphides. We have never known the old remedy of syringing the trees with, or dipping infested shoots in, diluted tobacco juice, ineffective when taken in time. Of course, this could not now be done until all the blossoms have set; but you might use Richards' XL All Vaporiser. The fumes of this will assuredly kill the aphid, and will not injure the blooms.

**PINK COLOURED MARÉCHAL NIEL ROSE: R. T.** Undoubtedly a sport from the yellow-coloured variety, and well worthy of propagation.

**POTATO LECTURE: J. H.** The paper read by Mr. A. W. Sutton before the Royal Horticultural Society, was given in *Gardeners' Chronicle*, Nov. 2, 1896, p. 527.

**PRUNING OLD RHODODENDRONS: W. C.** It is quite safe to prune them as severely as you think necessary, the plants breaking out thickly from all parts of the old wood. It would be prudent to plant or sow seeds of quick-growing subjects among them, so as to restore in part the shade the plants will be bereft of, and give a furnished appearance; this being done for two seasons.

**RICHARDIA FLOWERS: Jack.** These are found on the spadix, and are small and numerous.

**RICHARDIA WITH LEAFY SPATHES: H. B.** The specimens of spathe sent show how close is the relationship of leaves to spathe and flowers; and such departures from the normal are very likely to occur when there is extraordinary vigour in the plants, as in this case.

**SEEDLING CARNATION: J. D.** An excellent flower; full, regular florets, broad and round; colour pleasing and calyx good.

**SIX FLOWERING PLANTS FOR A STOVE, AND SIX FOR THE GREENHOUSE: An Old Subscriber.** For the stove select as plants of climbing habit *Dipladenia amabile* and *Stephanotis floribunda*; *Eucharis grandiflora*, *Franciscea calycina major*, *Tuberose montana coronaria flore pleno*, *Pteroma elegans*. For the greenhouse, *Azalea indica Deutsche Perle*, if a white one is liked, or *Dac de Nassau*, *Camellia imbricata alba*, *Bronia megastigma*, *Acacia Drummondii*, *Boavardia* any variety, *Chorez-ma varium*, and *Clivia miniata*.

**SIX FOLIAGE PLANTS FOR STOVE: An Old Subscriber.** *Acalypha Macraeana*, *Alocasia Lowii*, *Aparagus plumosus*, *Cissus discolor*, *Codiaeum (Croton) Weimanni*, *Strobilanthes Dyerianus*.

**SIX GREENHOUSE FOLIAGE PLANTS: An Old Subscriber.** *Aralia Sieboldii*, *Aspidistra lurida variegata*, *Coprosma Baucriana variegata*, *Dracena congesta*, *Ficus elastica albo-variegata*, *Lomaria ferruginea*.

**SPHLEA JAPONICA: J. H.** The collapse of your forced plants is either due to deficient establishment at the root, or the use of strong manure, probably the former. At the least, you might have afforded us an account of your mode of treatment.

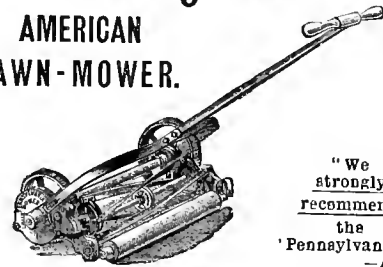
**STANUOPEAS: E. James.** The plants require baskets with good-sized apertures in the sides and bottom, through which the flower-spikes can protrude.

**TENERIFFE AS A MARKET GROWER'S FIELD OF OPERATIONS: Hortus.** There should be good openings in the cultivation of early produce, such as Potatoes, Onions, Tomatoes, Oranges, Pine-apples, with some amount of glass protection; Limes, Lemons, Guavas, and similar products, that are capable of being shipped without spoiling. But no one should go there with the idea of starting in business, without first visiting the island.

**COMMUNICATIONS RECEIVED.—T. B.—R. C.—H. J. C.—H. C. P.—H. W.—W. H. D.—J. A.—C. T. D.—A. C. C.—J. J. W.—D. R. W.—A. D. W.—E. W.—D. L.—J. D.—C. Lovel.—W. D.—E. M.—J. J. O.—J. Y.—R. D.—Attwood & Co.—G. N.—C. R. D.—H. H.—J. D. N.—J. R.—H. H. Raschen.—H.—C. B.—H. D.—H. M.—T. F.—J. D.—A. C. F.—G. W.—J. McI.—A. J. C.**

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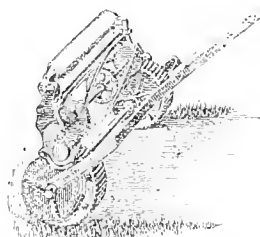
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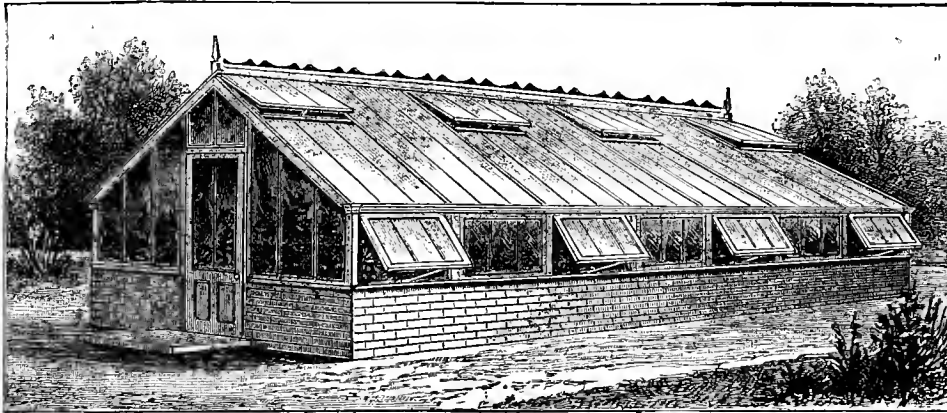


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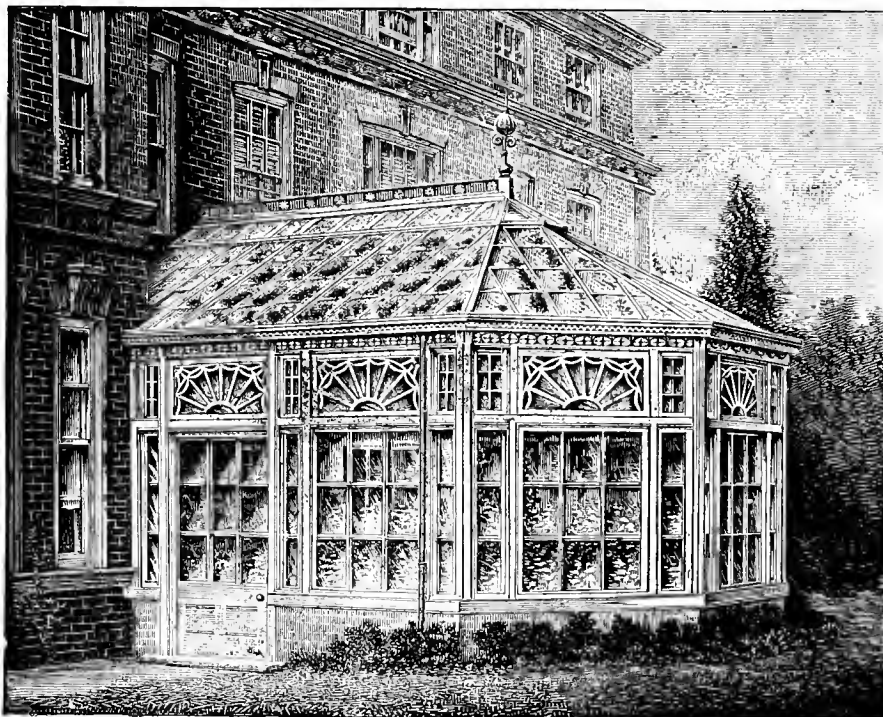
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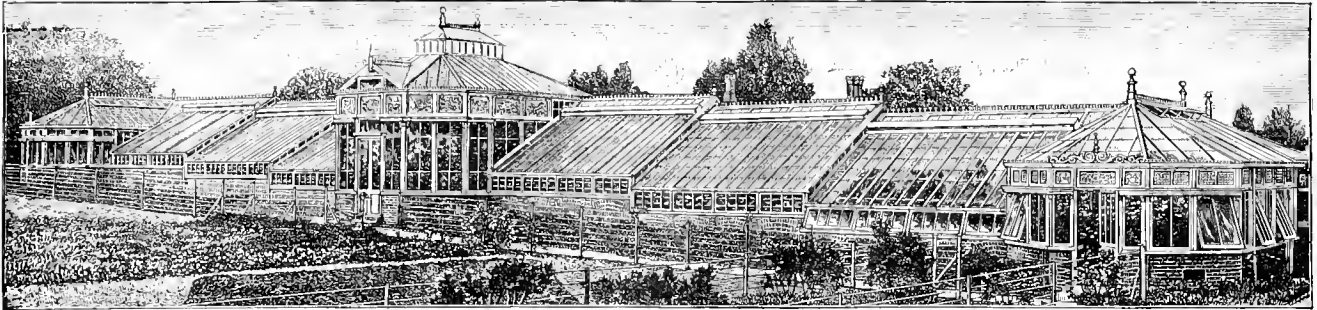
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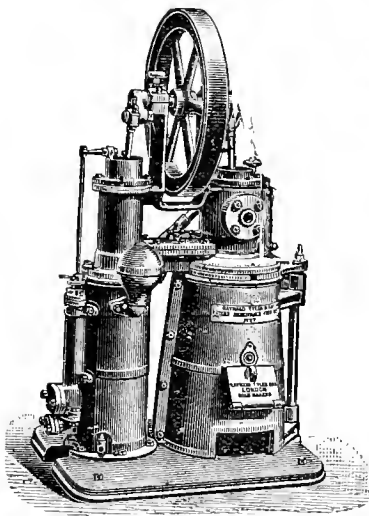
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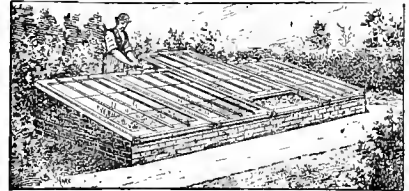
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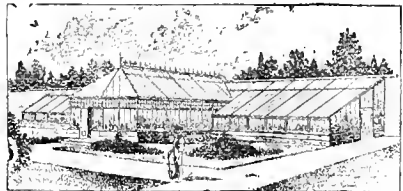


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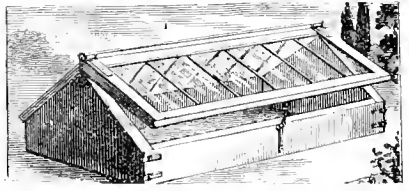
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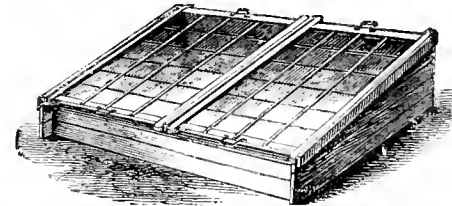
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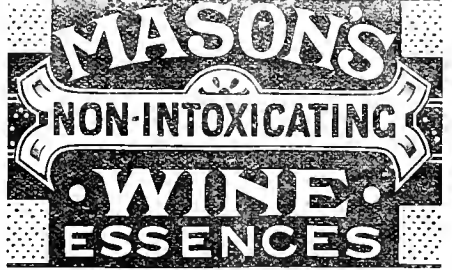
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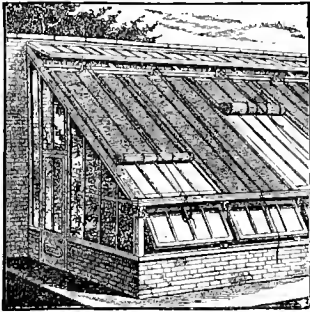
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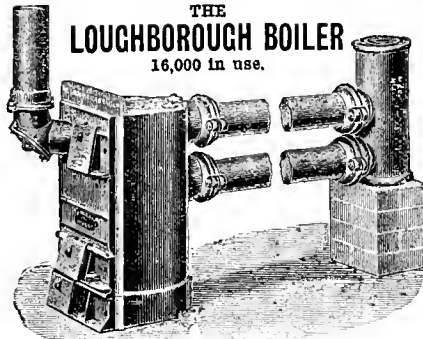
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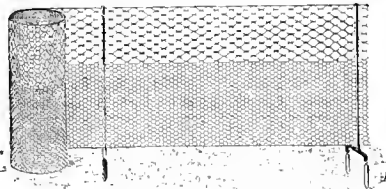
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- MR. THOS. LEITH, for the last three years Head Gardener at Herriard Park, Basingstoke, as Head Gardener to A. B. WELCH-THORNTON, Esq., Beaupaire Park, Basingstoke.
- MR. J. BRINSFORD, for the past two and a half years' Winter Garden Foreman and Decorator at Soumerleyton Hall Gardens, Lowestoft, as Gardener to H. J. JERVIS, Esq., Freston House, Ipswich.
- MR. GEORGE PEACH, Foreman for the last two years at Keir Gardens, Dunblane, N.B., as Head Gardener to Earl FORTESCUE, Castle Hill, Devonshire.
- MR. G. MITCHISON, late Gardener at Perry Hall, Staffordshire, has been appointed Gardener to Lord CALTHORPE, at Elvetham Park, Winchfield, Hants.
- MR. J. BLIGH, formerly Gardener and Steward to G. F. LYSTER, Esq., Plas Maf, Ruthin, N. Wales, has been appointed Gardener to H. HARRIS, Esq., Steventon Manor, Whitechurch, Hants.

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**GROOM-GARDENER** seeks situation.—Age 23; life experience. Excellent character.—S. TAYLOR, Station Road, Cullompton, Devonshire.

**PROPAGATOR and GROWER.**—Age 28; well up in Ferns, Stove, Soft-wooded, and General Stuff for Market purposes, Tomatos, &c. Good references.—HERBERT, 24, High Street, Hampton Wick.

**GROWER.**—Age 28, single; experienced in the Cultivation of Stove and Greenhouse Plants, Carnations, Tomatos, Cucumbers, Cut Flowers, &c. Six years in present situation.—J. H., 1, Wellbrook Road, Farnborough, Kent, R.S.O.

**FOREMAN and GROWER.**—Age 35; life experience in London and Provincial Nurseries. Well up in growing in quantities Tomatos, Cucumbers, Cut Flowers, and Plants in every branch; Palms, Ferns, &c., also Erection, Heating Greenhouses, and all requirements of the trade. Excellent testimonials.—F. GEMAN, Oroxtop Nurseries, Bishopsworth, Bristol.

**FOREMAN, or HEAD of three or four.**—Mr. LOW, Buxton Hall, will recommend E. IRELAND as above. Married. Life experience in good places.—10, Engleheart Road, Catford.

**FOREMAN** in good establishment.—Age 27; thirteen years' experience; good Plant Grower and Decorator; well recommended from past and present places.—G. COOPER, Sarsden Gardens, Chipping Norton, Oxon.

**FOREMAN.**—Mr. G. ROWLS, The Gardens, Mickleham Downs, Dorking, will be pleased to recommend J. KILLICK as above; has been with him four years; previously at Downside, Leatherhead, Abtstainer.

**FOREMAN.**—Age 24; first-class experience; last two years First Journeyman at Belvoir Castle.—F. WILLIS, Hecla Villa, Carlton Road, Harpenden, Herts.

**FOREMAN, or SECOND.**—Twelve years' experience, both inside and out.—Mr. PIPER, The Gardens, West Ham House, Basingstoke, can highly recommend his second Gardener as above.

**FOREMAN, or JOURNEYMAN (FIRST),** in a good establishment.—Age 23; eight years' good experience in the general Cultivation of Stove and Greenhouse Plants. Well up in Fruit Culture, House and Table Decorations. Can be highly recommended.—H. RANSON, Emiliene Cottage, High Street, Fleet, Hants.

**FOREMAN (Inside).**—Age 26; life experience in Plants and Fruit, and general routine of gardening; Table Decorations and Cut Flowers.—WHEELER, Blackmore End, Welwyn, Herts.

**FOREMAN, or FIRST JOURNEYMAN,** in good establishment.—Age 23; nine years' experience.—W. JOKL, 25, Stamford Road, Fulham.

**FOREMAN,** age 25.—Mr. MILLER can with confidence recommend T. HUDDART as above, who has been with him this last five years. Accustomed to House and Table Decorations.—Underley Gardens, Kirkby Lonsdale, Westmoreland.

**FOREMAN, Inside.**—Age 22; eight years' experience in Fruit and Plant-houses, and general Routine of Gardening. Good testimonials.—R. JONES, Fythrope, Aylesbury.

**FOREMAN (Inside or General).**—Age 30, single; first-class references.—A. SMITH, Birstwith, near Leeds, Yorks.

**FOREMAN.**—Age 26; life experience. Well understands his work, both inside and out. Three years in last place. Highly recommended as honest and trustworthy.—C. H., Southland Cottage, Warninglid, Hayward's Heath.

**FOREMAN, or JOURNEYMAN (FIRST).**—Mr. WILLIAMSON of Tangley Park Gardens, Wokingham, Berks, can highly recommend H. RUSSELL as either of above. Nine years' experience, inside and out.

**FOREMAN,** age 24.—Mr. E. BUTLER, gardener to Sir E. C. DEBING, Surrenden, Pluckley, Kent, can with confidence recommend ERNEST BEWER as FOREMAN. He has been here as foreman two and a half years. Well up in Fruit Culture and Plant Growing.

**FOREMAN,** in the Houses; age 26.—B. HINNELL, Leeds Castle Gardens, Maidstone, wishes to re-engage as above. Ten years' experience; good references. Both preferred.

**FOREMAN, Inside.**—Age 27; thirteen years' practical experience in the general routine of Gardening. Good character.—A. F., Elmstead, Chislehurst.

**FOREMAN.**—Age 26; life experience. Good knowledge of Orchids and Decorating. Eighteen months Foreman in present place; leaving for no fault. Good character.—CGNINGSBY, Rawdon Hill, Arthington, Leeds.

**FOREMAN, or JOURNEYMAN (FIRST).**—Age 25; well recommended.—E. HUBBARD, Monk Sberborne, Basingstoke, Hants.

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**FOREMAN or JOURNEYMAN, Inside.**—H. FENNEL, Gardener to Lord St. Oswald, Appleby Hall, Doncaster, wishes to recommend E. DOPSON, age 22, who has been with him nearly two years, to anyone requiring the above. Nine years' experience.

**FOREMAN (GENERAL), or ORCHID GROWER,** wishes to re-engage as above.—Age 27; good references.—A. B., 4, Tadema Road, Chelsea, S.W.

**JOURNEYMAN (Inside).**—Mr. RABJOHN, Birling Manor Gardens, Maidstone, Kent, can with confidence recommend S. CAPON as above, to any Gardener requiring a strong, active, industrious young man. Age 20. Five years' experience.—Address as above.

**JOURNEYMAN, Inside and Out.**—Age 22; good general experience; eight years' good character.—H. CLARKE, Hilbro Gardens, Stokesby, Great Yarmouth.

**JOURNEYMAN, Inside.**—Age 21; seven years' experience inside and out. Strong, and not afraid of work. Good character.—F. WYLES, The Gardens, Caversham Park, Reading.

**JOURNEYMAN, Inside and Out,** in good establishment.—Age 21; good character from present and previous employers.—H. WILKINSON, The Gardens, Burntwood Hall, near Barnsley.



**JOURNEYMAN**, in a good establishment, under a good Foreman.—Age 19; two years in last situation; disengaged; both preferred.—**ARTHUR BAXTER**, 81, Sheep Fair, Rugeley, Staffs.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 22; seven years' experience. Five years' excellent character; two years in present situation. Abstainer; both preferred.—**A. W. B.**, 4, Temple Bar, Cosham, near Port-mouth, Bants.

**JOURNEYMAN (FIRST)**.—Age 24; desires change; good experience; two years present situation; good character; both preferred.—**R. MASSINGHAM**, The Gardens, The Hermitage, The Park, Nottingham.

**JOURNEYMAN**, or **IMPROVER**, Inside and Out; age 20.—**F. ASHMAN**, Billingbear Park Gardens, Wokingham, wishes to recommend a Young Man of good character as above. Active and willing. Has been two years under Glass.

**JOURNEYMAN**, Inside and Out, age 22.—**Mr. A. SHAMROOK** can highly recommend a strong and active young Man as above. Two years in present situation.—**The Gardens, Sutton-on-the-Hill, Derby.**

**JOURNEYMAN (SECOND)**, in the Houses.—Age 22; nearly three years' good character present situation, five previous. Both preferred.—**J. BEAUCHAMP**, Cowesfield Gardens, Salisbury.

**JOURNEYMAN**, in the Houses.—Age 20; six years' experience; two years in present situation. Excellent references; not afraid of work.—**K. W.**, 97, Eardley Road, Streatham, S.W.

**JOURNEYMAN (FIRST)**, Inside.—Age 21; six years' experience; two and a quarter in present situation, inside; both preferred; good character.—**A. S.**, Round House, King's Lane, Stratford-on-Avon.

**JOURNEYMAN (FIRST)**, age 22.—**W. CRYER**, Gardener to Col. Swinfen-Brown, can with confidence recommend **G. WOODHAMS** as above; both preferred.—**The Gardens, Swinfen Hall, Lichfield, Staffs.**

**JOURNEYMAN (Inside and Out)**.—Age 22; six years' experience. Three and a half years in last situation. Can have good references.—**A. LEE**, Highlands, East Bergholt, Suffolk.

**JOURNEYMAN (FIRST)**; age 24.—**Mr. WEEKES**, Pennoye Gardens, Brecon, can highly recommend a thorough, hard-working, sober, industrious man as above. Nine years' experience in Plant and Fruit Houses.—**Three years' excellent character.**

**JOURNEYMAN (FIRST)**.—Age 23; six years' good character from previous employers. Left situation for a change. Both preferred.—**T. WILLIAMS**, Hamptworth Gardens, Downton, Salisbury, Wilts.

**JOURNEYMAN (FIRST)**.—**G. KIMMINS**, The Gardens, Albury Hall, Hadham, Herts, would be pleased to recommend **F. OVERILL** as above, having been with him three years. Distance no object.

**JOURNEYMAN**.—Age 21; seeks situation Inside in good establishment; two years in present place.—**W. CLARK**, Gardener, Lord Alexander Russell, Bwhurst Park, Basingstoke, Hants.

**JOURNEYMAN**, age 19.—**Situation wanted** in private establishment, Inside, or Inside and Out. Well up in the cultivation of Ferns, and Stove and Greenhouse Plants. Six years' experience; good character; both preferred.—**J. BETTERWORTH**, Highworth, Hayling, Havant.

**JOURNEYMAN**.—Age 22; four years' good character; strong, active, and willing. Wishes for further improvement.—**HEAD GARDENER**, Albury Park, Guildford.

**JOURNEYMAN (Inside and Out)**.—**W. ARMSTRONG**, Foreman Toddington Orchard Company, Winchcombe, Glos., wishes to recommend **R. SLATTER**, age 24, as above. Four years in present situation.

**JOURNEYMAN**; age 21.—**Mr. GEO. HUMPHREY**, Nash Court Gardens, near Faversham, Kent, can with confidence recommend **W. HILTON** as above, to any Gardener requiring an energetic young Man. Has been with him three years in the Fruit and Plant Houses.

**JOURNEYMAN**.—Age 19; requires situation in the houses in good gardening establishment. Well up in plants and fruit. Under a Foreman, and both preferred.—**W. REDDEN**, The Gardens, Darnhall Hall, near Winsford, Cheshire.

**JOURNEYMAN (SECOND)**, in the Houses; age 20.—**H. BALL**, Gardener to **H. S. O'BRIEN**, Esq., can with confidence recommend **H. DUNKLEY**. Five and a half years in present situation.—**Blatherwycke Park, Wansford, Northants.**

**JOURNEYMAN**, age 20.—**Mr. JAS. CYPHER** begs to recommend a Man as above. Five years' experience in Orchids and Plants generally. Thoroughly steady and intelligent.—**RICKENS**, Queen's Road Nursery, Cheltenham.

**JOURNEYMAN**, Inside.—Age 22; requires situation. Eight years' experience in all branches; good reference.—**S. JONES**, 26, Russell Street, Altrincham, Cheshire.

**JOURNEYMAN (FIRST)**, in the Houses.—Age 25; ten years' experience. Good character.—**H. PLANCE**, 39, Osborne Road, Partwood, Southampton.

**JOURNEYMAN**.—Age 20; Inside, or Inside and Out; seven years' experience. Abstainer. Good character.—**T. ANDERSON**, Satterton, near Boston, Lincs.

**JOURNEYMAN (FIRST)**. Age 23.—**II. SENECCALL**, Shendish Gardens, Hemel Hempstead, wishes to recommend **F. GURNEY**, who has been here nearly three years. Six years' experience.

**JOURNEYMAN**.—**Mr. H. WALKER** wishes to recommend a young Man as above. Strong, and not afraid of work.—**H. WALKER**, Gardener, Forest House, Kinvor, near Stourbridge.

**JOURNEYMAN**, Inside.—**W. WARD**, Gardener to the late Hon. Parker Jarvis, Aston Hall, Sutton Coldfield, thoroughly recommends **SIDNEY JEANS**, age 23, as above, in good establishment. This establishment broken up through a death sole cause of leaving.

**JOURNEYMAN**, Inside and Out; age 20.—**R. HUBBARD**, Roffey Park Gardens, Horsham, wishes to recommend **J. ORTON** as above. Seven years' experience. Excellent character.

**JOURNEYMAN**.—Age 20; seeks situation in good establishment, in Plant and Fruit Houses. Good recommendations. Both preferred. Disengaged.—**W. TRE**, Dawn End, Fareham, Hants.

**JOURNEYMAN (Inside)**.—Age 22; six years' experience in Stove, Greenhouse, Fruit Forcing, and general Inside Work.—**J. HAYES**, The Gardens, Motcombe, Shaftesbury, Dorset.

**JOURNEYMAN**, in a good establishment.—Age 22; nine years' experience in good places. **J. BLUCK**, Henley Park Gardens, Guildford, Surrey, can well recommend **A. GODDARD** as above.

**JOURNEYMAN**, Inside.—Age 22; seven years' experience. Three years in present situation. Both preferred.—**L. DRAGE**, Hill House Gardens, Saffron Walden, Essex.

**JOURNEYMAN**, in good Establishment.—Age 20; experienced in Orchard Culture. Five years' excellent character. Churchman. Good Bass. Abstainer.—**W. STEVENS**, Stange Park, Brampton Bryan, Herefordshire.

**IMPROVER**; age 19.—**F. ROBERTS**, East Cliff Lodge, Ramsgate, can thoroughly recommend a young man as above. Five years' experience.

**IMPROVER (Inside)**.—**R. WEST**, The Gardens, Northlands, Salisbury, can highly recommend a Youth, age 17. Three years in the above Gardens.—Address as above.

**IMPROVER**.—Age 18; three years' good character from present situation. Prefer being in bothy.—**G. DOYLE**, Warrington Cottages, Hersham, Surrey.

**IMPROVER**, Inside, in a large Garden; age 18.—**G. FRANCIS**, Gardener, Humberstone Hall, Leicester, wishes to recommend his son as above. Four years' experience. Good references. Both preferred.

**IMPROVER**, Inside, or Inside and Out.—Age 18; two and a half years' with **Mr. King**, Castle Gardens. Good reference.—**E. RANDALL**, Castle Lane, Devizes, Wilts.

**IMPROVER**.—A young Man, age 21, seeks situation, Inside and Out, five years' experience; good character.—**W. B.**, 139, New Park Road, Brixton Hill, London, S.W.

**IMPROVER**, Inside, or Inside and Out.—Age 19; five years' experience Inside and Out; good character.—**Mr. PERKIN**, Head Gardener, Los Altos, Sandown, I.W.

**IMPROVER**.—Gardener's Son wants situation as above. Age 18; five years' experience. Would pay premium for good situation.—**T. HOGG**, The Gardens, Wilcote, Charlbury, Oxon.

**IMPROVER**.—**G. JOHNSON**, The Gardens, Westlea, Broxbourne, Herts, can highly recommend a willing, strong youth, Age nearly 17 years. Has had two and a half years' Inside and Out.

**IMPROVER**, Inside.—Age 19; been in the Gardens four years. Can be well recommended. Both preferred.—**L. CLARK**, The Gardens, Landford Lodge, Salisbury.

**IMPROVER**, Inside.—Age 19; two years' good character from present situation; three and a half previous. Both preferred.—**T. PAYNE**, The Gardens, Bridgen Place, Bexley, Kent.

**IMPROVER**.—Age 20; three years' experience in Market Nurseries (Inside).—**S. B.**, Curdridge Cottage, Botley, Hants.

**IMPROVER**.—Strong active Youth, age 18. Three years in present situation, Inside and Out. Well recommended by—**GARDENER**, Bourton Hall, Rugby.

**IMPROVER**; age 20.—**J. ANDERSON**, Charman Dean Gardens, Broadwater, Worthing, wishes to recommend a young Man as above. Five years in present place. Both preferred.

**IMPROVER**.—Young Man (age 21), desires situation to improve himself. Strong and willing to learn. Good references.—**C. CLACK**, The Gardens, Hyde House, Chalford, Gloucester.

**G. H. SAGE**, Gardener to the Earl of Dysart, Ham House, Petersham, wishes to recommend a smart respectable Lad, about 17, to any Gardener requiring same.

**TO GARDENERS**.—**Situation wanted**, by single man (age 24), in the Kitchen Garden or Pleasure Grounds, or both. Good character.—**J. REEKS**, Nearcroft, Ringwood, Hants.

**TO GARDENERS**.—**Wanted to place a strong** healthy youth (age 19), accustomed to Garden Work, in bothy under a good Gardener.—**F. B. HARRIS**, 30, Princes Street, Tunbridge Wells.

**TO GARDENERS**.—**Wanted to place a young** man (age 18), strong, in a Gentleman's garden, under a Foreman. Five years' experience. Highly recommended by **HEAD GARDENER**, Raydon Lodge, near Ware, Essex.

**TO GARDENERS**.—**Situation required for a** strong Lad in a private garden; two years' experience.—**J. S. UPEX**, Wigganathorpe, York.

**TO GARDENERS**.—Lad, age 17, strong, seeks situation in Gentleman's Garden. Eighteen months' good character.—**A. BRAGG**, Bursall, Ipswich.

**TO GARDENERS**.—Young Man, age 20, desires situation; four years in present situation, chiefly Outside. Inside and Out preferred. Strong, and willing to learn.—**S.**, Walmer Lodge, Walmer, Kent.

**TO GARDENERS, &c.**—**Situation in Private** Garden or Small Nursery. Twelve years' experience. Good references.—**A.**, Mr. W. Stanton, High Street, Wrentham, Suffolk.

**TO NURSERYMEN**.—Young Man, age 22, seeks situation in Market Nursery. Well up in Cucumbers, Tomatoes, and general Pot Stuff. Staffordshire or Warwickshire preferred.—**H. W.**, 6, Home Cottage, Cheshunt, Herts.

**TO NURSERYMEN**.—Two young Men (age 23) want situations. Ten years' experience in large Market Nurseries. Well up in Growing Cucumbers and Tomatoes, and the General Routine of Nursery Work.—**WOOD**, 11, Tramway Avenue, Ponders' End.

**TO NURSERYMEN**.—**Wanted to APPRENTICE** a well-educated youth, age 15, to the Nursery and Seed Trade.—**H. TYLER**, The Gardens, Graage, Wareham.

**TO NURSERYMEN**.—**Situation wanted**, by a young man, age 23; good experience in growing Cut Flowers, Plants, and Fruit under Glass.—**C. P.**, 14, B-dford Row, Worthing.

**TO NURSERYMEN**.—Young Man, age 19, wishing to improve, seeks a situation in a general place; four years' experience. Good references.—**W. SMITH**, Wyards, Alton, Hants.

**TO NURSERYMEN**.—**Situation wanted**, as RAISER and GROWER of Ferns, Palms and Softwooded Plants. Good references.—**M.**, 4, Ethelbert Cottages, High Street, Cheshunt, Herts.

**TO NURSERYMEN, &c.**—Young Man as JUNIOR CLERK. Good correspondent. Also Wreaths, Crosses, &c., if required. Good references.—**C. H.**, 95, Shakespeare Road, Acton, W.

**TO NURSERYMEN**.—Young Man (age 23) wants situation. Eight and a half years' experience in Palms, Ferns, and general Pot-stuff. Well used to the routine of Market and Trade Nurseries. Good references.—**D.**, 69, Byam Road, Balham.

**TO NURSERYMEN, &c.**—Young Man, age 20, desires improvement in a good place. Five years Inside and Out. Good references.—**JEFFERY**, Lodge Farm, Keymer, Hassocks, Sussex.

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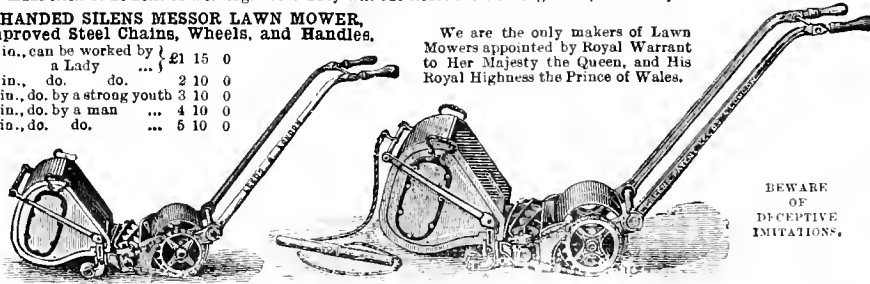
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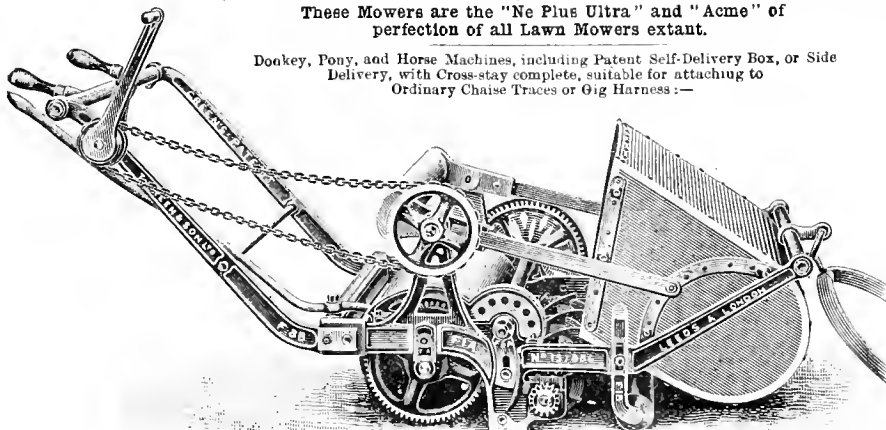
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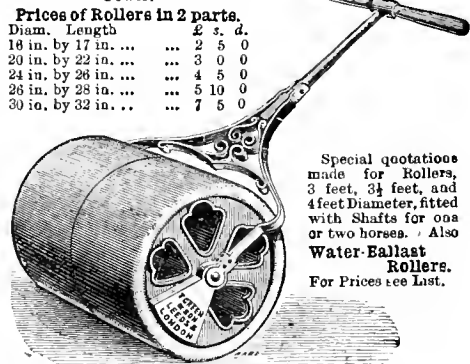
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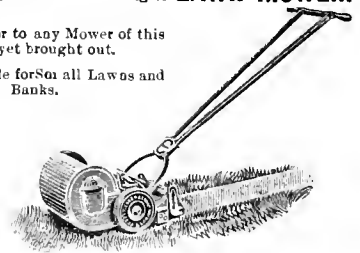


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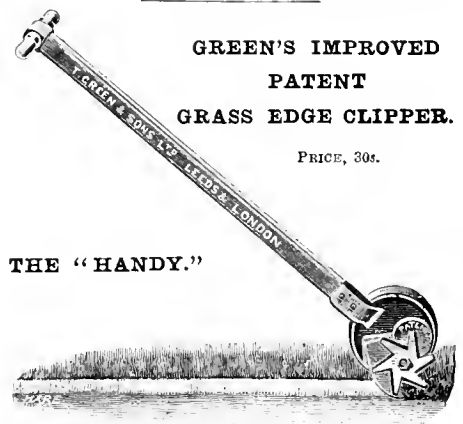
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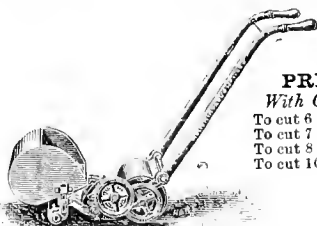


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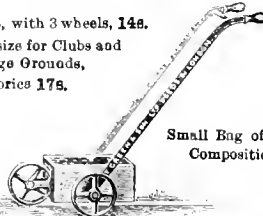


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# The GARDENERS' CHRONICLE

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## CONTENTS.

<i>Botanical Magazine</i> ... 333	Potatos ... .. 332
Chinese Mustard, curled ... 333	Pyrus Sorbus ... .. 334
Cineraria, origin of the garden ... .. 335	Rhododendron x Eos ... 326
Comber testimonial, the Cypripedium Sanderianum ... .. 329	Rhododendron Noblesimum at Logan Gardens ... 332
Death of a gardener from vegetable poisoning ... 335	Rosa multiflora ... .. 335
Dendrobium bigibnum ... 334	Rose-show fixtures for current year ... .. 334
Finger-and-toe ... .. 332	Societies—
Flower garden, the ... 335	Ealing Gardeners ... 332
Forestry—	Gardeners' Royal Benefvolent ... .. 338
Planting game coverts ... 339	London Wholesale Fruit and Potato Trades and Growers' Benefvolent ... .. 338
Harch Ferns ... .. 335	Royal Botanic ... .. 332
Larches, the, Alderley Edge ... .. 336	Royal Horticultural ... 336
Melons, the culture of ... 337	Scottish Horticultural United Horticultural Benefit and Provident ... 338
Obituary—	Sprayer, a new ... .. 339
Horsman, F. R. ... .. 339	Stocktaking ... .. 331
Prince, Geo. ... .. 339	Weather, the ... .. 334, 335
Orchids at Kew ... .. 328	Week's work, the ... .. 330
Phalœnopsis at Ferrisburgh ... .. 339	Flower garden, the ... 330
Plant-propagation, some methods of ... .. 336	Fruits under glass ... 330
Plants, new or noteworthy—	Hardy fruit-glass ... 341
Bolbophyllum orthoglossum ... .. 326	Kitchen garden, the ... 331
Polyporus ulmarius ... 336	Orchid-houses, the ... 330
Poplar, an evergreen ... 332	Plants under glass ... 331
Propagation, the, of Cycads from cuttings ... 332	Wine production in France ... .. 334
	Wood industries of Sweden ... .. 331

## ILLUSTRATIONS.

Cypripedium Sanderianum ... .. 329
Pyrus Sorbus ... .. 335
Rhododendron Noblesimum in Scotland ... .. 333
Rhododendron x Eos ... .. 327

## NOTICE TO ADVERTISERS.

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**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertiliser for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, ½ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid, Cash with order.—C. BRESGON, Bone Mills, St. Neot's, Hunts.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 6726.

**SALES BY AUCTION.**

**Tuesday Next, March 17.**  
Special Sale of CARNATIONS (the newest and best varieties), new VIOLETS, VIOLAS, Hardy CYPRIPEDIUMS, IRIS, CALOCHORTI, BEGONIAS, TIBRIDIAS, HOLLY-HOCKS, LILIUMS in great variety, and a great assortment of RARE HARDY PLANTS, HERBACEOUS PLANTS, 300 Dwarf ROSES, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 17, at Twelve o'Clock.  
On view morning of Sale, and Catalogues bad.

**WEDNESDAY NEXT.**

The Green Bank (Sheffield) Collection of Established Orchids.

By order of Daniel Doncaster, Esq., of Green Bank, Sheffield, who is giving up his collection owing to going abroad.

**MESSRS. PROTHEROE AND MORRIS** are instructed to sell the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 18, at half-past 12 o'Clock precisely.

- Amongst the plants will be found the following:—
- |                             |                               |
|-----------------------------|-------------------------------|
| Cattleya Trianoi albicans   | Cyrtopodium, Buxalliatratum   |
| " Mendelii triumphans       | " Germinyanum superbum        |
| " Skinneri oculata          | " Picherianum                 |
| Ceogyne cristata alba       | " insigne Sanderianum         |
| Cyrtopodium, Mrs. Charles   | " (true)                      |
| " Canham                    | " Capso                       |
| " Charles Canham            | " Charles Richman             |
| " Morgania                  | " Doncasterianum              |
| " Volanteanum Lowii         | " Arthurianum                 |
| " Cythera                   | Dendrobium nobile Cooksonii   |
| " Enfieldense, dark variety | " splendissimum grandiflorum  |
| " Rothschildianum           | " Lelia Gouldiana             |
| " Harveyanum                | " anceps Dawsonii             |
| " orphanum                  | Oncidium Monachicum           |
| " Leeuanum giganteum        | 100 Odontoglossum Alexandrae, |
| " Statterianum              | many fine plants              |
| " T. R. Haywood             | and many other Cool-house     |
| " Niobe                     | Orchids                       |
| " insigne Sanderæ (true)    |                               |

The plants will be on view morning of Sale. Catalogues may be had of Mr. J. Malcolm, Head Gardener, on the Premises, Green Bank, Sheffield, and of the Auctioneers, Valuers, and Estate Agents, 67 and 68, Cheapside, London, E.C.

**WEDNESDAY NEXT.**

A Consignment of

**61 CASES OF JAPANESE LILIES,**

Received direct, comprising:—

- 5180 LILIUM AURATUM PLATYPHYLLUM.
- 1380
- 50 lb. of Climbing CUCUMBER SEEDS, 16 lb. of POLY-ONUM SACHALINENSE (the new Fodder-seed), and 600 Vols. of LILY FLOWER-BOOKS;

Also,  
50 lots of CARNATIONS and PICOTEES, STAGE-FLOWERS, from a well-known grower;  
100 lots of ORNAMENTAL STOVE and GREENHOUSE PLANTS, LILIES, and GLOXINIAS.

50 lots of well grown PALMS from an English grower, CANNAS, OLADIOLI, and MONTEBETIAS, mostly novelties; 200 DWARF ROSES, EMANTOPHYLLUMS, 1000 Double and Single BEGONIAS, choice strains;  
11,000 DWARF EXCISIOR PEARL TREEROSSES;  
2000 choice GLADIOLI, LEMOINEI, 300 extra-large BULBS of CALADIUM ESCULENTUM, 150 choice-named Double P.EONIES, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 18, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues bad.

Special Sale.—Friday Next, March 20.

By order of Messrs. Hugh Low & Co.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 20, at half-past 12 o'Clock, an entire importation of

**CATLEYA MOSSIE**

(Low's famous and celebrated strain), collected by the same collector and from the same localities as our previous importations from which have emanated so many magnificent forms. The plants could not be in better condition, and a large percentage have round, plump, flower-seaths, which will shortly bloom.

Also will be offered a grand consignment of all the leading and popular varieties of DENDROBIUMS from Upper Burma, including:—Brymerianum, crassinode, Barberianum, crystallinum, Devonianum, nobile, Parishii, primum giganteum, and an especially fine lot of DENDROBIUM WARDIANUM GIGANTEUM LOWII, the finest of all forms of this indispensable and lovely Orchid.

The Sale will include a grand lot of CYCNOCHES CHLOROCYLON (the Swan Orchid), CELOGYNE PANDURATA, ONCIDIUM AMPLIATUM, and O. PAPILLO MAJUS.  
On view morning of Sale, and Catalogues bad.

**Friday Next, March 20.**

IMPORTANT SALE OF HARDY PERENNIALS. Exhibition HOLLYHOCKS, PANSIES, IRIS, CYPRIPEDIUM SPECTABILE, LILIUMS in variety, ANEMONES, TIBRIDIAS, BEGONIAS, MONTEBETIAS, GLOXINIAS, DAHLIAS, CLEMATIS, TEA and other ROSES, CARNATIONS (new and old varieties), PINKS, PHLOXES, Double and Single P.EONIES, AMARYLLIS, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 20, at Half-past Twelve o'Clock.  
On view morning of Sale, and Catalogues bad.

**Monday Next, March 16.**

200 AZALEA MOLLIS, 100 A. INDICA, 50 lots of Stove and Greenhouse FERNS and PLANTS, LILY OF THE VALLEY Berlin Crown; SPIRÆA COMPACTA and ASPILLOIDES, Double P.EONIES, to name; 2000 Double BEGONIAS, MONTEBETIAS, LILIUMS in variety, HYBRID GLADIOLI, &c.

**MESSRS. PROTHEROE AND MORRIS** will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 16, at 12 o'Clock.  
On view morning of Sale, and Catalogues bad.

**WEDNESDAY NEXT.**

**GREAT SALE OF ROSES**

FOUR IMPORTATIONS from HOLLAND of

**ORNAMENTAL SHRUBS,**

Comprising several hundred AZALEA MOLLIS, a variety of RHODODENDRONS, a fine variety of small EVERGREENS for decorative purposes, Standard and Dwarf ROSES, Standard and Dwarf LILACS, BOX well-grown RETINOSPORA, CYPRUSSES, FRUIT TREES, CLEMATIS, HONEY-SUCKLE, and other Climbers; LILIUMS, P.EONIES, DIANTHUS; a collection of FLOWERING TREES, &c., consigned direct, in splendid order for present planting.

Also a grand collection of—

STANDARD, DWARF, CLIMBING, POT, NEW, and other

**ROSES,**

From one of our most successful Growers and Prize winners.

Well-grown PALMS. FRUIT TREES to name.

A collection of HARDY BULBS.

BORDER PLANTS in variety. LILIUMS from Japan.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 18, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues bad.

**THURSDAY NEXT.**

**LINDEN'S GREAT ORCHID SALE.**

A GRAND INTRODUCTION OF

**A NEW AND MAGNIFICENT TYPE OF CYPRIPEDIUM.**

**MR. J. C. STEVENS** will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 19, a grand new CYPRIPEDIUM, by order of Messrs. Linden, who have great pleasure in introducing this new Orchid, just received from their Collector in the Malay Archipelago, to hand, per *Messageries Maritimes*, in splendid order.

This should prove one of the most sensational introductions of late years. Our Collector, who had the good fortune to discover this new species, after almost superhuman efforts in an Island which is devoid of every trace of civilisation, pronounces it to be the grandest Cyrtopodium he has ever seen, with flowers of great size, elegant shape and striking beauty. Some wonderful forms may turn up amongst these plants, which look very distinct.

On view morning of Sale, and Catalogues bad.

**Thursday Next, March 19.**

By Order of Messrs. Linden, Brussels.

An importation just received in grand condition of:—

The true OLD CATLEYA LABIATA, synonym CATLEYA WABOCQUEANA, Linden's unsurpassable and unrivalled type. Universally acknowledged as producing the grandest and most brilliant forms of this, the true old autumn-flowering Catleya Labiata.

CELOGYNE VIRGINALE (provisionally named)—A new Burmese species, described by collector as producing beautiful large white blossoms, in the way of Ceogyne cristata, of a delicious fragrance. Just to hand in very fine condition.

MILTONIA MORELIANA, var. ATRO-PURPUREA — A magnificent lot in very fine condition of this North Brazil variety.

BULLINGTONIA LINDENI.—The grandest and freest-flowering of all. In superb condition.

CATLEYA SPECIES. Supposed Natural Hybrids. Selected semi-established unflowered plants. They have been collected in the same regions from whence we introduced the famous Catleya Leopold II, and other grand forms, as Catleya Hardyana Linden, C. Hardyana Dallemagni, C. Hardyana Luciani, and others.

CATLEYA REX.—Selected established unflowered plants, of this the grandest of all Catleys.

ODONTOGLOSSUM VEXILLARIUM, Linden's famous type. —Superb selected unflowered plants, fine, healthy established plants, with strong flower-spikes, producing the largest-flowered and darkest-purple forms ever introduced.

Together with many other valuable IMPORTED AND ESTABLISHED ORCHIDS.

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 19, at half-past 12 o'clock precisely.

**MONDAY, MARCH 23.**

**SPECIAL COLLECTION OF BORDER PLANTS.**

**MR. J. C. STEVENS** will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, March 23, at half-past 12 o'Clock precisely.  
On view morning of Sale, and Catalogues bad.

**Thursday, March 25.**

The Somerhill Collection of Established Orchids.

**MR. J. C. STEVENS** has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Tonbridge, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, March 25, at half past 12 o'Clock precisely, the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

- |                              |  |
|------------------------------|--|
| Cattleya Mossie: Reineckiana | Odontoglossum vexillarium              |
| " Wagneri                    | Cobbianum                              |
| " exoniensis                 | Lycaste Skinneri Imperator             |
| Dendrobium glumaceum         | Ceogyne cristata alba                  |
| " validum                    | Dendrobium nobile albiflorum           |
| Dian Vetchii                 | " Cooksonii                            |
| Vanda teres                  | Vanda Sanderiana (Goldsmid's variety)  |
| Thunia Veitchii              | Lelia tenebrosa (extra good varieties) |
| Lelia Gouldiana              | " anceps (do do.)                      |
| Ceogyne Dayana               | Anthurium Le Flambeau                  |
| Anthurium Andreanum          | " album                                |
| " album                      | " Laingii                              |
| " Ferrierense                | " rotundispatum                        |
| Odontoglossum Uro-Skinneri   | " &c. &c.                              |

On view morning of Sale, and Catalogues bad.

**GREAT SALE OF ORCHIDS.**

**JOHN COWAN & CO., Ltd.,**

Are now offering for Sale by Private Treaty, a large and splendid COLLECTION of ORCHIDS on very tempting terms. Descriptive and Priced Catalogues post-free on application.

The Company are also constantly receiving fine Importations of Dendrobiums, Cattleyas, Odontoglossums, Cyrtopodiums, &c. Full particulars of each Importation as it arrives, will be sent on application to—

**JOHN COWAN & CO., Ltd.,**

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

**WANTED**, to purchase, a FREEHOLD NURSERY or FLORIST BUSINESS.—G. H. M., 41, Wellington Street, Strand, W.C.

**FOR SALE, NURSERY and FLORISTS' BUSINESS.**—One acre of Land, eight Glasshouses; 99 years Lease, 84 years to run. A reasonable offer accepted. K. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

**FOR SALE, a small valuable long leasehold NURSERY**, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Ocumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

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**KENT, near Station.—FREEHOLD MARKET NURSERY**, 1 acre, 12 modern Greenhouses, all efficiently heated. Price, including Stock, £1050. Rare opportunity. Owner has to leave England, having property abroad. Particulars of—  
**PROTHEROE & MORRIS**, 67 & 68, Cheapside, London, E.C.

**LONDON, S.W.—Good locality for Jobbing.** TO BE SOLD, a small NURSERY, with two Show-houses, two Greenhouses, well-beated; Sheds, and Stabling. Lease, 16 years unexpired. Rent £17. Price for Lease, Glass, and Stock, including Pony and Van, £250.—Full particulars of—  
**PROTHEROE AND MORRIS**, 67 and 68, Cheapside, E.C.

**LONDON, S.W. First-class neighbourhood.** TO BE LET, a Productive NURSERY, 2 acres; 8 Greenhouse, Conservatory, Pits, Dwelling House, and Out-Building. Good local trade done. Lease, 7, 14, or 21 years. Rent, £120, including goodwill. Stock and utensils in trade at a valuation, about £200.—Full particulars of **PROTHEROE AND MORRIS**, 67 and 68, Cheapside, F.C. (Solio 8769)

**FOR SALE, cheap, 4-foot SADDLE BOILER**, with Waterway end; also THREE OTHERS, nearly new, with quantity of 3 and 4 in. hotwater pipe; Greenhouse Lights, &c.—Apply, 47, Fulham Palace Road, Hammer-smith, W., before the 25th.

**FLORIST, NURSERY, and MARKET GARDEN BUSINESS,** beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling, Piggeries, and Orchard (about 12 acres in all); rent low. Extensive area covered with Glass, and properly heated. Abundant supply of Water flowing through the premises. Two Railway Stations near.

Purchase or Partner.  
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**FOR IMMEDIATE DISPOSAL,** old-established FLORISTS' SEED and JOBBING BUSINESS. For further particulars apply to—  
Mr. L. A. LAYTON, Station Road, Egham, Surrey.

**FOR SALE, COLLECTION OF ORCHIDS,** or Exchange for good Decorative Plants (small); also a few pots of EUCARIS, in splendid health. For particulars apply to HEAD GARDENER, Garnons, Hereford.

**LAWN MOWER, for SALE.**—A 20 inches (Green's), with Box, in good working order, price £1 10s. Apply—M. G. G., 2, Belle Vue Villas, Southgate Road, Wood Green, N.

**FOR ORCHIDS and GARDENERS** to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

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The Chair will be taken by Mr. J. O. Baker, F.R.S. of the Herbarium, Royal Gardens, Kew. The following gentlemen have promised to read Papers: Mr. F. W. Burdidge, Mr. James Allen, Rev. E. S. Bourne, Mr. C. W. Cowan, Mr. J. D. Pearson, Mr. C. Stuart, Mr. W. Robinson, Dr. Crawford, and Mr. W. J. Caparn.

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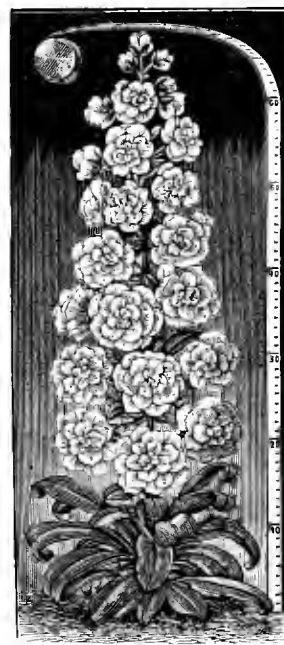
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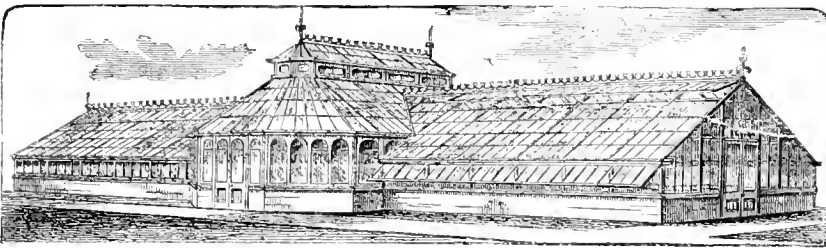
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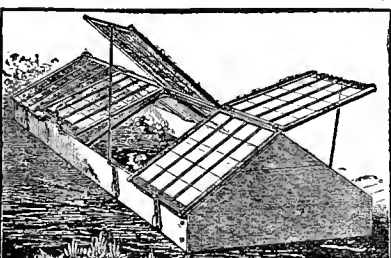
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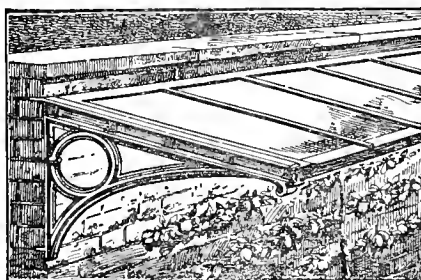
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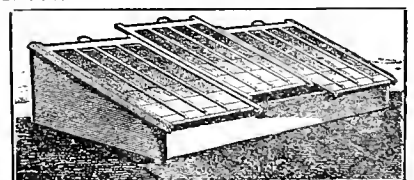
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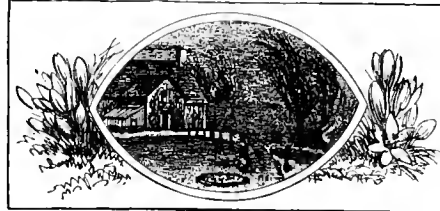
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THE  
**Gardeners' Chronicle.**

SATURDAY, MARCH 14, 1896.

THE FLOWER GARDEN.

IN laying out a flower-garden, and pleasure-grounds adjoining, due regard must be paid to the style of architecture and the size of house as well as to the immediate surroundings, so as to insure the former being in keeping with the latter. Whether the mansion be of large or small dimensions, old or modern in style, the garden should harmonise with it.

A sunk Italian-garden should be bounded with Yew hedges at the base of the terraces, and enclosed by ornamental walls covered with Ivy, and surmounted by piers capped with stone balls at short intervals. A broad gravel walk should run lengthwise through the centre of the enclosed space, with narrower ones communicating therewith at ends and sides, and at various other points, thus dividing the intervening spaces into squares, and again dividing these squares into a series of geometrical figures. Each bed in the design should have a strip of green sward intervening between gravel-walks of the same width (22 inches), together with suitable statuary judiciously placed, and a fountain occupying a central position, is quite in keeping with a modernly-built house, and being sunk, terraced, &c., it does not obstruct or otherwise interfere with the view and beauty of the surrounding landscape—indeed, on the contrary, it forms quite an exclusive picture in itself; the large breadths of green sward of irregular outline, which generally adjoin and extend some distance beyond the Italian-garden, lend additional charm and contrast to the floral picture.

A suitable site for a flower garden is a place of rather circumscribed prospect, limited almost to the green sward out of which the flower-beds are cut, with a liberal area of lawn on either side and beyond, with here and there specimens of the common and Purple Beech, flowering shrubs, and specimen Conifers, together with beds and borders of indefinite shape and width, planted with flowering shrubs, Thorus, &c., of various heights and periods of flowering, belts of trees or wooded slopes terminating the view in the near distance, thereby concentrating attention on the intervening space—the flower garden. This is generally situate opposite the south front of the mansion, villa, or cottage, sometimes extending a little to the east and west, according to local circumstances, by which the selection of aspects and sites is necessarily governed. As an instance of this, I may here remark, in passing, that one of the most extensive and beautiful flower gardens that I am acquainted with in the United Kingdom faces due north and east of the court, the ground sloping sharply from terraces to beds of shrubs and trees of Pine-wood, &c., through which (eastward) is a vista extending to a range of mountains some 40 miles distant, while the surface on the north side extends

acutely for a distance of about 400 yards to a ha-ha (sunk fence), with an ornamental railing, and a gate and bridge in the middle, running parallel with it, and a broad gravel-walk, with which a broad central, and various narrower walks communicate. And beyond this ha-ha, a strip of the park, some 400 yards broad, extends in the same direction, to a beautiful lake, with a Pine-wood in the background, and above the tree-tops, of which glimpses of rugged hills and finely-wooded slopes are seen in the distance from the terrace-walks. Three-parts of this circumscribed space (farthest from the court) contain numerous beds of various shapes and sizes, of North American plants, of shrubby and trailing habit; rosaries, together with an interspersed of statuary, representing spring, summer, autumn, and winter, and various mythological deities. Opposite the south front of this court is a beautifully wooded and undulated park, which extends and broadens in an easterly and westerly direction, thereby opening out pretty peeps of distant woodland and mountain scenery. In this latter position flower-beds, no matter however informally disposed and shaped, would be obviously out of place. Hence the formation of the flower-garden at the north and east fronts of the court as indicated above.

There are some people, however, who condemn flower-gardens of every description on the score that they are artificial, unmindful of the fact that almost everything connected with our homesteads and our persons, if not with ourselves, is artificial. Flower-beds and flowers, place them where you will—whether within view of the windows, or in some secluded spot—are, like the crops we cultivate in the field and garden, to some extent, artificial; even in our woods, evidence of man's handicraft is not wanting. Nature in her wild state, with her gulfs, rugged rocks, deep ravines, and such like, is very beautiful, but sometimes it is capable of improvement at the hands of man. Great skill and a keen appreciation of natural scenery are necessary on his part in order to leave no trace of his work in the matter.

#### THE LAYING OUT OF A FLOWER GARDEN.

In making a flower garden, the first thing to be done, after a plan has been decided upon, is to level the ground in a line parallel with the house, and in accordance with the transverse level and width of walk immediately adjoining and communicating with the entrance to the house, excavating this, say, to the width of from 10 to 18 feet, according to length and height of house or mansion, and from 15 to 24 inches deep, according to the nature and depth of sub-stratum, so as to allow of a good thickness of rough material—stones, brickbats, and such-like being laid over the bottom of walk for drainage, and to which subject we shall revert presently. If the ground should run in an oblique direction from the house, it will admit of a sloping bank or terrace being made, extending from the edge of the walk down to a given point, whence the gradually and regularly sloping surface of the space whereon the beds are to be formed begin. In making a bank of the description indicated, it does not always follow that the width of the slope will be the same at both ends, or even at one end and in the middle, inasmuch as the ground may have a natural descent southward and westward, and it may be eastward as well, and which contrary gradients must be got over either by following the natural bent of the surface in the directions indicated on making additional banks and levels. However, the turf in the entire length and width of a bank between the top and bottom lines should be flat. The use of a straight-edge is necessary to this being done correctly. The upper line of the batter as well as the lower line on the level land at the bottom should be firmly and correctly made before the straight-edge is used; the latter being employed to detect inequalities in the face of the bank or batter. The ground-space set apart for the formation of beds, &c.,

and extending in an oblique direction from base of above-mentioned slope or bank, should be levelled accordingly.

If the terrace is of a good length—say, sixty yards or thereabouts—there should be three separate lots of stone steps descending therefrom to the walks connected therewith—two narrow ones, say 6 feet wide, one at each end, and one double that width in the middle, opposite the entrance to the house.

#### FORMATION OF WALKS.

The necessary number of main and connecting gravel walks should be pegged out as soon as the rough levelling—the scattering of the hillocks into the hollows—has been done. The excavations being used, if necessary, for levelling, making of terraces, rockeries, rooteries, and hardy ferneries in suitable places. It is a matter of importance that new walks should be made with due regard to the purpose for which they are to be used; and if for wheel traffic as well as for the use of pedestrians, as is generally the case in large gardens, a greater depth of soil than would be necessary in the case of walks for pedestrians only should be excavated, so as to find space for a good quantity of hard materials as a foundation, and for drainage. The first point to determine when making a walk, after the line of direction has been decided upon, is the width it should be made. Main walks should be, as in the case of terrace walks, from 10 to 18 feet in width, according to their length and the extent of the grounds; the others being from 5 to 7 feet (narrower in the case of Italian gardens) wide. This done, due regard should be paid to the level of the ground on either side of the walk (cross-wise), as well as the direction in which it is proposed to take the surface-water. A depth of from 12 to 18 inches, in a general way, is ample for walks of the above dimensions; but in cases where the top soil is shallow, and rests on chalk, gravel, or stone, all that is necessary is to remove the top soil, with which the ground on either side the walk may be rendered level, and depressions, if any, filled up. The bottoms of walks should be deeper at the sides, that is, the walk should be slightly convex, forming at the sides, as it were, channels to convey water away. If the substratum be chalk, the surface should be well pounded, allowing sufficient fall (longitudinally) to the points towards which it is decided to drain the walks, providing means at each outlet to convey thither any water that might lodge on the opposite side of the walk; that is, when it is convenient to have outlets connected with drains or "catchpits" on both sides of the walk.

In the case of walks resting on a bed of chalk, gravel, or stone, as mentioned above, a smaller quantity of hard material becomes necessary. A broad walk, having an excavated depth of 18 to 24 inches, should have at least 12 to 18 inches of rough, hard material—such as brickbats, clinkers, or stones—put into the bottom; over this a layer 3 inches thick of coarse gravel, followed by a like depth of fine red gravel, if obtainable. This should be raked level and smooth, and rolled as soon as dry enough—first with a light, and afterwards with a heavy roller, repeating the operation on four or five days in succession (weather permitting), or until a level, firm surface is obtained. Walks of from 9 to 12 inches deep should be afforded a layer of proportionate thickness of the several materials recommended for the work described above. Bold, graceful curves should be observed in making winding walks; where Box is used as an edging, the work requires to be performed with precision and neatness. *H. W. Ward.*

### NEW OR NOTEWORTHY PLANTS.

#### BOLBOPHYLLUM ORTHOGLOSSUM.\*

In general appearance and habit the plant may be compared with *Bolbophyllum mandibulare*, one of the giants of the genus. The bulbs, the leaves,

\* *Bolbophyllum orthoglossum*, Wendl. & Krzl. (Sarcopodium).—Caulibus secundariis s. bulbis approximatis ovalibus subcompressis ad 5 cm. longis ad 2 cm. latia monophyllis; folio

the flower-stalk, and even the flowers of our species resemble in a surprising degree those of *B. mandibulare*, reduced to nearly half the size of this species. But there the affinities end. The lip of this new species is, perhaps, unique in the genus. At first it is really three-lobed, the side-lobes being comparatively small, bent forward, toothed at the margin, and covered with little warts on the inside; the mid-lobe has a cushion-shaped thick base, and a tongue-shaped, fleshy, acute, straight apex. The column is at each side produced into a long bristly acute tooth. The flowers are comparatively showy, the sepals and petals being yellowish-green, with numerous brown stripes throughout their whole length.

This plant, as well as *B. multiflorum*, see p. 294, flowered at Herrenhausen, near Hanover, and was sent to me by Mr. Wendland. *F. Kränzl.*

#### RHODODENDRON × EOS.

THE illustration (fig. 44, p. 327) represents a complex hybrid *Rhododendron* raised in the Chelsea establishment of Messrs. James Veitch & Sons, by their foreman, Mr. Heal, and exhibited by them at the February meeting of the Royal Horticultural Society this year under the somewhat misleading name of *R. malayano-javanicum*, now changed to that given above. As seen by the synoptic view of the pedigree, four different species are concerned in the ancestry, two of which are, and two not, identical with those from which *Rhododendron* × *Nema* was derived (see *Gardeners' Chronicle*, February 1, p. 133), thence affording another case for observing the changes effected by successive crosses between species and hybrids. In the present instance all the forms concerned in the ancestry are in cultivation, and the modifications resulting from the various crossings can be easily traced. The most remarkable phenomenon in the series of crosses that produced *R. Eos* is the preponderating influence of the pollen-parent in the last cross, as shown by the form and colour of the flowers, and in a less degree by the foliage. This parent is *R. malayanum*, widely distributed over Malaya, and known to science since the early part of the century; it was originally introduced by Messrs. Veitch through their collector, Thomas Lobb, from Borneo; it was also sent to them by Curtis, from Sumatra, in 1833.

The present subject is the forerunner of a new race of warm greenhouse *Rhododendrons*, which has suggested the name (*Eos*, the dawn). It would be invidious to compare it with its brilliant predecessors of the javanico-jasminiflorum race, nevertheless gardeners will find it a very useful subject in the late winter and early spring months, on account of the bright warm colour of its flowers, which may be described as carmine toned with scarlet; their persistency, they last three to four weeks in perfection; and their profusion. The floral sprays will also be found useful for bouquets.

The central figure is *Rhododendron Eos*; the smallest one to the right, a small plant of the pollen parent, *R. malayanum*; that to the left, a small plant of the seed parent, *R. Monarch*, in bloom.

#### THE LARCHES, ALDERLEY EDGE.

ON a considerable eminence from the gorge through which the main line of the London & North-Western Railway has been made, is the residence of Wm. G. Groves, Esq., The Larches.

petiolato basi canaliculato oblongo obtuse acutato ad 20 cm. longo ad 5 cm. lato; scapo folium subequante, cataphyllis 3-arete vaginae vestito, paucifloro; floribus succedaneis inter majores generis, bracteis quam ovaria brevioribus; sepalis e basi ovata productis acumineatis, lateralibus basi carinatis; petalis semilongis ovatis acutis; labelli hypochilii tantum in mentum semilongia ovatis acutis; labelli hypochilii v. pede brevi, epichilio re vera trilobo lobulis lateralibus arotaris falcatis intus verrucosis marginis antico denticulatis, lobo intermedio proterico recto basi ipsa pulvinari spongioso medio sulcato, parte anteriore triangula carnosia acuta; gynostemio utriusque in dentem triangulum acutum producta. Sepala ad 4 cm. longa viridi lutea brunnea striata, petala semilongia eodem colore, labellum paulo longius purpureum. In Sarangani insula det. W. Micholitz, Freder. Sander Verulamensis collector indefessus.

Although only 12 miles from Manchester, the air is generally bracing and free from noxious vapours. Tree and shrub-life go on luxuriantly. What Conifers have been planted, unless those on the crest of the hill, are of admirable symmetry. The Atlantic Cedars which confront the line of demarcation are over 30 feet high, and not two of them alike, some with stiff horizontal branches, like the typical tree; others, again, verging towards the drooping habit of the Deodar. There is only one sole representative of the Cedar of Lebanon, but it is about the only one that refuses to move up into size and symmetry. The Austrian Pine is noble, but common-looking among its fellows, and the older it is, the less captivating. The P. Cembra does well in these rocky shelvings, and stands the breeze. On the contrary, as everyone knows, the Weymouth

and shrub life. In the low ground, Rhododendrons of the finest hybrids luxuriate. On the slopes and over the boulders, the Irish Ivy and the Gaultheria Shallon are in close embrace, and each berries beautifully in its season. The Cotoneaster is represented in rather a unique way—a hedge of *C. Simonsi*, 4 feet by 3 feet, forms the arc of a large circle confronting the house, and it is closely shaven with shears, and beautiful it looks as a hedge, adorned, too, with its multitudinous crimson berries. Spacious as it is in bulk, it moves back and forward to the touch. The *C. microphylla* is planted against the house, and, being on a southern exposure, its branches grow outwards, and drape beautifully, and its crimson berries make it particularly interesting in the dead of winter. The Irish Ivy is also used on the gables effectively.

Palms, tree and other Ferns, the flowers and flowering plants being taken indoors for room decoration. Another conservatory on the top of the hill is kept gay for knitting generally.

There are a large vinery and a Peach-house with curvilinear front, and the sashes running up to the wall, giving a splendid length of Vine and Peach, and each house turns out fine crops. In the former, Muscat of Alexandria and Black Hamburg are the chief occupants. In the latter, Royal George Peach and Elruge Nectarine are the only sorts grown. The wood is strong, the buds are prominent, and the branches all thinned out, so as to give proper light, and encourage size and quality of fruit.

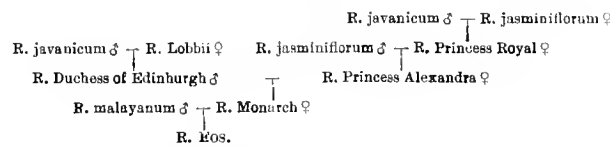
The greenhouses are filled with a variety of plants, especially for the production of cut flowers. The Roses in one of them were in extra "fettle," planted



FIG. 44.—RHODODENDRON X EOS. (SEE P. 326.)

(A, R. MONARCH; B, R. EOS; C, R. MALAYANUM.)

PEDIOREL—



stops short in the wind line; below it is quite at home. The Chili Pine (*Araucaria imbricata*) is doing magnificently. What trees there are of it are quite 48 feet high, and in outline like a cone from bottom to top, without a single flaw. The Japanese Retinosporas are models in their way, the splendid golden sheen of *R. plumosa aurea*, and the dusky brown of *R. quarrosa* especially elegant because of its drooping habit, contrast well with other Conifers of the gloomy green order, and although they are formal, excessively so, one can do with them, because they are naturally so, not like those clipped and tortured Hollies which some people delight in cutting to imitate extinguishers. This undulating ground presents an admirable surface for a variety of trees

The principal trees of great bulk are Beeches. The Birch does splendidly. There is one capital example of a rickety tree, with its silver bark clad with black wens. This has been the cause of keeping down its stature; but what it has lost in height, it has gained in spread of branches, forming when covered with leaves a grand sunshade. There is one representative of the Cork Birch; this tree will be over 40 feet in height, and of typical symmetry. For about a third of its height the stem is completely black with the usual cork-looking corrugations. The remaining portion of the stem is white, showing here and there a black scar which doubtless will in time form into a cork-looking covering.

The conservatory attached to the house is filled with

out, but kept within bounds, and not allowed to clamber along the roof. The chief one, and the great favourite here, is Catherine Mermet, also the climbing Niphotos, and then Madame de Watteville. The plants are in perpetual greenery, and the flowers in holiday-time in the dead of winter are up to the mark. One of the most useful things in the Azalea way is the white-flowering, sweet-scented deciduous *A. Daviei*. Amongst the more useful things is a pretty glaucous, ovate-leaved *Spiraea*, named *confusa*. It is a dwarf species, with multitudinous short racemes of pretty whitish flowers. The *Lachenalia tricolor*, with its red and yellow tubular blossoms, is a very effective plant at this season. In the warmer house,



Anthurium, with their brilliant scarlet spathe, are prominent. A very good winter-flowering Begonia, named Gloire de Sceaux, is useful for cutting; its fine peltate, roundly ovate leaves, of broody hue, make a capital setting for the rosy-pink flower umbels.

Orchids, however, are the feature in this well-managed, admirably-kept establishment. There is a very considerable variety of the species grown here, and the houses generally are well adapted for their cultivation. This is sometimes lost sight of, particularly by beginners, who in consequence do not give their gardeners a chance, and hence, even under the very best management some of the plants deteriorate in value. The Dendrobium-house had been at one time a vinery, and this kind of structure is about the best available for the genus. It permits the majority to be grown in pots or baskets suspended from the wires running parallel and close to the glass. And thus the ordinary sorts for cutting liberally from can be placed as they are here on the sparred wooden stage, 3 feet from the ground. The plants seem all to be doing well. There are many varieties of *D. nobile*, which in its finer varieties, still take first rank. There is a good many of *D. nobile Hardyannum*, which is a much better variety than I at one time supposed. There are many, too numerous to detail, of that section—all, however, grown as they ought clearly to be, in limited pot-room, throwing fine pseudo-bulbs, and showing well up for flower. The one that struck me most, which I know to be a miffy grower, was *D. Lowei*. It is remarkable how well this does even here, although it is better in warmer quarters, along with the *D. Phalænopsis* section. It is one of the most beautiful, with its yellowish-lined labellum. *D. Johnsoni* is a clear gain among the white ones, because of its abnormal enlarged lip. *Peristeria elata* does well in this climate, the pseudo-bulbs being very large and likely further to improve. A very fine form of *D. fimbriatum oculatum* was in flower, with the deep orange flower, and the intense crimson blotch on the base of the labellum. Some good-looking *D. Findlayanum*, with gouty-looking nodes of great prominence, associated well with the beautiful sweet-scented heterocarpum, which has proved itself so useful to the cross-breeder.

Two very useful span-roofed houses, each 25 feet by 10 feet, are filled with an interesting assortment of plants. *Cypripedium insigne* and its varieties are in evidence, and so is a batch of the various *Cælogyne cristata*—all used for cutting. The Trentham variety is useful for coming in so late, and it is so easily known from its rhizomes. The fine hirute variety of *Dendrobium Jamesianum* was flowering and doing well. There is a specially fine form of *Epidendrum Wallisi*, with more than usually prominent yellow segments, and large expanded irregularly-raised white lip, with pretty pinkish lines. *Vanda cœrulea* is grown here in quantity, and is as varied in its habit as it is in breadth, length, and position of the amplexicaul leaves. The various forms of *Lælia anceps*, from white up to coloured forms, have been and were still in flower. It forms a fine contrasting plant to the bright vermilion of *Lælia harpophylla*, of which there were numerous examples in flower. A good number of *Cattleya labiata* were growing freely, and there were quantities of *C. citrina* with fine fat ovate bulbs, with their paper-white exterior coating, so unlike those of allied species—unusually fine.

In the adjoining compartment was the collection of *Cypripeds*, the more important in flower being *C. × Argus*, so prominently spotted, and the dorsal sepal beautifully lined, quite model, too, in point of form. The *C. × Atsworthii* is larger, and better in every way than *C. × Sedenii*, and the pretty *C. Schlimii*, which is still in front rank, and many others. *Miltonia Roezlii* does well here, the pretty white one with yellow crest being in flower. Here, also, we have *Dendrobium Lowii* in grand culture, one example particularly, others promising well. *Vanda Sanderiana* and *V. Amesiana*, as well as *Aragræum sesquipedale* were moving well towards the glass roof. *Cattleya Bowringiana* is a strong

subject, and one that will not be easily beaten in collections. There is a remarkably fine piece of *Cattleya Trianae*: *Reine des Belges*, some very good *C. Percivalliana*, with its lip brilliant in the blotch, and the segments highly coloured. *C. præatans*, when in fine variety, as here, and in good health, is very captivating, suspended in a pot from the roof. *Brassavola Digbyana* and *glauca*, particularly the latter, was in fine flower; it is a beautiful species, and one with a deep rose eye at the base of the labellum was very beautiful, the more so because it had a widely-expanded lip, and was whiter than the normal flower.

In a detached lean-to house were grown, among other things, some *Phalænopsis*. When this species is well done, it is beautiful in its many varieties, and it is a pity it is not more generally grown. Here were some extra-fine forms of *P. amabilis*, one extraordinary fine form of *P. × leucorrhoda*, with a branched panicle of over twenty flowers—and such flowers for size as beat the ordinary *Moth Orchids*, and the flushing so very delicate. *P. Schilleriana* was also in flower in several varieties, one with deep roseate segments being very striking. *P. Sturtiana* is a welcome addition from the very pretty spotting on a lip; these were grown on teak cylinders, and seemed to be quite at home. *Dendrobium Phalænopsis* was growing suspended in pots in this climate, and they appeared to be all holding their ground—but will they continue to do so?

In a span-roofed sunk house, divided in two, were the cooler section of *Orchids*. *Lycaste Skinneri* and *alba* were in fine health and in flower. A rather taking *Lycaste* in the way of lanipes in the flower was striking. It is named *trifoliata*, because of the three leaves on the top of the pseudo-bulb. The flower is whitish, but the petals sweep round in outline to form a curve, and almost converge together at the apices. The lip is nearly pure white, with an irregular short frilling round about it.

*Maadevallia tovarensis* had quite a hundred flowers on a single plant, and for pure and paper-like texture it has no equal. It has certainly deteriorated in value these last dozen years, but not in beauty. There are many examples of the *Harr yana* and others common to collections; *Odontoglossum Uro-Skinneri* is in flower and mixes well with a mass of other colours. *O. pulchellum majus* is sweet and nœfol, and *O. citrosum* in several forms were showing well for flower. *O. grande* and *citrosum* evidently liked this climate. *O. coronarium* is simply growing superb on its moss-covered raft; the best pseudo-bulb will be more than half larger than the previous one, and when it flowers it must produce a wonderful hyscynth-looking spike. (See *Gardeners' Chronicle*, vol. xviii, 1895, p. 489, fig. 84, for extended descriptive notice.)

In the cooler division, there are many excellent *Odontoglossum crispum*, a very finely-grown *O. Andersonianum*, some good *O. Pescatorei*, *baphicanthum*, &c. We must not omit to notice the *Odontoglossum padinum*, a yellow and gold, with a good lip adorned slightly with sienna blotches. The collection and varieties of *O. Rosii* are very noteworthy, the flowers being large and generally first-rate; the plants are in first-rate health, bearing hundreds of flowers. The plants are placed on a shelf quite close to the glass. We must specially notice that sweet-scented *Oncidium cheiroporum*; it is much valued here, its short panicles of yellow flowers being very prominent. The whole place is under the superintendence of Mr. E. Robertshaw, an old Trentham and Chatsworth man, under Stevens and Speed, and he certainly does every credit to the distinguished establishments in which he was trained. *J. A.*

## ORCHIDS AT KEW.\*

(Continued from p. 198.)

The first great step in the improvement of *Orchid* culture was "the heating of glasshouses by means of hot-water pipes, which were first used for this

purpose on a small scale by Mr. Anthony Bacon, at Aberaman, in Glamorganshire, and afterwards by the same gentleman at Elcot, near Newbury. The inventor of the process is said to have been a Mr. Atkinson" (Veitch, *l. c.*, pp. 122, 123).

The same writer sums up in the following words the chief features of modern practice:—"Larger and more airy structures, with separate compartments for different climates (for large collections even separate houses); a lower average temperature; the admission of more light and air; and a better system of heating, shading, and ventilation" (*l. c.*, p. 124).

It must, however, be admitted that a considerable number of species still refuse to submit to horticultural conditions. *Cattleya citrina*, many species of *Oncidium*, and the beautiful Cingalese *Dendrobium MacCarthii* are examples familiar to every *Orchid* grower.

One species, however, that is usually found to be intractable, *Diacrium bicornutum*, has always been grown at Kew with little difficulty. On the other hand, it seems impossible to grow *Disa grandiflora* there with the success that attends its cultivation at Edinburgh and Chatsworth. Perhaps the most baffling genus of all is *Anæcœchilus*, the species of which, under apparently identical conditions, will sometimes flourish with facility, while at other times, for no discoverable reason, they refuse to grow at all.

In 1845 the span-roofed house, which now forms the east wing of the Tropical Fern House (No. II.) was erected on the site of an old stove (No. 3 of Dr. Lindley's Report). Sir William Hooker describes it (in 1846) as "occupied with a rich and inestimable collection of Orchideous plants (of which a great proportion was presented by Her Most Gracious Majesty)." This gift was recorded by him in 1844 as "the entire and valuable collection of Orchideous plants formed at Woburn Abbey, which on being offered to her by the present Duke of Bedford, Her Majesty was graciously pleased to accept and to send to the Royal Gardens at Kew." Continuing Sir William Hooker's account of the house:—"The centre is filled with a handsome stage slating, so large as to admit of a raised walk through the centre, thus enabling the visitor to look down upon each side of the house; while, over his head, and from the rafters on either hand, are suspended wire-baskets, filled with beautiful tropical epiphytes. . . . As the house in question opens on to another and cooler stove (No. 2, now the west wing of No. II.), we are enabled to remove the splendid epiphytes, when in blossom, to a less heated atmosphere, and thus preserve them in beauty for a much longer time. The Orchideous-house is assuredly one of the most interesting among the novel features of the establishment."

In 1847 Sir William Hooker further recorded:—"The Orchideous-house . . . has proved admirable for its structure, mode of heating, and the general arrangement; the plants, which have been increased (1846) by the noble bequest of the Rev. J. Clowes, of Broughton Hall, near Manchester, who willed his splendid collection of Orchideæ to the Royal Botanic Garden." It is somewhat remarkable that this is the only bequest which the *Orchid* collection at Kew has ever received.

Many of the *Orchids*, however, did not thrive in the house provided for them, which proved too large for the smaller species. These were therefore removed to the present *Orchid-pits* (now No. XVI.) about 1851. From about 1855-1862 part of the collection was maintained in some old fruit-houses in the present herbageous ground, which had been remodelled and heated by hot water. In 1863 the whole of the *Orchids* had been removed to these houses, and they remained in them till the erection, in 1869, of those in which they are now exhibited to the public. The old houses were pulled down.

The *Orchid-pits* (XVI. a & b) are amongst the oldest structures in the establishment. They are the "double propagating pits" of Dr. Lindley's Report (1840). The north end is formed by the only remaining portion of the wall of Methold's garden (it having originally belonged to Methold House, the

\* We take these interesting statements from the *Hand-list of Orchids Cultivated at Kew*, just published.



FIG. 4.—CYPRIPEDIUM SANDSONIANUM.

Director's present official residence), which was added to the Botanic Garden in 1846. These pits were heated with hot water in 1842 and rebuilt on more modern principles in 1884. The small Maedevallia-house (XVI. c) to the north was re-constructed in 1893.

According to John Smith (*Records*, p. 235), "in 1848 the number of species cultivated at Kew amounted to 755, and in 1850 to 830." By the same authority it is stated in 1864 to have been 638. In 1868, according to the *Botanical Magazine* (t. 5692), "Kew only possessed about 400 epiphytic Orchids;" in this enumeration there is probably some error, as in 1872 the number of species and varieties in cultivation was 851, belonging to 138 genera. Since that time the collection has steadily increased.

The *Kew Bulletin* for 1891 (pp. 52-75) contains a list of the Orchids, 766 in number, which flowered in 1890.

One striking evidence of the mastery which horticulture has gradually acquired over this difficult branch of cultivation is the successful production and rearing from seeds of hybrids.

This commenced with the work of Dominy in the nurseries of Messrs. J. Veitch & Sons, at Exeter, in 1853, and it has been continued ever since with increasing interest and success. It has not been without its scientific value in indicating that many genera, reputed to be distinct, are more closely related than had been supposed. The great range of species which Kew has at its command suggests attempts of this kind. And in the genus *Diaea* it has produced crosses which are easy of cultivation, and will probably become popular as ornamental plants.

#### CYPRIPEDIUM SANDSONIANUM.

STANDING alone in the distinct characters of its peculiarly-twisted and undulated petals, and some other points which make it of special botanical interest, this fine species is remarkable as being the most advanced member of the section of *Cypripedium* to which it belongs, and which approach nearest to the shiny, green-leaved *Selenipediums* of South America. It is a particularly striking species among the warm-house *Cypripediums* when seen in flower, and many cultivators are looking forward to the time when really good importations of the plant will enable purchasers to gratify their desires, for although introduced from the Malay Archipelago by Messrs. F. Sander & Co. through their collector Förstermann in 1886, it is still comparatively rare.

In appearance the plant resembles *C. Rothschildianum*, and in the inflorescence the purple hairy scape and the yellowish sepals striped with purplish-chocolate, have a resemblance to that species, but in the peculiar wavy petals which have been known to attain a length of 3 feet, which are pale yellow spotted with dark purple, it is distinct from any known species. The lip is purple-brown on the face and pale yellow beneath. The staminate is yellow with purple lines at the sides. If placed in a warm, moist house of an even temperature, *C. Sandsonianum* is not difficult to grow, and the probability is, that owing to its being often placed in the general collection of *Cypripeds* from cooler habitats, accounts for the scarcity of really fine specimens of it. Our illustration (fig. 45) was taken from a plant recently shown at the Royal Horticultural Society by Messrs. Hugh Low & Co.

#### FORESTRY.

##### PLANTING GAME COVER.

SOME correspondence has recently taken place in the columns of the *Gardeners' Chronicle* over the most suitable trees and shrubs for resisting the attacks of rabbits, and from the lists given by correspondents it would appear that very few plants are entirely proof against these rodents. It is only natural, however, that the rabbit should endeavour to appease his hunger with the most palatable food

he can find, and it is all one to him whether the food that he eats costs his patrons a small fortune or merely the land upon which it grows. The rabbit's natural food is grass; under ordinary circumstances he has no great difficulty in getting it. When a heavy fall of snow covers the ground and all surface-vegetation for the space of a month or six weeks, the rabbit shows us what a very efficient set of barking instruments he possesses. A novice in tree-planting who chanced to see the destruction wrought by rabbits during a hard winter might innocently inquire, "Why plant trees where there are rabbits?"

If we must plant on rabbit-warrens, it is better to put in as few as possible to the acre, and to afford each tree a wire-netting guard; but, as a rule, all rabbits should be kept out of young plantations and places where there are shrubs which they bark in hard weather, and this is readily done by fences of rabbit-proof netting, the lower edge of which is bent at a right angle and buried underground, the keeper doing the rest. Game coverts should not have the trees so numerous that grass and underwood cannot exist; and where pheasants are preserved, the Douglas Fir makes a good tree for roosting in, as it has a dense habit, and the birds when roosting are hidden from sight. A few clumps of Douglas mixed with other clumps or single trees of other species that may be preferred, and the space between left to itself, will soon form an ideal game covert. This method of getting up a covert is cheap and effective, and the cost of management is entirely confined to keeping the fences and rides in order. A modified form of it might even be adopted where timber is wanted, by carefully fencing in with netting patches of an acre or so, and planting and treating them on strictly silvicultural lines. Such a cover would consist of little islands of timber in a wilderness of woodland reserved for game, and would be much better than going to the trouble and expense of establishing a large plantation, and spoiling it later on by over-thinning for the sake of getting undergrowth. *A. C. Forbes.*

## FOREIGN CORRESPONDENCE.

### FERRIÈRES-EN-BRIE.

In the well-known gardens of Baron Alphonse de Rothschild was to be seen recently a magnificent display of Phalanopsis. Notably in flower were *P. amabilis*, *P. Schilleriana*, *P. Stuartiana*, *P. Sanderiana*, *P. grandiflora*, *P. rosea*, and *P. Emeralda*. The house, a span-roofed one, is filled with the flowers of these species from top to bottom. Many of that handsome variety, *P. Schilleriana*, were bearing more than thirty flowers on one spike. The plants, in pots, are suspended from the roof, and all, without exception, appear to be in perfect condition, showing that their culture is thoroughly well understood by M. Bergman, the head gardener. *A. C. C.*

## THE WEEK'S WORK.

### FRUITS UNDER GLASS.

*By W. Pope, Gardener, Highclere Castle, Newbury.*

**LATE VINERIES.**—Vines from which fruit is expected for dessert during the winter and early spring, consisting of Black Alicante, Muscat of Alexandria, Lady Downe's Seedling, &c., should now be permitted to start into growth, so that the Grapes will be perfectly ripe early in the month of September. Gros Colmar especially is one of those varieties which, if not ripened early in the autumn, when sun-heat is still strong, is almost flavourless. To have this variety really at its best, the Vines should be started with the Muscats early in the month of February. The exceptions to starting forthwith are, where the Vines have been recently pruned they should be kept cool for a week or two, taking the precaution to dress the wounds with styptic, to prevent bleeding at this late season. Late Hamburgs need not be started till the beginning of April. The inside borders of vinerias now closed should have a good watering, the water to have a tem-

perature of 85°. This will tend to stimulate the roots into vigorous activity, and compensate for the diuse of fermenting materials, which need not be used at this part of the season. The Vines should be well syringed, and the atmosphere kept moist till the Canes have pushed generally into growth, the treatment afterwards being that advised in earlier Calendars. Vines for fruiting early in pots next season which were cut back, will now need to be shaken out of the soil and repotted. Use for them 12-inch clean or new pots, turfy loam in a rough state, to which add a 6-inch potful of half-inch bones per plant. See that the drainage is good and sufficient. Bottom-heat will not be necessary after potting, but the plants should be kept close and moderately moist till established; train the canes as near the glass as possible as growth advances, to ensure firm, short-jointed canes. Vine-eyes struck in the month of January or early in the following month, if well-rooted, should be shifted into 6-inch pots, the soil used for potting the cutbacks being suitable for these. Stand them over the hot-water pipes if possible, and gently syringe amongst them every day, but not so as to break the tender leaves; keep the laterals pinched at the first leaf. These may also be grown on for furnishing fruiting canes the first year, and are by some gardeners preferred to "cutbacks."

**EARLIEST-FORCED FIGS IN POTS.**—When the first swelling of the fruit is completed, checks of all kinds should be guarded against at this most critical period. Lack of root-moisture or excessive heat is a frequent cause of the fruits dropping at the commencement of the second swelling. A night temperature of 60° to 65° should not be exceeded, with a fall of 5° in cold weather. Admit air carefully, and avoid cold draughts. Close the house early with sunshine, and plenty of moisture at 75°; syringe the plants twice a day well, taking especial care to wet the underside of the leaves, where red-spider most do congregate.

**PLANTED-OUT FIGS.**—These will require close attention in the matter of thinning and stopping the shoots at the fifth or sixth leaf, so as to throw a second crop of fruit. Thin the clusters of shoots to one on each, training and regulating all extension and terminal shoots as may be required, and keep the house moist. It is prudent to take the points off shoots in preference to allowing them to extend too much, and form long spurs; and pinch back with the finger and thumb, as it results in less bleeding than when cuts are made. Thin the fruits as they advance in growth.

### THE FLOWER GARDEN.

*By HEDLEY WARREN, Gardener, Aston Clinton, Trinj.*

**PRUNING ROSES.**—The proper time for effecting this important operation will soon arrive, and as I remarked in a previous Calendar, the Roses have already started into growth, owing to the mild weather. Roses planted during the present season will take no harm if pruned a week or two earlier than established plants, and they may also be pruned more severely, as, by so doing, stronger growth from the base of the plants is effected, and, as a consequence, a better foundation for the future head. Some gardeners prune to within an inch or two of the level of the ground in the case of newly-planted young Roses. Old wood in dwarf, standard, or climbing Roses, should be partially removed every year at this season, so as to throw all the vigour of the plants into the younger shoots. As a good deal depends in Rose-pruning upon the character of the season and the situation of the plants, how to prune must be left to the discernment of the pruner; still, the following hints are always in place:—All weak wood should be cut hard back, the remainder being reduced according to its strength, and the health and vigour of the plants. A knife is much to be preferred to *secateurs*, which do not make clean cuts, but leave snags, which form hiding-places for a variety of insects. In old established beds of Roses the practice of pegging-down a number of the strongest growths is followed by some, and it has much to recommend it, as by that means a greater number of blooms is obtained, although this is usually at the expense of quality, and unless the work is very neatly done, the beds present an untidy appearance. A few good varieties making long strong shoots suitable for being pegged down, are the following:—Noisettes: Aimée Vibert, Bonquet d'Or, Jaune Desprez, Fellenberg, Jeanne d'Arc, La Riche, and Triomphe de Ducher. Tea-scented: Gloire de Dijon, Cheshunt Hybrid, Homer, Madame Berard, Madame Levet, Reine Maria Pia, and Waltham Climber No. 1. Fine massing Roses

for summer are—Madame Hardy and Madame Zostmann amongst Damask Roses; Paul Ricant, as a hybrid Bourbon; and the Austrian Briars. For autumn bloom the following H.P.'s are excellent:—Anna Alexieff, Baroness Rothschild, Captain Christy, Chas. Dickens, Crimson Bedder, Dr. Andry, Duchess of Bedford, John Hopper, Jules Margottin, La France, Madame Ducher, Magna Charta, Pride of Waltham, Victor Verdier, and White Baroness. Bourbon: Mrs. Boanquet, Queen of Bedders, Sir Joseph Paxton, and Souvenir de la Malmaison.

### THE ORCHID HOUSES.

*By W. H. WHITE, Burford, Dorset.*

**ODONTOGLOSSUM CITROSUM.**—A beautiful, much-admired species, from Mexico, whence large numbers are imported, and which is of easy culture. The flowers are of much use in bouquets, &c., when cut from the plants, and the plants themselves can also be put to decorative purposes for brief periods of time in apartments. Established plants will now be starting to grow, and although the large pseudo-bulbs may be shrivelled, owing to a long rest, no water should be afforded before the growths have made considerable progress, and the flower-spikes push up through the centre of the growths. The flower-spikes are viable at a very early stage in a small white shoot, and as soon as this is noticed the plant should be immersed in a pailful of water, the water being allowed to just cover the top of the compost, and the plant to remain therein for several minutes; afterwards placing the plant in a warm, moist, growing atmosphere. The flower-spikes must, from the first, be protected from woodlice, slugs, &c., by wrapping a small piece of cotton-wool around them. The plants may be suspended close up to the roof, where the long pendulous racemes of blossoms are effectively seen. The best time for re-potting the plants is just after the flower-spikes are cut from the plant, or the flowers faded.

**DENORBIUMS.**—Plants of *D. cretaceum*, *D. crepidatum*, *D. primulinum*, *D. Pierardi*, *D. litniflorum*, *D. cucullatum*, and any others whose flower-buds are prominent, will require more warmth and a more generous treatment.

**CATLEYA-HOUSE.**—Plants of *Cattleya Lawrenceana*, if the flower-spikes are visible in the sheaths, should be afforded more water at the root, and a more elevated part of the stage at the warmest part of the house. Plants of *Cattleya Rex*, *C. Dowiana*, and its variety *anra*, now about to start into growth, should be similarly treated. *Luddemannia Lehmanni* and *L. triloba* are species possessing much floral beauty, as well as being of interest to admirers of what are called "botanical species," and they should, as soon as growth recommences, be applied with a fresh compost of peat and sphagnum-moss. On account of their peduncular inflorescence, the plants must be planted in shallow baskets, with no crocks at the bottom to hinder the egress of the flower-spikes. After root disturbance, water should be afforded with care, the old pseudo-bulbs being very liable to decay from an excess of moisture. These freshly-potted plants should not be immersed in water, but the compost and the sides of the basket lightly sprinkled with a watering-can having a fine rose. The quantity of water may be gradually increased as the roots become more active. Hang the plants when re-established in a light part of the house, and sponge occasionally with clean rain-water to remove red-spider.

**PLEIONES.**—The varieties *P. concolor*, *P. lagenaria*, *P. maculata*, *P. praeox*, *P. Wallichiana*, and *P. Reichenbachiana*, will now be making roots and growth, and should occupy that part of the *Cattleya* or intermediate-house where air is or can be freely admitted, and where they are but thinly shaded, and then only when sunshine is very bright. At the present time water may be afforded without stint, and occasionally some weak liquid-manure. In fine weather the underside of the foliage should be well syringed once or twice a day. Those varieties *P. Hookeriana* and *P. humilis* which require cooler treatment, and have now gone out of flower, should be repotted when growth begins, using a compost consisting of peat, loam, and chopped sphagnum-moss in equal proportions, with a moderate quantity of coarse silver-sand, mixing these together. The plants may be hung close to a roof-ventilator in the *Odontoglossum*-house; and till the roots have ramified the compost, water must be but sparingly afforded.

**ODONTOGLOSSUMS.**—The season has arrived when more root-space may be afforded to those plants

that need it, and for repotting or top-dressing those which have ceased flowering. Only those *Olonoglossums* should be disturbed whose condition renders repotting, &c., quite necessary, and all others should be left alone till the autumn.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Drogheda, Maidenhead.*

**ASPARAGUS BEDS** should now receive attention. Where these are flat, and a good dressing of half-rotted manure was placed over the beds in the early winter, any rough or undecayed portions should now be lightly taken off with a wooden rake, and the surface slightly pointed over with a fork, taking care not to injure any of the crowns. Break the soil up finely as the work proceeds, and leave a fine and even surface. The practice of laying a heavy dressing of rotted manure on the beds now, and covering this with 2 or 3 inches of soil is useless, and will rather hinder than promote an early growth of Asparagus heads. The surface should be made light and open, to admit as much sun-heat as possible. If the plantations did not receive a winter dressing of manure, a little salt and soot may, with advantage, be sprinkled over them before forking the surface. In regard to raised beds, the rougher portions of the winter-dressing should be raked into the alleys. The surface of the beds should then be pointed with the fork, and the beds lined out afresh. When forking-up the alleys, a small portion of the finest soil may be spread over the beds on either side as the digging proceeds. Should the soil be in any degree lumpy, allow it to become pulverised by rain and wind, and afterwards level over finely with a rake. Where it is intended to make new plantations during the month of April, the ground should be thoroughly trenched, at least 2 feet in depth, and a heavy dressing of manure be well incorporated with the soil to this depth. If the natural soil is of a heavy nature, the addition of road-scrappings and parings, and any sandy or burnt refuse, may be made with advantage as the trenching proceeds. Asparagus-seeds may now be sown thinly in shallow drills, 1 foot apart, on a warm border. Where roots are required every winter for forcing purposes, a supply of plants should be raised from seeds annually, and the seedlings be transplanted the following year into the prepared quarters to be grown on for forcing. Three years at least should be allowed from the time of sowing to lifting for this purpose.

**PEAS.**—Continue to make additional sowings of Peas in proportion to requirements. If ground can be spared, it is better to grow a greater quantity of such an important vegetable than is required, rather than err in the opposite direction. In sowing the varieties of Peas, it is not always safe to sow as soon as the previous crop is just above-ground. For instance, the two well-known kinds, Duke of Albany and Autocrat, if sown at the same time will form a good succession, the latter taking at least ten days longer than the former, before the Peas are ready for picking. If Autocrat was sown when those of the Duke of Albany were just above-ground therefore, a deficient supply must result. Any of the Marrowfat Peas may be sown now. Where plenty of room can be given, I prefer the tall-growing kinds; the dwarfier ones being admirably adapted for small gardens or where there is a difficulty in obtaining the necessary sticks. Duke of Albany, Criterion, Telephone, and Telegraph represent four excellent tall-growing varieties, suitable for present sowing; Sutton's Favourite Marrowfat, Dwarf Defence, Stratagem, and Dr. Maclean, a similar number of varieties growing from 2 to 3 feet in height.

**LEEKs.**—A small sowing of Leeks should be made to supplement those sown in boxes; if not grown for exhibition, a sowing made now will satisfy all ordinary requirements. As these are best transplanted into shallow trenches when large enough, one row, if 15 or 20 yards in length, sown alongside the Onion-quarter, and treated similarly now to that crop, should furnish abundance of plants for transplanting to permanent quarters later on.

**FORCING-PITS.**—Another sowing of French Beans should be made either in a bed of soil (which is preferable when circumstances permit), or in 8-inch pots. The last sowing is now coming into flower, and heavy syringings will not be advisable for a time. If cold pits or frames are available for the production of the late supplies of French Beans under glass, large 60-sized pots should now be filled three-parts full of soil, and five Beans be sown in each. Place them in a temperature of

about 50°, and they will furnish an advance batch ready for planting out in pits early in April. Another batch of Asparagus roots should now be brought into this structure. The crowns at this season start readily, and a temperature of 55° to 60° as a maximum will suffice.

**GENERAL WORK.**—During rainy and stormy weather, when outside work is impossible, Peasticks may be prepared, sorted into sizes, ready for use when required. If the necessary number of Spacale has not already been cut for forming the new plantation, prepare these at once, and afterwards place them in boxes of sandy soil ready for planting shortly. Broccoli should be gone over daily, and those hearting-in should be covered with leaves as a protection from slight frosts.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**CLEANSING AND PRUNING TREES.**—The last two months having been very favourable for work among fruit-trees, very little winter-work should now remain to be done. If, however, any trees have yet to be planted, let such work receive attention at once, being very careful that the roots are not exposed to drying winds for a minute longer than is absolutely necessary. Prune, and mulch, or stake any trees that still require to be done. It is beneficial to all spring-planted trees to give them a good syringing with water early in the afternoon on dry days, continuing the practice until the leaves expand. Morello Cherries and other trees planted against north walls are generally the last to receive attention. The pruning and re-fixing to the walls of these, also, should be quickly finished, as the buds are swelling up very fast; and if the work be left any longer, it will necessitate very careful handling to prevent the loss of a number of buds during such process. In places where the rainfall has been light during the last two months, the soils in borders against south walls may have become drier than is usual at this time of the year, and it will be well to examine them. Should they be found at all dry, give them a good soaking with weak manure-water, sufficient for the trees during the blooming season.

**GRAFTING.**—If it is intended to re-graft any trees this season, take off sufficient scions, and heel them in behind a north wall until required, also head back the branches of the trees it is intended to graft, as advised on p. 15. In selecting scions for stocks, care should be taken to choose only strong-growing scions for robust-growing stocks, and the medium-growing scions for medium-growing stocks. It is of great importance also to select only those varieties that appear to thrive in the locality, bearing in mind at the same time the varieties that are required to constitute a collection which will give a continuous supply of fruit for the kitchen and for dessert during the longest period that they can be had. A few good varieties of Apples of excellence, and likely to succeed in most districts, are Duchess of Oldenberg, Lord Grosvenor, Lord Suffield, Pott's Seedling, Stirling Castle, Ecklinville Seedling, Warner's King, Beauty of Kent, Bismarck, Lord Derby, Small's Admirable, Rymer, Mère de Ménage, Lane's Prince Albert, and Bramley's Seedling, for kitchen use; Irish Peach, Lady Sadsley, Worcester Pearmain, American Mother, Cox's Orange Pippin, King of the Pippins, Claygate Pearmain, Marzil, Rosemary Russet, Adam's Pearmain, Cockle's Pippin, Allan's Everlasting, and Scarlet Nonpareil for dessert.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Durlington.*

#### THE TEMPERATURE OF THE VARIOUS HOUSES.

—The weather keeping genial and mild, the warmth of the house where *Codiums* are grown chiefly may be increased to 70° by night and 75° by day, or 80° with sun-heat. In the stove, where the plants are of many different genera and species, a night temperature of 65° and by day of 75° will suffice. The warm fernery may have 55° at night, and by day 60°. The ventilation of these various houses requires careful attention, air being afforded for a few hours daily when outside conditions are favourable, the new pushing growths of all stove plants being greatly strengthened by so doing.

**DRACENAS.**—Specimen plants which have been much in use in house decoration may have lost many of their lower leaves, and should be decapitated, a practice I always adopt. The stem is stripped of the

leaves, notched or rung just below the first imperfect healthy pair of leaves, and sphagnum-moss is fastened round it at that spot, and kept moist. At this season roots are readily put forth, which, when fairly developed, suffice to maintain the head, and it may be severed from the stem and potted in 4 or 5 inch flower-pots, placed in the propagating-case, and kept close for a few days. In potting *Dracenas*, peat, loam and silver-sand are required. The bare stems may be cut up into pieces of about 1 inch, and inserted in pans filled with silver-sand, placed in strong bottom heat—the hot-water pipes in the stove answer well for this purpose. If old plants are shaken out of the pots, it will usually be found that suckers have formed on the roots, which, if potted and plunged in bottom-heat will make shapely table-plants.

**GLOXINIAs AND POINSETTIAs.**—Seeds of the first-named may now be sown for raising plants to flower late. The aged plants of *Poinsettia* may be put into heat and afforded root and top-moisture, in order that a good break may be obtained. These young shoots, or at least the best of them, may be taken and struck for increase of stock. I do not advise plants to be kept longer than two years at the utmost, as the cuttings make more shapely plants and have finer bracts. These soft cuttings should be severed with a heel of older wood, and struck singly in thumbes, plunging these in the propagating-case to root.

**FUCHSIAs.**—If largely grown, the general stock of plants should be placed in gentle heat. Some growers take *Fuchsias* while still dormant straight to the potting-shed, shake them out of the soil, prune hard back, and re-plant before placing them in warmth; but while fairly good results may follow this kind of treatment, better ones attend the following method:—In most gardens the *Fuchsias* are dried off in the autumn, and housed in a dry place, or beneath the greenhouse stage. It strikes me as being better practice to start such plants in an earlyinery, or other warm house, before pruning into shape and repotting them. As soon as the plants have made shoots 2 or 3 inches in length, the cuttings may be taken. If these have a slight heel, so much the better will they root. Choose 3 inch pots, fill them with sifted leaf-mould and silver-sand, and insert six cuttings in each; plunge in the propagating-house, or in a dung-bed frame, having a bottom-heat of 80°. *Fuchsia* cuttings soon root, and as soon as they are well-rooted, turn out the pots, potting the cuttings singly into 60's, using loam, leaf-mould, and sharp sand. By repeatedly shifting the plants as they fill the pots with roots, and stopping the shoots when two joints long, well-bloomed specimens are obtained in one season. Some varieties need much more pinching at the points of the shoots than others, but to obtain a close habit of growth, plenty of flowers, and symmetry, a certain amount of pinching is needed by all. By pinching, the grower is enabled also to regulate the flowering-time of a plant, providing they are in vigorous health. The shoots should be pinched for the last time about six weeks previous to the date you wish the plant to be in flower. A good potting soil consists of good loam and leaf-mould one part each, some horse-dung from a Mushroom-bed, and sharp sand. The present is a suitable time to start plants required for showing. When a *Fuchsia* is well rooted, liquid-manure made from sheep-droppings is an excellent stimulant.

**MISCELLANEOUS ITEMS.**—Seeds of *Grevillea robusta* should now be sown, the plants coming in usefully for furnishing and various purposes towards the end of the year. *Aralia Sieboldi* is a useful plant, easily raised from seed; and as soon as seed can be had, which is in March or April, sow some in gentle heat, and grow on in warmth throughout the summer. It is a useful plant for winter work. Shading material of all kinds should be got in readiness for use forthwith.

**WOOD INDUSTRIES OF SWEDEN.**—The *Timber Trades Journal* has just issued an illustrated account of the commercial history and development of the timber trade in Sweden. The red "Fir" is the produce of *Pinus sylvestris*, the White Fir or Spruce of *Abies excelsa*. Since the abolition of the duties in 1866, the export of timber and of wood already sawn and planed, has assumed enormous proportions, and those who are fond of statistics will find plenty of them in the present publication. But little apprehension exists as to the exhaustion of the supplies, provided certain precautions be taken. Details are given as to the several timber-shipping ports, and much other information of the highest interest to those concerned in the timber trade.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETINGS.

SATURDAY, MAR. 14—Royal Botanic Society meet.  
THURSDAY, MAR. 19—Linnean Society meet.

## SHOWS.

WEDNESDAY, MAR. 13—Royal Botanic Society's show at Regent's Park.  
Devon and Exeter Gardeners' Association show.

## SALES.

MONDAY, MAR. 11—Azaleas, Spiræas, Fæonies, Mont-bretias, Gladioli, &c., at Protheroe & Morris' Rooms.  
TUESDAY, MAR. 17—Carnations, Herbaceous and Hardy Plants and Bulbs, &c., at Protheroe & Morris' Rooms.  
WEDNESDAY, MAR. 18—The Green Bank, Sheffield, collection of Established Orchids, by order of D. Doncaster, Esq., at Protheroe & Morris' Rooms.  
Japanese Lilies, Tuberoses, Gladioli, Greenhouse Plants, Roses, Palms, &c. at Protheroe & Morris' Rooms.  
FRIDAY, MAR. 20—Imported Orchids, by order of Messrs. Hugh Low & Co., at Protheroe & Morris' Rooms.  
Hardy Perennials, Clematis, Roses, Amaryllis, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42° 9'.

That excellent authority, M. NEUMANN, in his standard manual *Die Kunst der Vermehrung, &c. (The Art of Propagation [Plants])*, states, p. 30, third edition, "that the propagation of plants by means of sections of the stem is being followed in most countries, and that he had made use of this method in propagating *Cycas circinalis*, a plant formerly rare in gardens." He took cross sections of the stem 2 to 3½ inches thick after cutting off the crown, left them uncovered for four or five days in a warm place to allow the surfaces to dry, and then planted them in pots of a suitable size; placed these on bottom heat, and covered each with a bell-glass. These slabs soon formed roots, and shoots pushed forth between the scales. As soon as the growths had reached a proper degree of development, they were detached and employed in the same way as cuttings, which soon formed as erect, regular plants as the mother from which they were taken. NEUMANN did not doubt that similarly good results could be obtained from the roots of *Paulownia*, *Dracæna*, *Poinsettia* (*Euphorbia*), *Astragalus*, *Spathodea*, *Dieffenbachia*, *Saccharum*, *Melora*, the tree-like *Aroids*, &c. The stem is cut into pieces 1 to 1½ inch long, inserted slantingly in silver sand, if it is a kind which readily rots, or sandy earth in a hot bed; or in the case of robust kinds, in the natural soil. When the resulting growths are sufficiently developed, cut them off and use as cuttings, planting them singly in small pots, and affording them bottom-heat or not, according to their needs, until roots form, when they must be accustomed, like other cuttings, to more light and air.

The head of the *Cycas* which he had severed from the stem, was left exposed to the air for three weeks in the glass-house before it was set

in a pot, without his expecting any results, for it was a very young specimen. In the following year, however, he remarked that this crown had taken root, and growths were appearing between the scales, precisely as had occurred with the section. These growths were employed as the others had been, but they took almost a year to form roots.

Those of our readers who possess some of these noble forms of vegetation, the *Cycads*, and are desirous of increasing the number for the decoration of the apartments, dinner-tables, &c., or those whose plants are not furnished with crowns of any great beauty of form or colour, should put NEUMANN'S methods of propagation into practice. The chief points are: a propagating-pit, a steady bottom-heat of not less than 80° to 85°, and top-heat from 8° to 10° less, with a suitable degree of moisture; careful shading from direct sunshine, attention to keeping the sand or sandy earth about the sections and outtings in a uniformly moist state, and close in small frame hand-light or bell-glass placed within the pit. We know of many unwieldy and very rare *Cycadaceous* plants, which their owners would only be glad to increase in number, if they but knew the way how to do it.

THE disease known under this name is not only a plague to farmers, but to gardeners also, as Cabbages, Cauliflowers, Wallflowers, and other Crucifers, are as liable to it as agricultural crops proper. Mr. POTTER, in the *Journal of the Newcastle Farmers' Club*, records some interesting experiments made with a view of ascertaining the depth at which the spores of the fungus can retain their vitality, and of obtaining information on other points of the plant's life-history. Trenches were dug of different depths, and duly infected with the spores of the *Plasmiodiophora*. The trenches were filled in, and Turnips sown at the top of each trench. When the roots were lifted, it was found that there was no trace of the disease below 8 inches; but where the spores had been buried within 2 inches of the surface, the majority of the plants was affected. At 4 inches the proportion was less, and continued to decrease as the depth increased. In order to ascertain whether the spores had actually been killed, or merely rendered dormant by being buried beneath the soil, the infected soil in the year following from the original trenches was again made use of at varying depths as before, and again sown with Turnips. The results obtained corresponded exactly with those obtained in the previous year. Turnips grown in the soil from 2 to 4 inches in depth were badly affected; those grown in soil from trenches 6 inches deep and upwards, were not affected. The practical inference is, that deep ploughing should be effected.

Mr. POTTER'S further experiments go to show that spores of *Plasmiodiophora* can certainly retain their vitality for two years. If once the period of time required to starve out the fungus were known, then by avoiding all Cruciferous crops for this period, the disease could be stamped out provided it were not re-introduced from without. This proviso is all-important, for we could scarcely hope to banish all the Cruciferous plants in any locality; and if not, there would be no security against infection.

RHODODENDRON NOBLEANUM AT LOGAN GARDENS, STRANRAER.—One of the earliest shrubs in the year to flower in the open air—*Rhododendron Nobleanum*—is much employed in those parts of Britain which enjoy a compara-

tively warm climate in the winter, such as the south-western counties in Scotland and England. The variety has a trace of *Rhododendron caucasicum* (a late bloomer), and *R. arboreum*, and doubtless it is to the latter species that its earliness to flower and tenderness are due. The plant illustrated (fig. 46) is growing in the gardens of Jas. McDONNELL, Esq., Logan, Stranraer, N.B., and his gardener, Mr. McMECKING, who kindly sent several photographic views of the plant taken from different points of view, remarked in his letter to us "that the plant showed two or three blooms as early as January 6, this year, and was nicely in bloom on the 20th of that month." The colour of the flower is deep rose.

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, March 19, 1896, at 8 p.m., when the following papers will be read: I. "On the structure of the female flowers and fruit of *Sarranga*, Hemsley (*Pandanaceæ*)," by Dr. A. STAFF; and II. "On two little-known *Ophioglyphons Snake*," by G. S. WEST.

THE NATIONAL AURICULA AND PRIMULA SOCIETY: SOUTHERN SECTION.—We learn from the report of this Society recently issued, that twelve new members have joined the Society during the year, and that the loss has been four. The increase is encouraging, but an earnest appeal is made for increased support, and lovers of *Auriculas*, *Primulas*, &c., are specially invited to join the Society. Allusion is made to the great progress made in the southern parts of the country in the cultivation of the show *Auricula*, and the excellence of the alpine varieties. On the occasion of the nineteenth exhibition held on Tuesday, April 23, 1895, the quality and quantity of plants and flowers greatly exceeded anticipation, in spite of the severe and protracted winter. The lack of gold-faced *Polyanthoses* at the show is deplored. The committee deem it inexpedient to again hold an election of the best varieties of *Auriculas* and *Primulas* now that a list of the winning flowers is published in the Annual Report. The statement of accounts shows an expenditure of £77 14s. 4d. against subscriptions £69 3s. 6d., a deficit taken from the reserve fund of a sum of £8 10s. 10d. The balance in hand equals £11 18s. 6½d.

POTATOS.—Mr. ARTHUR SUTTON has reprinted from the *Journal of the Royal Horticultural Society* the substance of his lecture on October 29, 1895, illustrated by numerous photographic reproductions of the lantern slides made use of on the occasion. It is an interesting contribution to the history of the Potato, comprising details as to the acreage under cultivation in various countries, the methods of selection and of raising seedlings, notes on the methods of preventing or palliating the disease, and the curious results obtained by grafting the Potato on to the Tomato, &c. We shall take another opportunity of alluding to this very interesting publication, which in the meantime we commend to all concerned in the culture of the Potato.

THE COOMBER TESTIMONIAL.—The committee have resolved to close the fund that is being raised for the above purpose on March 31. The amount subscribed up to the present time is £113 4s. 6d. Those friends who have promised to subscribe are asked to forward without delay to Mr. H. J. VEITCH, the Treasurer, or to Mr. J. WILLIAMS, the Secretary.

EALING GARDENERS' ASSOCIATION.—At the usual weekly meeting held on the 3rd inst., Mr. J. HAWES, gr. to the EARL OF JERSEY, Osterley Park, exhibited a fine *Cyclamen*, growing in a 6-inch flower-pot, and possessing upwards of 150 flowers of a pure white. The plant was two years old from seed, yet it had a diameter of more than 2 feet. *Pizes* offered for spring-flowering plants occasioned a keen competition in various good subjects. A paper, entitled "Horticultural Exhibitions, their Uses and Abuse," was read by Mr. C. H. CURTIS.

EVERGREEN POPLAR.—Our curiosity is aroused as to an evergreen Poplar, specimens of which were presented to the National Horticultural Society, Paris, lately, by M. GODEFROY-LEBEUF. It is said, but with a note of doubt, to come from Chili.

"BOTANICAL MAGAZINE."—The plants figured in the March number are:—

*Incarvillea Delavayi*, Bureau & Franchet. A very showy herbaceous perennial of the Bignonia family, introduced by the Abt  Delavay, from the mountains of Yunnan in Western China. The leaves are a foot long, impari pinnate, the 8—10 pinnae sessile, lanceolate, coarsely toothed; the scape is erect, destitute of leaves, and bearing at the summit three or four rose-pink flowers, each 3 to 4 inches long; calyx tubular, angular, lobes acute, corolla-tube curved, subcylindric, about 2 inches long, dilating into a flat five-lobed limb; anthers glabrous. Flowered

*Massonia jasminiflora*, Baker. A curious bulbous plant, with broadly ovate green leaves, spreading on the ground, and encircling a central tuft of white long-tubed flowers; Orange Free State; t. 7465.

*Utricularia ianthina*, Hook. fil. A Brazilian species, with long red leaf-stalks, bearing cordate, rounded, undulate, green leaves, and tall racemes of large pale violet flowers. Flowered at Kew in 1895. Introduced by Messrs. Saender; t. 7466.

**CURLED CHINESE MUSTARD.**—The *Revue Horticole* has an illustration of a new variety of this little-known vegetable. It has broad leaves, curled

"BRITISH MYCETOZOA."—Mr. ARTHUR LISTER has compiled a guide to the British species of this group (Slime-fungi), which may now be studied in the galleries of the Natural History Museum. Mr. LISTER has not only compiled the guide, but has presented the specimens and the beautiful drawings by Miss LISTER which accompany them. In addition, Mr. LISTER has enriched the Museum with a collection of more than 800 microscopic slides. The systematic portion of the Guide before us is introduced by an admirably clear account of the morphological peculiarities and life-history of these singular organisms. There have been many controversies as

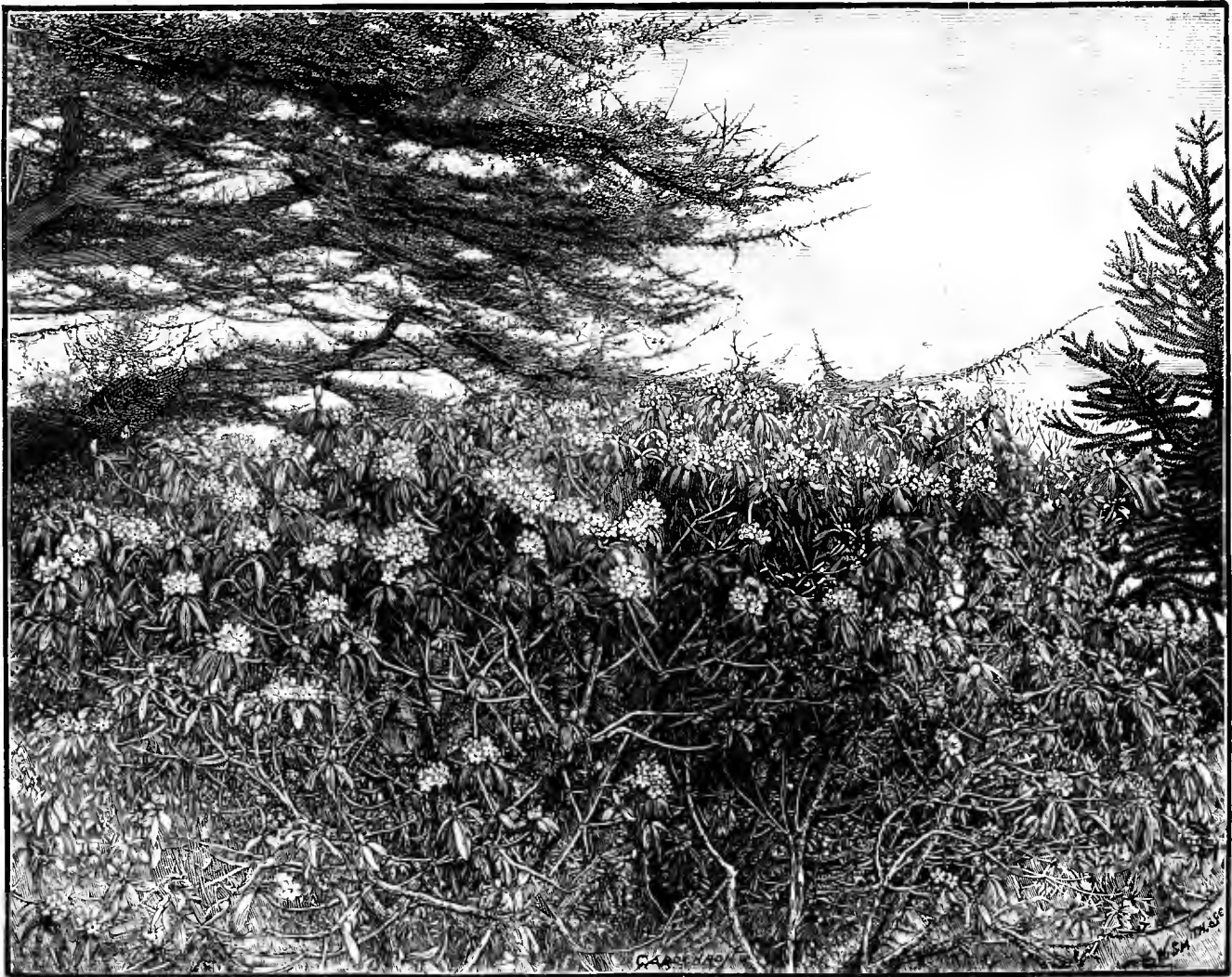


FIG. 46. — BEGONODENDRON NOULEANUM AT LOGAN, ITRANRAEB. (SEE P. 332.)

at Kew in a cool greenhouse, but Mr. Thompson of Ipswich has had much greater success with it as growing in the open ground; t. 7462.

*Comantosphoe japonica*, Spencer Moore. A Japanese undershrub of the Labiate family, with lanceolate leaves and terminal crowded spikes of white flowers. It flowered at Kew in the open air in October, 1891; t. 7463.

*Dipodium paludosum*, Rehb. f. A native of marshy places in the Malay peninsula, with distichous ensiform leaves, and long-stalked lateral racemes; flowers numerous, 2 inches in diameter, straw-coloured, with purplish spots; segments oblong, lip shorter, villous; flowered at Glasnevin; t. 7464.

like those of a Kale, and of a rich green colour, so that for garnishing purposes it will be found very acceptable, while its flavour, when cooked, is said to be more delicate than that of Spinach. The seeds are sown in the open ground in early autumn, and the young plants pricked out so as to leave a space of 12 to 18 inches between the plants in each direction. Within six weeks after sowing, the leaves may be plucked, the yield continuing till the first frost. It may also be sown in spring, but when summer comes, there is a tendency to "bolt," and the leaves produced are not so fine as those developed at the end of the summer or the beginning of autumn.

to whether they should be classed with the animal or with the vegetable kingdom. It is significant of the drift of modern opinion that the present collection is entrusted to the Botanical Department, and that the Guide is published with an introductory notice by the new keeper of the department, Mr. GEORGE MURRAY. In the days when tan was more used for hot-beds than it now is, much mischief was occasionally brought about by one of these fungi, now called *Fuligo septica*. We have seen the cuttings in a long propagating-pit materially injured, or entirely destroyed, within twenty-four hours by the spread of these "flowers of tan." Powdered sulphur and salt were used to check the further progress of the enemy.

**DENDROBIUM BIGIBBUM.**—There is a note concerning this species figured in the last part of FITZGERALD'S *Australian Orchids*, which may be worth repeating:—"Captain BROOMFIELD, who has successfully grown this plant, states that this Orchid will stand more ill-treatment and neglect than any other tropical Orchid he knows of; if put up in an attic for twelve months it retains its vitality; and if afterwards put into favourable conditions of growth, it will shoot vigorously, and as if it were refreshed after a long rest."

**WINE PRODUCTION IN FRANCE.**—The production of wine in France is stated to have amounted in 1893 to 50 millions of hectolitres; in 1894 to 40 millions, in 1895 to 23 millions. This drop in production is attributed in the *Annales Agronomiques* to black-rot and mildew. At the same time, the quality of the produce was exceptionally good.

**ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.**—The directors of this Society have been successful in securing the grounds of Robert Gordon College, Aberdeen, in which to hold their annual exhibition on August 21 and 22 next.

**THE WEATHER IN THE NORTH OF SCOTLAND.**—The genial climatic conditions prevailing since the present year came in have often prompted the remark, "We will snuff for this ere long." The "ere long," however, has been long in coming. Vegetation of all kinds has responded to the beautiful weather. Spring flowers came out early, and Rose bushes are to be seen in full leaf, with here and there a bud bursting forth. Since March came in, however, most unfavourable weather for seed-sowing has prevailed—rain and sleet alternating with bright sunshine—and it is probable that these conditions will continue. The barometer is falling, and in the opening days of this week stood at 27.64 inches. The second week of January brought a series of abnormally high barometrical readings; and the first week of March has brought a series as abnormal in the opposite direction.

**LECTURE ON THE WINTER-PRUNING OF FRUIT TREES.**—On Tuesday and Thursday, 3rd and 5th inst., practical demonstrations on winter-pruning of fruit trees were given in the open by Mr. W. CRUMP, gardener, Madresfield Court. These lectures were given under the auspices of the Worcestershire County Council, before audiences consisting of farmers, small holders, and cottagers, who reside in the neighbourhood of Powick, Gnarford, Malvern, and other places adjacent. The Apple, Pear, Plum, Apricot, Gooseberry, Currant, and Raspberry, were each severally dealt with, full explanations being given of the operations, and made clear in every case. The trees and bushes operated upon were found in neighbouring gardens and orchards. In the evening of each day the course was continued in the school-rooms before a larger number, comprising many of the working-classes, who entered thoroughly into the spirit of the proceedings. Living examples of the various stages of growth of bush, cordon, and standard orchard trees were brought from Madresfield home nurseries, and the various methods of pruning explained. Examples were also shown of shoots, &c., improperly pruned, and also of unpruned bushes, &c., which created a lively interest and much profitable discussion—how to do it, and how not to do it, being thus forcibly brought into juxtaposition. A hope was expressed that other demonstrations in the art of fruit cultivation, and other matters, would be given at no very distant date.

**STOCK-TAKING: FEBRUARY.**—Notwithstanding the clouding over of the political sky during the past three months—the danger proved to be threatening from east and west, from north and south—the balance-sheet of the nation's industry for the past month is of the most reassuring nature, as full of confident promise as if all danger of rupture between this and any other nation were as far removed as is night from day. Political "aspects" we, however, must leave to politicians, and simply state that im-

ports and exports have increased over those for the same period last year; thus, the former, with a total for February of £35,476,736, or an excess of £7,342,247 over the same month last year. The imports for the past two months exceed in value those for the same period in 1895 by £9,072,622—or a total of £73,950,592. It is worthy of record that the only decrease in the value of the imports is one of £57,425 under the heading of raw materials for textile manufactures. Our usual selections from the "summary" table are as follows:—

IMPORTS.	1895.	1896.	Difference.
	£	£	
Total value of imports	28,134,489	35,476,736	+7,342,247
(A.) Articles of food and drink—duty free ... ..	8,665,372	11,400,923	+2,735,551
(B.) Articles of food and drink—dutiable	1,628,354	1,749,032	+120,678
Raw materials for textile manufactures ... ..	6,751,189	7,317,791	+566,602
Raw materials for sundry industries and manufactures ...	1,875,018	2,746,428	+871,410
(A.) Miscellaneous articles ... ..	769,201	1,125,915	+356,714
(B.) Parcel Post ... ..	65,279	93,433	+28,154

It would almost appear as if the Lyons manufacturers were content to allow Manchester men to act as middlemen in selling and exporting certain classes of productions in silk, and that the commercial princes in our great inland port were doing the same species of trade for Japanese manufacturers; certainly much trouble is saved at a low charge by the intermediary. Our old commercial-barometer friend "chemicals" indicate an increase of £296,854—an almost unheard of increase; and so we are, in a manner, prepared for the excess, in the imports of live stock (for food) of £353,711 over February, 1895—also for the excess, amounting to £566,622, in raw materials for textile manufactures. Of course, the workman's pipe makes a good show, and the value of tobacco imported last month amounted to £300,212, being £116,549 above the total for the same period in last year. The item of "manufactured articles" is this month a very large one—£1,155,902; but it includes a large amount of goods which are re-exported to all quarters of the globe. But of this enough. It is time to draw attention to the classes of fruits, roots, and vegetables which entered our ports during last month; this is shown in the following table:—

IMPORTS.	1895.	1896.	Difference.
	...	...	
Fruits, raw:—			
Apples ... .. bush.	311,062	303,864	-7,198
Cherries ... .. "	—	—	—
Plums ... .. "	85	719	+634
Pears ... .. "	2,529	1,399	-1,130
Grapes ... .. "	353	1,445	+1,092
Unenumerated ... .. "	27,589	30,975	+3,386
Onions ... .. "	391,172	481,986	+90,814
Potatoes ... .. cwt.	53,363	39,950	-13,413
Vegetables, raw, unenumerated ... .. value	£51,499	£72,713	+£21,214

It is possible that the importations of Cape fruits are lumped under the total of unenumerated fruits, and these contain Peaches, Apricots, Grapes, &c.—much of fine quality. Report speaks favourably of what is shortly to reach us from the Antipodes, for which a ready market will be found.

OUR EXPORTS

for the past month reached the very satisfactory total of £19,683,456—being £3,710,361 in excess of the total for the same period last year. The total for the two months is £40,810,624—some £6,613,293 above that for the same period last year. Textile fabrics were sent out last month to the value of £9,461,438, as compared with £8,060,324 in February, 1895; in everything else there is a large accretion—as indicated by the increase on the month recorded above—a highly satisfactory conclusion.

**STOKE NEWINGTON, STAMFORD HILL, AND CLAPTON CHRYSANTHEMUM SOCIETY.**—We learn from the secretary of this society *pro tem.*, Mr. R. JOHNSON, that in consequence of the increase of business, and of the secretarial duties in connection with this society, the honorary secretary, Mr. L. H. CALCUTT, has found it necessary to resign his office. At the same time, the treasurer, Mr. S. CALCUTT, has also resigned, feeling that the offices of treasurer and secretary in this case were in a great degree coincident. The committee, at a meeting held on February 3, elected Mr. G. PRICKETT, of the St. Ann's Road Floral Nurseries, to be treasurer, and Mr. R. JOHNSON, gardener at No. 73, Stamford Hill, to be secretary *pro tem.* The dates fixed for the exhibition to celebrate the Jubilee of the formation of the first Chrysanthemum Society in Stoke Newington, are November 11 and 12, 1896.

**ROSE SHOW FIXTURES IN 1896.**—The following additional list of Rose shows to be held during the present year has been sent us by Mr. ED. MAWLEY, Rosebank, Great Berkhamstead—the first list appeared in our issue for February 8, p. 172:—June 27 (Saturday), Canterbury; July 7 (Tuesday), Wolverhampton (three days); 8 (Wednesday), Hitchin; 9 (Thursday), Worksop; 30 (Thursday), Trentham; August 5 (Wednesday), Chester (two days). I shall be glad to receive other fixtures as soon as arranged, for insertion in my next list which will be issued early in April.

**MR. WILLIAM FALCONER.**—The position of superintendent of the extensive and well-equipped park system at Pittsburg, where are the Phipps conservatories given to the city by H. PHIPPS of the Carnegie Iron Works, and which was rendered vacant by the death of A. W. BENNETT, has been filled by the appointment of Mr. WILLIAM FALCONER, who is at present in charge of the gardens of C. A. DANA, Esq., at Glencove, L.I., N.Y. WILLIAM FALCONER, who is now in his forty-sixth year, is a native of Inverness, and after serving apprenticeship, was engaged in the laying-out of a park at Manchester. Subsequently he entered the Royal Gardens at Kew, leaving there in 1872 to join the staff of the *Garden* newspaper. He wrote a work on *Market Gardening* during that period. Two years later Mr. FALCONER went to America, and was engaged by the late F. L. AMES, of North Easton, Mass. After passing a short time in Texas in a nursery, Mr. FALCONER accepted the position of superintendent of the Botanical Garden at Harvard, under the directorship of Prof. SARGENT, who had just succeeded to the post. Here he did much valuable work, the evidences of which appeal to the visitor to-day. As a writer on horticultural matters WILLIAM FALCONER'S name is familiar to many of our readers, and he also edits our contemporary *Gardening*.

**ROYAL BOTANIC SOCIETY OF LONDON.**—It seems not to be generally known that a gardener in the employment of a fellow of the society can obtain free admission to any of the exhibitions held at the gardens between the hours of Six and Ten in the morning, before the judges go round, if an application be made by the fellow or member to the secretary, at the gardens, when passes will at once be forwarded. The first exhibition of spring flowers will take place on Wednesday next, the 13th; and as, owing to the bright warm weather we have had, many flowers are abnormally early, a more than usually varied show is anticipated.

PYRUS SORBUS.

Our illustration (fig. 47, p. 335) shows a very fine example of *Pyrus Sorbus* growing in the demene of Comte de Marrard de St. Romain at Bresse sur Groene, Saone et Loire. The height of the tree is about 16 yards, width of crown 19 yards, and circumference of bole 4 yards.

In the year 1888 this tree produced 18 hectolitres of fruit, which sold for 405 francs. We do not make use of the fruits of *Pyrus Sorbus* in this country, but on the Continent they find ready sale, and are much used in the form of preserves, or as we use Catillac and Urbanist Pears.



HOME CORRESPONDENCE.

**LARCH DISEASE.**—I am obliged to Sir C. W. Strickland for his information about the Japanese and American Larches. I know that examples of the former are now about 20 feet high in Perthshire, fifteen years planted, doing well and free from disease, which does not look as if 40 feet was this variety's maximum height, as stated by professed authorities. It is something

never saw elsewhere, the Larch grows for a while nearly 4 feet in a season, beautifully clean trees, on just the right sort of land, where the rain is about the least, just over 20 inches; yet the young plantations of Larch there, about 20 feet high, are almost the very worst diseased I ever saw, being just a mass of canker—quite a frightful spectacle. I saw them last winter, having been asked to look at them by the proprietor. In a damp river valley, near the borders of Westmoreland, where the rainfall is double 20 inches, and inland, on the limestone, I know a

the Peach, which is almost as destructive when it does set in, for Peach trees once fairly affected never recover. *J. S., W.*

**THE WEATHER.**—I have been frequently asked of late whether the temperature of the past winter has not been unprecedentedly mild, but the following statistics prove that such an impression is unfounded. During the past twenty-one years there have been six milder winters recorded here, and it may be as well to mention that meteorologists consider the winter to comprise the period from the first day of December in the one year to the last day of February in the next:—

Mean Temperature of Winter.					
1873-74	...	39.6°	1882-83	...	39.6°
1876-77	...	42.0°	1883-84	...	40.0°
1877-78	...	39.3°	1895-96	...	38.8°
1881-82	...	39.0°			

The mean temperature of winter is 37.1°, so that the winter of 1895-96 has only been 1.7° milder than the average, but as much as 5.2° colder than that of 1876-77. With respect to the rainfall, I may remark that although the amount for December was nearly 1 inch above the average, yet for January and February it did not amount to one-third of the average for those two months. The total rainfall for the three winter months was 6.20 inches, which is 3.27 inches below the average of twenty-four years. *C. Leeson Prince, The Observatory, Crowborough Hill, Sussex.*

— I cannot call to mind anything approaching the temperature now prevailing at night—on Sunday night, March 8, the thermometer never went below 47°. Is this not most unusual? *Charles Noble, Bagshot.*

**ORIGIN OF GARDEN CINERARIA.**—I see you reproduce from the *Revue Horticole* the statement that the present garden Cineraria is the result of a cross between *Senecio cruentus* and *S. populifolius*. The *Revue*, as a matter of fact, expresses itself more guardedly, and only says that this was '*l'opinion prédominante à cette époque*,' i.e., July of last year. I have not the smallest hesitation in ascertaining that there is no trace whatever of *S. populifolius* in the present Cineraria, or any ground for believing that there ever has been. In saying this, I do not assert that this particular cross has never been effected; but I do assert that none of its progeny, so far as I can ascertain, is in cultivation now. When *S. cruentus* is actually crossed with one of the shrubby species, the effect is unmistakable. *W. T. Thiselton Dyer.*

**HARDY FERNS.**—Mr. Chas. T. Drury evidently considers the subject of hardy Ferns slightly exaggerated by me, on p. 242. I regret having given that impression; it was quite unintentional. What was in my mind when I stated "There is no place too bleak or exposed for them," is a wall in a very exposed position here, covered with Ceterach, *Asplenium Ruta-muraria*, *A. adiantum-nigrum*, *Scolopendrium vulgare*, and *Polypodium vulgare*, where nothing else will grow; if these grow only 'in a certain rugged fashion,' it is certainly better than a naked stone wall. I should like to remind Mr. Chas. T. Drury that my paper was written expressly for a Devonshire Association of Gardeners. Although the suggestions I gave hold good generally, they are more applicable to the county of Devon, and in the passage referred to, it would have been wise to have said so. I was simply recording my own experience. I fully endorse all that Mr. Chas. T. Drury says with regard to the more delicate and tender varieties. I think he would be much surprised at the vigorous health and beauty of many varieties we have here. Had I been aware my paper would have been published, I should have been more explicit. *J. D. N.*



FIG. 47.—PYRUS SOBUS: THE TRUE SERVICE TREE. FRUITS PEAR-SHAPED OR OBOVATE.

to know also that one of the American Larches grows as well as the Swiss Larch. In the States I understand it is a valued timber. I cannot venture to answer your correspondent's query as to what are the conditions that influence the Larch disease, but he might consult Prof. Marshall Ward's book on the subject, where the spread of the disease is, I think, correctly explained from Hartig's researches. I have seen the disease badly in the most diverse situations in England and Scotland, as regards climate and rainfall. On a certain estate in Norfolk, not far from Sandringham, where all the Firs thrive amazingly, and where the foliage of the Scots Fir has a lustre I

nearly equally bad example of the same age, and many others, under the most diverse conditions. As I said before, it resembles the Potato disease in its general distribution. My opinion is, that the disease will extend to all the young plantations mentioned by your correspondent. Those who hold that the disease is the mere product of certain unfavorable conditions of soil or climate, or both, have plenty of riddles to solve in that respect, and plenty of opportunities for finding out whether their theories are correct or not. Why then indulge in conjecture? The canker of the Larch has always appeared to me to greatly resemble "gumming" in

**DEATH OF A GARDENER IN ABERDEEN FROM VEGETABLE POISONING.**—A sad case of poisoning occurred in Aberdeen on Friday, 8th inst., the victim being a gardener named James Cooper Robertson, thirty years of age, residing in Mount Street, Aberdeen. Mr. Robertson, it appears, was engaged digging near Allendale Cemetery, in the course of the morning, and while at work he turned up a root which he mistook for *Hieracium*, and ate some of it. Immediately afterwards he became ill, and, in view of the serious symptoms he felt, went home. A medical man was summoned, but in spite of the remedies prescribed, the man died within twenty minutes of his arrival home. It is surmised that the root partaken of was that of a species of *Aconite*. *[But how could a gardener make such a mistake? Ed.]*



## Scientific Committee.

Present: R. MCLACHLAN, Esq., in the chair; and four other members.

The minutes of the last meeting were read and confirmed.

A further specimen of a diseased trunk of a Peach tree was sent from Chiswick. The bark was covered with exudations of gum, and spotted all over with the expelled excreta of a small caterpillar, which was found burrowing under the bark, and penetrating only a very short distance into the wood. The insect was found to be the larva of *Semasia Weberana*, the Apple or Pear tree Bark Moth. It was suggested that a plaster of clay mixed with paraffin, and applied to the trunk of the tree, might prove a remedy—or rather, a prevention. As the insect never penetrates to any great depth, it was thought that the trees would survive many years, even when seriously affected.

Specimens of Carnations sent from M. Petras, Givao's Grove, Leatherhead, were found to be affected with a fungoid disease attacking the main stem. They were referred to Dr. Masters for identification of the fungus, but it was not thought that any practical remedy could be suggested other than burning the affected plants and starting fresh ones on fresh soil.

Mrs. Miller, of Winestead Rectory, Hull, sent blossoms of *Crocus* and *Helletorus* for identification; Mr. Veitch offered to endeavour to do this.

Mr. Godefroy Lebeuf, of Paris, exhibited some sprays of metallised *Odontoglossum crispum* with foliage of Ivy and *Eunymus*. They were beautifully executed, the natural form of the flowers being admirably preserved, and the venation, &c., of the leaves perfectly distinct.

## Floral Committee.

Present: W. Marshall, Esq., in the chair; with Messrs. Joo. Fraser, John Laing, Chas. T. Druey, H. Herbet, Robt. Owen, Geo. Stevens, Jas. Hudson, John Jennings, O. J. Salter, Thos. Peck, Geo. Gordon, G. H. Egleheart, Chas. E. Pearson, H. Briscoe-Irooside, Chas. E. Shea, J. D. Pawle, J. T. Bennett-Poe, E. Beckett, H. J. Jones, C. Blick, Jas. Walker, H. B. D'Gimbrain, Geo. Paul, Ed. Mawley, J. Fraser, and H. Turner.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, exhibited a capital group of *Cyclamens*, the plants being remarkable for the size and beauty of the flowers (Silver Flora Medal).

Another collection, in which the plants were very numerous, was from Major JOCKEY, Sunningdale Park, Ascot (gr., Mr. Thorne) (Silver Banksian Medal).

A great plant of *Cyclamen Giant White* was shown by W. M. BULLIVANT, Esq., Beckenham (gr., Mr. Crosswell). The plant was in a 9-inch pot, and carried extraordinary foliage and flowers.

A beautiful display of *Cyclamens* was made by the CHURCH ROAD NURSERY CO., Haawell, W., who had a large collection of well-grown plants, very freely flowered.

From the Earl of JERSEY, Osterley Park, Isleworth (gr., Mr. Hawks), a smaller collection of *Cyclamens* displayed very successful cultivation, some of the plants bearing a remarkable number of blossoms (Silver Banksian Medal).

*Cinerarias* were very extensively shown at this meeting, and the collections were of excellent merit. Messrs. J. JAMES & SON, Woodside, Farnham Boyal, Slough, had a group of dwarf-habited plants, just commencing to bloom, only a few flowers on each being fully developed. They indicated, however, a very high-class strain (Silver Banksian Medal).

The collection from Messrs. CANNELL & SON, Swanley, Kent, was of large extent, and the plants bore good trusses of open blossoms. There is little necessity for buying named varieties of *Cinerarias*, providing the strain is good, but we noticed *Crimson Velvet*, *Miss Sybil May* (white), *Lady E. Dyke*, rosy-crimson, with white band round disc, and *Mrs. Jackson*, purple, with white band, among others, as being good varieties in the several colours (Silver Banksian Medal).

Mr. Jno. R. Box, West Wickham and Croydon, exhibited a collection of *Cinerarias*, also worthy of remark by reason of the merits of the strain and cultivation exhibited (Silver Banksian Medal).

Of the miscellaneous groups of plants was one arranged and exhibited by Messrs. JOHN LAING & SONS, Furret Hill Nurseries, London, S.E. This was very bright and attractive. Of many plants of interest included were *Acacia cordata*, a dense small-flowering species with pale lemon-coloured blossoms. *Ficus Canoni*, a purple-leaved variety, not frequently seen; *Boronia megastigma*, a few Orchids in flower, and some well-grown *Sonchilias*. Some capital *Caladiums*, such as *Louis van Houtte*, *Comte de Germiny*, and others, were in full leaf (Silver Banksian Medal).

Messrs. JOHN FEED & SONS, Roupell Park Nurseries, Norwood Road, London, S.E., staged a small group of plants, including *Cliveias*, *Eriolas*, and *Begonia Gloire de Sceaux*, in flower, and some useful decorative foliage plants (Bronze Banksian Medal).

From Messrs. J. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, S.W., were shown the following:—*Loropetalum sinense*, bearing their paper-like white flowers; *Amygdalus persica magnifica*, *Olearia nitida*, *O. nummularifolia*, *Senecio rotundifolius*, a species with pubescent stems and foliage, very silvery on the under surface; *S. Greyii*, *S. compacta*, a plant of *Pieris* (*Andromeda*) *japonica* in flower; small plants of *Kodocarpus totara*, and *Pseudopanax forax*. Messrs. VEITCH had also a number of good *Hippocrepis* trunks in flower, and flowering sprays of their

greenhouse *Rhododendron* hybrids. The same firm was recommended an Award of Merit for *Pteris Foultoni*, a variety producing froods (about 2 feet high) with slender pinne, very graceful for decorative purposes or for cuttings. An excellent collection of plants, representing the blue-flowering strain of *Primrose* of Messrs. Veitch, was likewise shown (Silver Banksian Medal); and a large number of blossoms of *Primula sinensis fimbriata* in single and semi-double varieties.

Mr. E. G. VAN TUBENGEN, Juv., Haarlem, sent sprays of *Lachenalia Cranston Gem*, with robust stems, and large yellowish-green flowers (Award of Merit).

F. W. MOORE, Esq., Botanic Gardens, Glasnevin, sent a spray of flowers of *Rhododendron grande*, with creamy-white flowers, lilac at base (Vote of Thanks).

Mr. G. NORRIS, of the Royal Gardens, Osborne, sent a bunch of unnamed *Violets*.

Mr. CHAS. TURNER, Royal Nurseries, Slough, showed a magnificent plant of *Richardia* × *Elliotiana*, which finely exhibited the spotted character of the leaves, and the large richly-coloured yellow spathe (Cultural Commendation).

Roses were exhibited by Mr. GEO. MOUNT, Canterbury, who had four large boxes furnished with bright well-coloured blossoms of a considerable number of varieties (Silver Flora Medal).

An exhibit from the gardens of W. F. SMITH, Esq., M.P., Greendale, Henley-on-Thames (gr., Mr. H. Perkins), contained a few seedling *Hippocrepis* of considerable merit. One of these named *Lady Winifrid Gore*, a crimson variety, was recommended an Award of Merit. *Epigaea repens* and *Shortia galericifolia* were also exhibited well in flower (Vote of Thanks).

Messrs. PAUL & SONS, Cheshunt, made an exhibit of hardy plants, including some capital-flowered *Saxifraga* (*Megasea*) *Stracheyi* (First-class Certificate). The plant is not new, being very well known for its showy pink flowers. There were also many other varieties of *Saxifraga*, including a pair of *S. oppositifolia major*, which had larger flowers than the type (Award of Merit). *Primula floribunda* and other species were noticed, also a good display of *Hepaticas*, some *Hippocrepis*, and a few blossoms of *Polyantha* *Roses* in variety. Messrs. PAUL had in addition a few well-flowered plants of *Cyclopogon cristata alba*.

The largest number of *Defodilia* in bloom was exhibited by Mr. T. S. WARE, Hale Farm Nurseries, near Tottenham, who had a good collection of plants in pots in a few varieties. *Primulas*, *Saxifragas*, *Iris* of the reticulata group, and other hardy flowering plants were also shown from this establishment (Silver Banksian Medal).

Messrs. BARR & SON, King Street, Covent Garden, London, W.C., also exhibited a collection of hardy plants and flowers. Several species of *Cyclamen* were included, *Narcissus cyclamineus*, several pretty *Saxifragas*, *Chionodoxa Lucidiflora*, *C. Allei*, *C. sardensis*, and some strikingly pretty varieties of dwarf *Iris*. *Tulipa violetta*, the new species which has proved to be the earliest flowered of all in English gardens, was also exhibited (Bronze Banksian Medal).

J. T. BENNETT-POE, Esq., exhibited a fine large plant of *Asparagus sprangeri*, which, although not a flat-leaved kind, is an extremely useful and decorative plant (First-class Certificate).

Messrs. Wm. PAUL & SONS, Waltham Cross, exhibited, and were recommended an Award of Merit for, *Cupressus Lawsoniana filifera*, a graceful-habited plant, about 6 feet high as shown.

Mr. ANTHONY WATERER, Koap Hill Nursery, near Woking, staged a large plant in flower of *Pieris japonica*.

A display of *Hycinths* and *Tulips* in pots, such as is seldom seen in this Hall, was made by Messrs. Wm. CUTBUSH & SONS, Highgate Nurseries, London, N., who had large and good collections of both of these spring-flowering bulbs in extensive variety (Silver-gilt Banksian Medal). Messrs. CUTBUSH & SONS had also a few hardy plants, including *Tree Peonies*, *Iris*, *Scillas*, *Hepaticas*, *Epimedium planatum*, and a splendid lot of blossoms of the *California Violet*, which were much admired on account of their large size and unusual fragrance (Silver Banksian Medal).

From the Baroness BURDETT-COUTTS, Highgate (gr., Mr. Willard), were sent a few fine plants, about 3 feet high, and well-flowered, of *Begonia Gloire de Sceaux* (Cultural Commendation).

B. HOOKE, Esq., The Towers, Hillingdon, staged a collection of cut blossoms of varieties of *Hellebore* (Vote of Thanks).

Mr. W. BULL, New and Rare Plant Establishment, King's Road, Chelsea, exhibited some very pretty plants of *Licuala grandis*, *Geonoma acutula*, both rare and beautiful specimens of *Palm*, *Croton Prince of Orange*, and *Craun Moorei variegata*. Also a few *Clivias* in bloom.

A fine large group, on the floor, of plants in bloom was staged by Messrs. W. CUTBUSH & SON, Highgate, N., for which a Banksian Medal was awarded. The contents of the group consisted chiefly of forced hardy plants, such as *Staphylea colchica*, *Oxyria Labrumum*, *Lilac*, *Azalea mollis*, *Choisya ternata*, double white *Thorn*, &c., set off by a background of *Palms*. We remarked some well-flowered examples of the now rare *Boronia serrulata*, a plant having flowers of a cheerful bright rosy-pink colour.

Messrs. W. PAUL & SON, Waltham Cross, had a large group to correspond on the other side of the entrance to the hall, consisting of choice varieties of *Camellia japonica*, generally well bloomed, and in the finest condition. The group of plants was fronted by an admirable collection of cut blossoms arranged in show boxes. A Silver-gilt Flora Medal was awarded.

**SOME METHODS OF PLANT-PROPAGATION.**—Your correspondent, "Experience," in the issue for February 29 (pp. 270, 271), states that winter or inside grafting has been adopted by continental nations for a long time; well, and so it has in this country. My experience takes me back to fifty years ago, when *Camellias* were both inarched and grafted yearly, and I assisted in both operations; and I well remember assisting in grafting a quantity of *Roses*, only they were not treated the same as we do now. In the case I refer to, the stocks were lifted out of the ground in autumn, and heeled in until the time for grafting came round, when, after grafting, they were planted in a pit prepared for them, with manure and leaves for bottom-heat. The experiment was not very successful, but it goes to prove that our propagators were at that date conversant with the system. *Azaleas* were then also grafted; and the following gardeners, Messrs. Faulkner at Cheam House, Green at Lower Cheam, and Carson at Nonuch Park, Cheam, were exhibiting Indian *Azaleas*, all grafted by themselves, the first-named being the pioneer of the method. These plants must have been grafted sixty or more years previously, for in 1854, when I made the acquaintance of these exhibitors, the specimens were of immense size, and one, *A. i. variegata*, was worked on a stock 4 feet high, and being of a drooping habit, it grew downwards to the pot, and formed a splendid column, the stock used being the variety *Phœnicia*. Coming to a later date, the Rollions of Tooting grafted great quantities of *Azaleas* every year, and when the final sale of their nursery stock took place, thousands were sold which were all their own working. Observer.

**EARLY NESTING.**—In regard to this matter, will you allow me to state that a neighbour of mine discovered the nest of a titmouse, with nine eggs deposited therein, on February 27 last. A robin in my garden also completed its nest about that date, and now has a set of eggs. W. D. Willoughby, Ashleigh, Woodford.

**POLYPORUS ULMARIUS.**—In an out-of-the-way corner of the grounds at Dunrobin Castle, where some improvements are proposed to be carried out shortly, I found growing on the stump of what had been a very large Elm tree a fine specimen of the fungus *Polyporus ulmarinus*, which measured 3 feet in one direction by about 20 inches in another. It is hard in texture, the under part a soft creamy colour, with occasional openings, which appear to allow of the escape of moisture which may collect on its surface. The upper side is of a brownish-red colour, brightest near the edges. This is the largest specimen I have seen. Are specimens of this size unusual? and is it worth preserving? [Such large specimens are not common. Ed.] D. Melville, Dunrobin Castle Gardens.

**ROSA MULTIFLORA, DWARF FORM.**—It may interest some of your readers to hear my experience of *Rosa multiflora* dwarf perpetual, about which you had an article last season, under the heading "A Precocious Rose." On December 31, 1895, we sowed the contents of twenty seed-pots; and on February 25, 1896—that is, under two months—one of the plants had a good healthy flower-bud. The plant is under 4 inches high. The seed was not sown in strong heat, and the plants have been grown along with our *Rose* stocks. For the middle of winter this is phenomenal for *Rose* seedlings in my experience, and shows the extraordinary precocity of this variety. Pope & Sons, King's Norton, Birmingham.

## SOCIETIES.

## ROYAL HORTICULTURAL.

MARCH 10.—On the occasion of the meeting of the Society at the Drill Hall, Westminster, on Tuesday last, there was an unusually large display of exhibits, and the several Committees had each some novelties submitted before it worthy of recognition. Though the bulk of exhibits with which the Fruit Committee had to deal was only small, as many as three First-class Certificates and an Award of Merit were recommended by that body. The great majority of the collections were of such a nature that the Floral Committee deal with, and the work lasted considerably longer than usual. Orchids, too, were largely shown, and many interesting novelties were included in the several groups. Indeed, the hall was well filled, and there was a good attendance upon the committees.

## Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshaw, H. M. Follett, H. Ballantine, W. H. White, John T. Gabriel, Thos. Statter, H. J. Chapman, T. W. Boud, H. Williams, E. Ashworth, E. Hill, Jas. Douglas, A. H. Smees, W. H. Protheroe, and T. B. Haywood.

A most extraordinary display of Orchids was made at the meeting, some very fine groups being staged, and some eighty subjects entered to go before the committee.

The prettiest and most effectively-arranged group was one from Sir TREVOR LAWRENCE, Bart., Burford, Dorset (gr., Mr. W. H. White), and for which, compared with other awards, the Silver Flora Medal seemed almost inadequate.

Among the more remarkable plants in the group were *Cymbidium* × *Lowio-eburneum*, which, shown with the *C. × eburneo-Lowianum*, which is the reverse cross, demonstrated by its large wax-like flowers, with purple markings on lip and column, how much finer a thing the Burford novelty is. In form it resembles *C. × eburneo-Lowianum*, but in clearness of colour, size, and all other particulars, it is very distinct, and was awarded a First-class Certificate. The Burford crosses of *Dendrobium*, too, showed up well: *D. × The Pearl*; *D. × Thalia* (*Ainsworthii* × *nobile nobiliss.*); *D. × Chio* (*splendissimum grandiflorum* × *Wardianum*) (Award of Merit); *D. × Enterpe*; *D. × Luna*; *D. × meluoducis*, and others of that class, and the varieties of *D. nobile* and *D. Ainsworthii* being the most effective. Among the *Cypripedium*, *C. × barbato-bellatulum* (*barbatum* Warneri × *bellatulum*) was certainly the brightest of the "Chas. Richmond" class; *O. × caloso-bellum* resembled the handsome *O. × Olenus*, illustrated in the *Gardener's Chronicle*, May 18, 1895; and *O. × Conco-Lawre*, variety *Janus*, was a most extraordinary bizarre, the lip, one petal, and half the upper sepal, being of the usual rose-purple colour; while the other petal and half the upper sepal were yellow and white, veined with green. A pretty hybrid in this group was *Laelio-Cattleya × Thetis* (*L. × exoniensis* × *L. pumila*); and another elegant plant raised at Burford was *Dendrobium* × *specio-Kingianum*, which bore several sprays of white flowers. Among plants showing very good culture were a splendid mass of the pretty natural hybrid, *Brasso-Cattleya* × *Lindleyana*, with eighteen flowers (*Cultural Commendation*); *Miltonia* × *Bleuana nobilior*, *Epidendrum* × *Endresio-Wallisii*; two plants of the noble *Cattleya Trianaei* *Leanae*; *Calanthe Stevensii*, *Cypripedium Rothschildianum*, &c.

Messrs. JAS VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, likewise staged a magnificent group, in which their new *Epidendrum* × *elegantulum* (*Endresio-Wallisii* × *Wallisii*?) was a most beautiful addition to garden cross-bred Orchids. It has the neat habit of *E. × Endresio-Wallisii*, but the flowers, which are large, like *E. Wallisii*, and have the segments very flatly displayed; the sepals and petals having a whitish area at the base, the rest pale yellow, beautifully coloured with red-brown over the greater part of their surface. Lip white, with a yellow base, and a few rose-coloured spots on the base (First-class Certificate). Another pretty hybrid, *Laelio-Cattleya* × *Doris* var. *xantho* (*L. harpophylla* × *C. Trianaei*?), of a remarkable light orange-colour, in form resembling *L. C. vitellina* (illustrated in the *Gardener's Chronicle*, March 25, 1893), received an Award of Merit; and *Dendrobium* × *Cybele nobiliss.*, *D. × euryalus*, *D. × Eneas* (*crystallinum* × *japonicum*?), were noteworthy. The group was made up with *Phalaenopsis Aphrodite*, *P. × Vesta*, a pretty pink-spotted *Anguloa*, which will probably be the one known in gardens as *A. Turneri*; *Dendrobium atro-vinaceum*, several plants of *Cymbidium* × *eburneo-Lowianum*, *Coleogyne cristata alba*, *Lelia glauca*, varieties of *Cattleya Trianaei*; many hybrid *Cypripediums*, *Dendrobiums*, &c. (Silver Flora Medal).

NORMAN C. COOKSON, Esq., Oakwood, Wylam-on-Tyne, Northumberland (gr., Mr. Wm. Murray), sent the original *Laelio-Cattleya* × *Doris* (*L. harpophylla* × *C. Trianaei*?), which first flowered with him early in 1891. Its flowers are light Indian-yellow, or orange with purple band, and white margin to the lip (Award of Merit); also *Dendrobium* × *Doris* (*Lechianum*? *moniliformum*?), a very pretty white hybrid cross of the *D. × Cassiope* class (Award of Merit); *D. × Cassiope virginalis* (Award of Merit); *D. × Dulce*, Oakwood variety (*avreum* × *Linawianum*), a charming rose-tinted form, similar to that raised by Messrs. Veitch (Award of Merit); *D. × Kenneth* (*Beasoniae*? *McCartiae*?), a charming hybrid, with delicately-tinted flowers (Award of Merit); and *D. × Harold* (*Fiadlyanum*? *Linawianum*?).

Messrs. F. SANDER & Co., St. Albans, were awarded a Silver Banksian Medal for a very effective group of Orchids, in which the handsome cross-bred *Phaius*—*P. × Cooksoni*, *P. × amabilis*, and *P. × Martha* were prominent. Among other showy things were *Dendrobium Donnesiae*, *Angreum Humboldtii*, *Spathoglottis Kimballianum*, *S. Lobbi*, *Angreum sesquipedale*, *Lycaste Skinneri* *leucoglossa*, *Odontoglossum Pescatorei*, *O. Wilckeanum*, *O. crispum xanthinum*, *O. luteo-purpureum*, *Vanda Bensoni* *anchorifera*, *Coleogyne cristata alba*, the curious *Dendrobium glomeriflorum* (Botanical Certificate), the pretty *Maxillaria sanguinea*, various *Dendrobiums*, *Cypripediums*, &c. Messrs. SANDER also showed plants of the fine pink-spotted *Anguloa*, flowered out of their importation, which was provisionally named *alba magna*.

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a fine representative group of *Dendrobiums* of the season, remarkable for their excellence and good culture. Among them were *D. × splendissimum giganteum*, *D. nobile Statterianum*, *D. n. Amesiae*, *D. × Holfee*, &c. (Silver Flora Medal).

CHAS. WINN, Esq., Selly Hill, Birmingham (gr., Mr. Armstrong), also showed a remarkable collection of *Dendrobiums*, among which were eight hybrids raised at Selly Hill, and all with excellent flowers. Also *D. Wardianum*, Uplands variety, noticeable for the very large blotch on the lip; and *Cattleya Trianaei*, Uplands variety, also good. A Silver Banksian Medal was awarded for the group.

DE B. CRAWSHAW, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed *Cattleya Trianaei* *Crawshawiana*; the best and richest-coloured *C. Trianaei* shown this season, the varying tints of crimson, purple and magenta in the showy labellum of its finely-formed flowers being of indescribable richness (Award of Merit).

Sir FREDERICK WIGAN, Clare Lawn, East Sheen, Richmond (gr., Mr. W. H. Young), showed a magnificent plant of *Miltonia Roezlii* splendens, with rich purple blotches on the petals of its fine flowers, of which it bore twenty-eight, two of the spikes having five flowers, and three four (*Cultural Commendation*); also *Dendrobium* × *Wiganiae* (*signatum* × *nobile*?), which had pretty pale primrose flowers with a purple blotch on the lip; a fine pan of *Coleogyne sparsa* and *Selenipedium* × *Perseus* (*Lindleyanum* × *Sedeni porphyreum*).

Messrs. HUGH LOW & Co., Clapton, arranged an effective group of Orchids, chiefly *Dendrobiums*, among which were *D. primulum*, *D. nobile*, *D. crassinode*, *D. Hildebrandii*, *D. Findleyanum*, *D. superbum*, *D. Phalaenopsis*; also *Cymbidium Lowianum*, *Odontoglossum*, *Cattleya*, &c. (Silver Banksian Medal).

W. VANNER, Esq., Camden Wood, Chislehurst (gr., Mr. Robius), was awarded a Silver Banksian Medal for a very pretty group of Orchids, in the centre of which was the magnificent *Odontoglossum crispum Arthurianum*, a grandly-blotched flower quite in the first rank of spotted *crispums* (First-class Certificate); *O. Wilckeanum*, *Calanthe Regnierii*, varieties of *Cattleya Trianaei*, *Phaius* × *Cooksoni*, *P. × Martha*, *Coleogyne cristata Lemoniana*, *Cypripedium* × *Calypso*, and other *Cypripediums*, and the pretty yellow *Dendrobium velutinum* (Botanical Certificate).

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), as usual, displayed some of his fine things, among those most admired on this occasion being The Dell *Calanthe* × *Baron Schroder*, of which the wholly rosy-purple dark form is the finest known *Calanthe*. A lighter variety of it was also shown, and a spike of the purple-blotched *Odontoglossum Pescatorei* *Veitchianum*, *O. crispum Rex*, *O. coronarium*, &c. (Silver Banksian Medal).

Mr. JAS. CYPHER, Cheltenham, staged a splendid group of *Dendrobiums*, among which *D. nobile Cypheri*, *D. × Rubens*, *D. × Ainsworthii*, *Cypher's* var., and others raised at Cheltenham were prominent. In front were trusses of *Epidendrum xanthinum*, *E. evecutum*, *E. rhizophorum*, *E. × O'Brienianum*, and pretty plants of *Odontoglossum blandum* (Silver Banksian Medal).

WELBORE S. ELLIS, Esq., Hazelbourne, Dorking (gr., Mr. Masterton), showed a grand specimen of *Coleogyne cristata alba* (*Cultural Commendation*).

ELIJAH ASHWORTH, Esq., Harefield Hall, Wiltshire, Cheshire (gr., Mr. Holbrook), showed for the first time *Dendrobium* × *Findleyano-Wardianum*, a graceful cross, showing unmistakably its parentage.

The Honble. WALTER ROTHSCHILD, Tring Park, Tring, sent *Cypripedium* × *Morganae* from one of the original plants.

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent *Oncidium sallabundum*.

C. J. LUCAS, Esq., Warham Court, Horsham (gr., Mr. Duncan), showed a fine plant of *Dendrobium Kingianum* (Botanical Certificate and *Cultural Commendation*), *Cyrtopodium punctatum*, and other Orchids.

Mr. WM. BULL, King's Road, Chelsea, S.W., showed the fine white *Lycaste Skinneri* *alba grandiflora*, and the pretty *Cattleya Fraseri gemma*.

A. WARBURTON, Esq., Vine House, Haslingden, sent *Dendrobium nobile Warburtonianum*.

Messrs. B. S. WILLIAMS & Son, Upper Holloway, sent *Catssetum discolor*.

E. DE Q. QUINCEY, Esq., Oakwood, Chislehurst, sent the very fine *Cattleya Trianaei*, *Quincey's* variety.

PAULIA RALLI, Esq., Otlands Park, Surrey, sent a small species of *Sobralia* and two *Odontoglossums*.

G. W. ROWE, Esq., Claremont Drive, Timperley, Cheshire, showed *Dendrobium nobile Amesiae*. The Hon. Mrs. PACKENHAM, Fordingbridge (gr., Mr. A. Church), showed varieties of *Cattleya Trianaei*.

R. I. MEASURES, Esq., Cambridge Lodge, Camberwell, sent *Cypripedium* × *Wottoni* (*callosum* × *littletulum*), and *O. × Wynneanum* (*villosum* × *Druryi*).

Mr. A. A. FEETERS, St. Gilles, Brussels, showed *Zygopetalum* × *Perrenaudii* (*intermedium* × *Gauthieri*), a splendid hybrid, with the sepals and petals greenish, barred with brown, and the large showy lip of an intense violet-blue (Award of Merit). *Miltonia* × *Bleuana*, *M. × Bleuana nobilior*, and *M. × Bleuana aures* all good, the last-named having clear yellow markings at the base of the lip. It received a First-class Certificate; also *Cypripedium* × *Barrisianum* *viriosum*.

C. J. CROSFIELD, Esq., Glodhill, Sefton Park, Liverpool (gr., Mr. Thos. Barkley), sent *Cattleya Trianaei* *alba* "Mr. C. J. Crosefield," a very finely-formed flower.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed *Cypripedium* × *viridiflorum* of unrecorded parentage, and not great beauty.

J. W. ARKLE, Esq., Holly Mount, Derby, sent *Cattleya Trianaei* *Arkleana*, a very fine and richly-coloured form.

## Fruit and Vegetable Committee.

Present: T. Francis Rivers, Esq., in the chair; Geo. Bunyard, Jas. Cheal, James H. Veitch, Henry G. Pearson, P. C. M. Veitch, A. F. Barron, T. J. Saltmarsh, A. H. Pearson, J. Wright, Alex. Dean, John A. Laing, W. Bates, G. H. Sage, Geo. Wythes, F. Q. Lane, O. Reyolde, J. Smith, and H. Balderson.

The chief exhibit of fruit was a collection of Apples in about twenty-eight varieties, shown by Mr. Parker, gr. to the Duke of RICHMOND AND GORDON, Goodwood, Sussex. The fruits were in excellent condition for so late a season, particularly such varieties as Ribston Pippin, Scarlet Pearmain, Royal Russet, Hoary Morning, Blenheim Orange, &c. (Silver Banksian Medal). A dish of fruits named Lincolnshire Reinette, considered new by the committee, was recommended an Award of Merit. The fruit is medium in size, yellow, prettily streaked with red on one side only; stem set in a narrow, rather deep cavity, and eye very shallow, and almost closed. Its merits as a late table fruit are considered high. There being no authority for the name Lincolnshire Reinette, it is the intention of Mr. Parker to call the variety Goodwood Pippin.

A First-class Certificate was awarded to a capital dish of Blue Pearmain Apples, shown by Mr. JNO. WATKINS, Hereford.

Two First-class Certificates were awarded to varieties of Cucumber. The 1st of these is Frogmore Prolific, raised by Mr. O. THOMAS, in the Royal Gardens, Windsor, from Rockford's Market and Lockie's Perfection. The fruits are very fine, of a dark green colour, they have very shapely handles, and are sparsely studded with prickles. The other one which received a similar award, was a variety named Marvel, exhibited by Mr. S. MORTIMER. Two plants were shown each in a large pot, and each bore half a dozen first-class Cucumbers, perfectly smooth, and good in every way. A number of cut fruits of same were also shown.

Mr. J. STEVENS, Clayton Nurseries, Hassocks, Sussex, again exhibited the Strawberry Stevens' Wonder.

Messrs. HARR & SON showed Barr's Variegated Kale, improved garnishing; and Mr. Geo. Wythes, gr. to Earl Percy, Syon House, Brentford, showed *Syon Hardy Sprouting Kale*, obtained from a cross between *Asparagus* and *Cottagers' Kale*, and also a bundle of good *Asparagus* heads, cut from the open.

## A Lecture on the Melon

was delivered in the afternoon by Mr. BARKHAM, who commenced the subject by giving a few particulars relating to the history of the plant, and its introduction into Britain. He had, in very exceptional seasons, ripened fruits of the Melon out of doors, but usually they could only be cultivated in this country under glass. The following hints upon cultivation were given: Sow seeds early in January for first crop, in 60-size pots, thoroughly clean and well cracked. A compost of loam, leaf-soil and sand may be used, and one seed only placed half an inch deep in each pot. It is very important during the early months of the year that the seed be surrounded with sand. The pots may be plunged in a hot-bed of 70° to 80°, and as soon as the plants appear they must be at once removed to a very light position near the roof-glass. For pit or frame culture the plants should be stopped after the second rough leaf. Ripe fruits of good quality may be cut from successional plants from May to October. The most suitable loam was undoubtedly the top spit from an old pasture, but as this is not procurable by all, the lecturer added that he had succeeded well with good, strong, yellow loam inclined to clay. Materials for mixing with this were broken plaster or old mortar rubble, and leaf-soil. No manure should be added, the lecturer remarking that many mistakes were made in this detail. A good hot-bed should be composed of Oak and Beech leaves and stable-manure. Make it 2 or 3 feet deep, according to circumstances. On this should be placed some fresh-cut turves 2 inches deep, with grass-side down. The soil should be allowed to remain in the house or pit until it is warmed, then planting may be done. The ridge system rather than a flat surface is to be preferred. Care must be taken not to water the border near the stem. Plant thinly that no over-crowding may result, and regulate the growth so that there will be just sufficient healthy foliage to furnish the trellis and no more. Shoots not required may be removed with thumb and finger. The stopping of the laterals and the sub-laterals must be done very carefully, and at the proper time. Never use a knife, but always the thumb and finger. The plants being dioecious, there are male and female flowers on each plant. In bright weather in mid-season the flowers may become fertilised without interference, but it was the general practice to make sure of a "set" by taking pollen from the male blossom to the female blossom, or by removing the male blossom entirely, and inserting it into a female blossom. This should be done during the brightest period of the day. The syringe should then be withheld for a few days. If large fruits are required, from four to six upon each plant must be the maximum number allowed. Melons require but little water until the fruits commence to swell. As soon as they are as large as a pigeon's egg, the plants must be fed with weak liquid-manure about twice a week, according to the weather. When the roots are visible upon the surface, a top-dressing of half an inch of cow-dung, and an inch of loam is required. The roots should be kept active that the foliage may last fresh as long as possible. Syringe freely in bright weather; the lecturer's experience was that this would keep the foliage clean and healthy, and not injure it. During dull cold weather syringe little, and instead, damp down all possible surfaces in the house to cause the necessary moisture. During January and February a night temperature of 55° to 60°, and a day temperature of 65° to 70° was sufficient. Both would be in-

creased as the season progressed. Air should also be increased in the same proportion, but draught avoided. In summer give air when the house reaches 75°, and allow it to rise afterwards to 80° or 90°, and shut up early with plenty of atmospheric moisture at a temperature of 95° or 100°. Later in the evening admit a little air at the top of the house. The fruits as they increased in size would require supports so constructed that the water might easily get away. When the fruits are ripening, sufficient water only to keep the plants from flagging should be given. When syringing has to be abandoned, Mr. Barkham has found that a solution of flowers-of-sulphur applied to the underside of the leaves was a capital prevention of red-spider. As a remedy for canker, some fresh-slaked lime applied to the affected spots was efficacious; powdered charcoal might be similarly used. A selection of varieties was then given by Mr. Barkham.

### SCOTTISH HORTICULTURAL ASSOCIATION.

MARCH 3.—The monthly meeting of the association was held in their rooms in St. Andrew Square, Edinburgh, on the above date, Mr. R. W. E. MURRAY, president, in the chair. The paper read was entitled "Notes on Floral Decoration," by the treasurer of the society, Mr. A. MACKENZIE. The subject was treated in an able manner, and the various styles of house and table decoration were reviewed, and the examples of arrangement shown, as well as a variety of plants employed.

Mr. MACKENZIE pointed out that the fashion and ideas of the day had to be studied by those who practised these floral arrangements, and that lightness and elegance were matters of much account. Several of the members took part in the discussion which followed the reading of the paper.

Some fine exhibits were placed upon the table, one of the more attractive being a new cross-bred *Dendrobium*, named *D. Broadhurstiana* = *D. nobile* × *D. Wardianum*, raised by Mr. CHALMERS, gr. at Tregless, Dumfries. The plant bore some large, well-coloured flowers, which seemed to possess more of the characteristics of *D. nobile* than of *D. Wardianum*. The lip was of large size, and of a dark colour.

Some creditable blooms, consisting of trusses of *Cattleya Lawrenceana* and *Dendrobium Dalhousieanum* came from Mr. ANGUS N. HALL, of Aberdeen, which were much admired for their luxuriance and fine colour.

Some fine trusses of bloom came from Messrs. R. B. LAIRD & SONS, of a distinct crossbred *Rhododendron*, the parents of which were *R. argentea* and *R. Falconeri*. The individual flowers are of large size and pure white, in immense trusses, well set off by the handsome foliage. Hardy flowering shrubs came from Mr. CHAPMAN, gr., Easter Duddingston Lodge.

### THE GARDENERS' ROYAL BENEVOLENT INSTITUTION IN DEVONSHIRE.

MARCH 4.—A meeting was held on Wednesday, in the Guildhall, Exeter, as was announced in our issue for February 29, p. 269, under the auspices of the Exeter Gardeners' Association, for the purpose of forming an auxiliary branch of the Gardeners' Royal Benevolent Institution in Devonshire. The Right Worshipful the MAYOR presided, in the unavoidable absence of C. R. COLLINS, Esq., J.P., President of the Devon and Exeter Gardeners' Association.

The Mayor was supported by the Sheriff of Exeter, the Rev. Dr. Dangar, Principal of the Training College, Exeter; Mr. H. J. Veitch of Chelsea, Mr. P. C. M. Veitch, Exeter; Mr. Samuel Jones, J.P.; Mr. G. J. Ingram, Secretary of the Gardeners' Benevolent Institution; Mr. G. D. Cann, Hon. Sec. of the Devon and Exeter Horticultural Society; Messrs. D. C. Powell, A. George, C. Berry, E. Sparks, and G. Lock, Lecturers on Horticulture under the Devon County Council; Mr. F. C. Smale, Hon. Sec. Gardeners' Association, Torquay; Messrs. W. Swan, Bystock, Exmouth; H. Seward, Creedy Park, Crediton; F. Hannaford, Hon. Sec. Teignmouth Gardeners' Association; J. H. Vallance, Hon. Sec. and Treasurer, Bristol and Bath Auxiliary of the Gardeners' Benevolent Institution; G. F. Vallance, Divisional Superintendent, London and South-Western Railway; Barnes, Winslade; J. McCormick, Wear House; W. Street, Newcourt; Abrams, Plamore; Slade, Poltimore; W. Rowland, Parkerswell; W. F. Meyer, S. Radley, and J. Baker, Exeter; Vickery, Streatham Ball; Turner, Oxtou; W. Bale, St. Elmo, Torquay; J. Laxton, Exeter Nurseries; and many others. Among the letters of apology were one from Lord Poltimore, saying he had just recently become a subscriber; one from Prebendary Bramley, of Uffculme, acknowledging the benefit received by two of his parishioners; and another from Mr. G. Baker, Membland, earnestly urging young gardeners to join the institution at once.

The MAYOR, in a few well-chosen remarks, said that he recognised in the local Gardeners' Association a Society which was doing good work in the city, and he therefore all the more readily bade them welcome to the Guildhall, in which, since their Society was formed, they had held their meetings. He referred in felicitous terms to the presence of Mr. Harry J. Veitch, a very old friend of the Mayor's. Having a prior engagement to dine with a public body elsewhere the same evening, he asked Mr. P. C. M. Veitch to take the chair on his leaving.

Mr. H. J. VEITCH, Hon. Treasurer of the Gardeners' Royal Benevolent Institution, reminding those present that if he was not standing on his native heath, he was, at least,

standing in his native city, made a powerful appeal for support to the Institution. He showed that it was not only the parent society of charitable organisations in the gardening world, but was cosmopolitan in the administration of its benevolence, was economically worked, and, in view of increasing claims upon its funds, not only proved the necessity for its continuance, but for its further extension. In Devonshire, he said, there were fifty-five subscribers, who contributed annually £57 15s. Against this there were eleven pensioners, who received annually £192. Altogether, £2,478 had been paid these eleven Devonshire pensioners, against an aggregate amount of £182 14s. received in subscriptions from them. Mr. Ingram followed, emphasizing the fact that the Institution was thoroughly national in character, and well entitled to the support of gardeners and horticulturists of every degree, and he hoped the meeting might be productive of increased interest and support from the county.

Mr. J. H. VALLANCE, of Bristol, gave an interesting account of the working of the Bristol and Bath Auxiliary, showing that, by combined effort, they had been able to do a great deal for the parent institution without its becoming a tax upon any one individually.

Mr. P. C. M. VEITCH, in proposing the formation of an auxiliary branch at Exeter, hoped that support worthy of the county would be given to the movement. He believed that if its objects and aims were better known to employers, there might be many among them who would be willing, as a reward for faithful service, to present their gardeners with a life-subscription to the funds of the institution.

Mr. WEEKS (gr. to G. A. Sanders, Esq., of Stoke House), in an interesting speech, seconded the motion, which was carried unanimously.

The Rev. DR. DANGAR (an enthusiastic amateur florist, and an expert on Carnations and bees) showed his entire sympathy with gardeners in the kindly way in which he referred to the vicissitudes of a gardener's calling.

Mr. W. MACKAY was elected honorary secretary and treasurer of the branch, and a committee representing all parts of the county of Devon was appointed to draw up rules and commence the work of the auxiliary. The committee is composed of the office-bearers of the Devon and Exeter Gardeners' Association, with the following added; Messrs. F. C. Smale and W. Bale, Torquay; Mr. T. Pender, South Devon Fruit Farm, Cockington; Messrs. F. Hannaford and G. Foster, Teignmouth; Mr. D. C. Powell, Starcross; Messrs. W. J. Godfrey and W. Swan, Exmouth; Mr. H. Berwick, Sidmouth; Messrs. H. Mairs and G. Lock, Crediton; Mr. R. J. Butt, Barnstaple; Mr. H. Soliman, Tiverton; Messrs. G. Baker and C. Cooper, Plymouth. Heartly votes of thanks were accorded to Messrs. H. J. Veitch, G. J. Ingram, and J. H. Vallance for their visit and help; to Mr. Andrew Hope for his assistance in organising the meeting; to Mr. P. C. M. Veitch for presiding, and to the Mayor for the use of the Guildhall. The outcome of the meeting is: three life-subscribers (10 guineas each), five annual subscribers (1 guinea each), and a number of promises to join the auxiliary branch. From the hearty, enthusiastic manner in which the matter has been taken up, and the healthy tone of the meeting, it is hoped that Devonshire may become a strong pillar of the Institution.

### UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

MARCH 9.—The annual general meeting was held on Monday evening last at the Caledonian Hotel, under the chairmanship of Mr. J. Cheal. The report, as read by the secretary, was adopted amid general satisfaction, several of the members declaring it to be the most satisfactory yet made by the society. It was as follows:—

"The committee have again very much pleasure in presenting to the members the Annual Report and Balance Sheet for the year ending January 13, 1896, and in stating that the society continues in a prosperous condition.

Seventy members joined during the year, eighteen lapsed, and two died, leaving a net gain of fifty.

In the Benefit Fund, the amount of subscriptions paid was £296 14s. 7d., including arrears for 1894.

The Sick List has been rather a heavy one, the amount of £145 6s. 4d. having been paid to fifty members. The deductions from members' deposit account to meet this amount is 6s. 2d. and 4s. 2d. in the two scales of contributions respectively. The amount of sick pay has been increased since July 8 from 18s. to 18s., and from 10s. 6d. to 12s. per week in the two classes. Amounts standing to the credit of deceased members have been paid, also to one lapsed member.

Subscriptions to the Benevolent Fund from Benefit and Honorary Members is £128 9s. 6d. The sum of £7 10s. was granted to the widow of the late Charles Smith, and small sums amounting to £8 10s. 8d. were granted to other members in distress.

No call has been made on the Convalescent Fund during the year. Members' attention is particularly called to this fund, as its benefits might be considerably extended. Mr. Sherwood again gave £5 5s. at the annual dinner to this fund.

The Management Fund shows a balance of £30 8s. 8d. The Treasurer has invested £1100 during the year, in Corporation 3 per cent. Stock, and has a good balance in hand. The accounts have been carefully audited by Messrs. Gunner and Dixon, and found correct.

The committee, in conclusion, ask the members to do what they can to induce other gardeners to join this excellent society, as they are quite sure that no gardener can do better than join the "United."

The Annual Dinner was again carried out with spirit and

success. James H. Veitch, Esq., made an excellent chairman, and took the greatest interest in the proceedings.

To the above report was appended a detailed balance sheet, which we are unable to reproduce. It is a very satisfactory one, and may be had by application to the Secretary of the society.

A question having been asked in regard to the increase of the fees charged by the actuaries and auditors during the past year, the secretary explained that once every few years the accounts and position of the society had to undergo a thorough and detailed examination, incurring considerable additional work. During the last year this work had been done.

The Chairman congratulated the Society upon the satisfactory progress the Institution continued to make. There had been again a net increase of fifty members during the year, and the amount of invested funds was now £10,800. There was not any doubt but that the Society was skilfully and economically managed, and as an institution it was a perfectly safe one. Reference was made to a few of the earliest members who joined the Society, and the amounts now standing to their credit in the books were given. Gardeners could not do better than secure the privileges offered by the United Horticultural Benefit and Provident Society; and if by any chance a member lapsed, either through inability to keep up his payments, or through indifference, the sum standing to his credit was paid over when the member attained the age of seventy, or to his friends in the case of the member's decease earlier.

It was decided to print 3000 copies of the detailed report for distribution.

The election of officers next took place. Four members of the committee retire annually, but three of these were re-elected. The trustees, secretary, and other officers were re-elected, except in the instance of Mr. George, one of the trustees, who has reached the age of seventy, and is, therefore, no longer entitled to assistance from the Benefit Fund. It was felt by the meeting that under these circumstances it could not re-appoint Mr. George. A strong feeling of regret was evident, and a vote of thanks to the officer was unanimously passed. Mr. Scott (a member of the committee) was then elected a trustee, and Mr. Berry was elected a member of committee in the room of Mr. Scott. Votes of thanks to officers and the horticultural press followed.

### THE LONDON WHOLESALE FRUIT AND POTATO TRADES, AND GROWERS' BENEVOLENT.

MARCH 10.—The members of this association, with the above cumbrous title, met at the annual dinner, on this occasion held at the Holborn Restaurant on Tuesday, G. MONRO, Esq., in the chair. The muster of gentlemen connected with the wholesale fruit and potato trade of the metropolis was large, amongst them being Messrs. E. Coleman, Webber, Thomas, W. Bailey, Wadley, Jackson, Alderman Piper, G. Barham, Rochford, the Duke of Bedford's Covent Garden agent Mr. Assbee, &c.

The more serious business of eating and drinking being disposed of, various speakers rose to press the claims of the charity upon the attention of those present, and one or two toasts of the loyal character soon made way for the toast of the evening, "The London Wholesale Fruit and Potato Trades and Growers' Benevolent Society," which was proposed by the president in a few earnest telling sentences.

He pointed out how pressing the necessity for a charity of that kind which could afford a weekly sum sufficient to enable to exist in comfort, an old man or woman who through no fault had fallen on evil days in their old age. And he dilated on the duty of successful business men to assist to the best of their means the necessitous members of the trade, pointing his remarks by reciting the sad case of a former trader in Covent Garden Market, who had to take refuge in his old age in St. Martin's Workhouse. The fact of this broken-down trader being discovered in the "House" was indeed the original cause of the foundation of the Society. The membership now numbers 200 annual subscribers, 60 life subscribers, and 12 Vice-Presidents. The management costs but little, there are no offices to keep up, the proprietor of the Tavistock Hotel, Covent Garden, kindly affording the use of a room for meetings, &c., free of expense; and appeals made by Mr. Monro to persons outside the trade have met with excellent response, including amongst others, a handsome donation from the M.P. for the Strand Division the late Sir Julian Goldsmid, H. J. Veitch, and Messrs. Spiers & Poud.

Amongst the earlier endeavours of the society to raise funds may be mentioned a concert inaugurated by Mr. Lowe, which brought in a sum of £50; the gate-money at a club cricket match amounted to £18, and the same club seemed likely to contribute £100 this year. The society has £1000 invested in Consols now worth £1100; as the president said they must not be satisfied with the results of their efforts hitherto, but must redouble them, and especially tap sources of income outside their own sphere. The pensioners number at the present time three—one in 1895, and two this year, one candidate of more than eighty-one years old having to be rejected owing to lack of funds.

The total sum subscribed at the dinner amounted to the respectable sum of £317 16s., which goes far to show the wisdom of inviting a member of the trade to preside at the annual meeting.

**A NEW PATENT SPRAYER.**—We have received a new kind of sprayer, very useful to florists, gardeners, and those who cultivate plants in rooms. It is in the form of a small pair of bellows, and is fitted with an ingenious arrangement by which a continuous stream of fine spray is emitted. Either insecticides in liquid form, or clean water, can be used with it. The inventor is Mr. J. Sinclair, 18, Blake Street, York, and it is named the "Little Demon."



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.
	ACCUMULATED.				10ths Inch.	Ins.	
	Above 42° for the week ending March 7.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Dec. 29, 1895.			
0	aver	4	30	+ 52	- 199	15	1
1	1	9	34	+ 29	- 143	2	35
2	2	15	22	+ 22	- 131	1	28
3	3	27	14	+ 11	- 141	3	32
4	4	26	11	+ 38	- 156	5	29
5	5	28	8	+ 24	- 136	6	27
6	6	23	22	+ 55	- 143	14	45
7	7	20	9	+ 69	- 155	12	36
8	8	25	3	+ 52	- 118	11	32
9	9	23	14	+ 90	- 151	14	39
10	10	29	5	+ 96	- 127	14	35
	3	39	0	+ 85	- 76	7	35

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W. 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

**THE PAST WEEK.**

THE following summary record of the weather throughout the British Islands for the week ending March 7, is furnished from the Meteorological Office:—

"The weather was very unsettled in all parts of the kingdom. Rain fell almost daily, and about the middle of the period showers of snow, sleet, and hail were experienced. Thunder and lightning were very prevalent in the western, southern, and eastern districts on the 4th and 5th; while at night a brilliant display of aurora was observed in nearly all districts.

"The temperature just equalled the mean value in 'Scotland, N.,' but in all other districts it was above—the excess varying from 1° in 'Ireland, N.,' to 4° in the 'Midland Counties.' The highest of the maxima were recorded on the 1st in Scotland, but on the 6th or 7th over England and Ireland; they ranged from 60° in 'Ireland, S.,' to 55° in the 'Midland Counties' and 'England, S.,' and to 49° in 'Scotland, N.,' The lowest of the minima were registered either on the 4th or 5th, and varied from 25° in 'Scotland, N. and E.,' to 33° in 'England, S.,' and 'Ireland, S.,' and to 36° in the 'Channel Islands.'

"The rainfall exceeded the mean in all districts, the excess being very large in all except the north-eastern parts of the kingdom. Over southern and central England the fall was more than twice as much as the mean, in the Irish districts more than three times, while in 'England, N.W.,' it was four times as much as the normal.

"The bright sunshine exceeded the mean in the north-east of Great Britain, but was very little prevalent in the other parts of the kingdom. The percentage of the possible duration ranged from 39 in 'Scotland, E.,' and 32 in 'England, N.E.,' to 19 in 'Scotland, N.,' and 'England, S.,' and to 13 in 'Ireland, N.,"

**Obituary.**

**MR. GEORGE PRINCE.**—The Rev. David R. Williamson writes:—"It was with deep regret that I heard last Saturday of the death, on Tuesday, 3rd inst., of Mr. George Prince, of Oxford, one of my kindest and most valued friends. In a letter which I have received from his accomplished son, Mr. Ernest Prince, he tells me that his father 'passed peacefully away, without any pain.' He was an eminent horticulturist, and a most amiable man. As an exhibitor of Tea Roses, and especially of such superb varieties as Comtesse de Nadailac, which he made a specialty, his success was very great. The fine Rose, Souvenir de S. A. Prince, a sport from Souvenir d'un Ami, and named in memory of his wife, has proved an invaluable acquisition to Rose-growers. Clara Watson, raised by the late Mr. Henry Bennett, was popularised by him; and it has already proved, in virtue of its distinctive characteristics, a valuable addition to the class of llybrid Tea. I hope that the next Rose of special merit and attractiveness which his sons raise at Oxford may receive his honoured name."

[Mr. Prince made a specialty of the seedling Briar, and it was, as he often reminded us, owing to the notice given in these columns, with illustrations, that much of his subsequent success was due. Ed.]

**F. R. HORSMAN.**—We regret to have to announce the death from hæmorrhage, at the early age of twenty-four, of Mr. F. R. Horsman, who since his father's death on June 2, 1894, has ably conducted the business of Messrs. Fred. Horsman & Co., Orchid importers and growers, of Colchester. Although not of strong constitution, Mr. Horsman, like his father, kept to business up to the last; and for one so young, and who had to come into the business long before it was intended that he should, it may be said that he displayed great aptitude in the various matters necessary to carrying on such a business as that at Colchester successfully, and that he was greatly liked by all who had to do with him. The funeral took place on Saturday, March 7, in the presence of many friends, including representatives of the Orchid and nursery trade.

**MARKETS.**

**COVENT GARDEN, MARCH 12.**

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

**PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0- 7 8
Aran lilies, per doz.	6 0- 9 0	Foliage plants, doz.	12 0-24 0
Aspidistra, per doz.	12 0-30 0	Genistas, per doz.	8 0-12 0
— specimen, each	5 0-15 0	Hyacinths, per doz.	6 0- 9 0
Azalea, per plant	2 0- 3 6	Lilium Harrisii, per	dozen pots
Cineraria per dozen	6 0-10 0	dozen pots	18 0-36 0
Cyclamens, per doz.	9 0-15 0	Marguerites, p. doz.	6 0-12 0
Daffodils, per 12 pots	6 0- 9 0	Mignonette, p. doz.	6 0- 9 0
Draacens, each	1 0- 7 8	Palms, various, ea.	2 0-10 0
— various, p. doz.	12 0-24 0	— specimens, ea.	10 6-34 0
Ericas, various, doz.	9 0-24 0	Primula sinensis,	per dozen
Evergreen Shrubs,	in variety, doz.	per dozen	4 0- 6 0
in variety, doz.	6 0-24 0	Tulips, doz. pots	6 0- 8 0
Ferns, small, doz.	1 0- 3 0	Spiræas, per doz.	8 0-12 0
Ferns, various, doz.	5 0-12 0		

**VEGETABLES.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Asparagus, 1st size,	per bundle	Onions, Eng., cwt.	5 0- 6 0
— 2nd size, do.	2 6- 3 0	Peas, Channel Is-	lands, per lb.
— (sprue), do.	0 8- 0 9	potatoes, Channel	Islands, per lb.
Beans, Channel Is-	lands, per lb.	1 3 ...	Seakale, per punnet
— Madeira, p. bar.	(8 to 10 lb.)	4 6- 5 0	Tomatoes, English,
Cauliflowers, p. crate	(8 doz.)	6 0- 7 0	— Canary Is-
Cucumbers, per doz.	5 0- 6 0	lands, per case,	12 to 14 lb.
Mint, per bunch	0 5- 0 7	— Canary, boxes,	4 to 4½ lb.
Mushrooms, per lb.	0 6- 0 8		

**CUT FLOWERS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.	Orebirds:—	s. d. s. d.
Aranas, p. 12 blooms	2 0- 4 0	Cattleya, 12 blms.	6 0-12 0
Azalea, 12 sprays	0 6- 1 0	Odon Loglossum	crispum, 12 blms.
Bouvardias, per bun.	0 6- 1 0		3 0- 6 0
Carnations, 12 blms.	1 0- 3 0	Pelargoniums, scar-	let, per 12 bunch
Daffodils, double,	per doz. spikes	4 0- 6 0	— per 13 sprays
— single, 12 bunch	4 0-12 0	Pyrethrum, 12 bun.	2 0- 4 0
Eucharis, per dozen	3 0- 5 0	Roses, Tea, per doz.	1 0- 3 0
Gardenias, per doz.	4 0- 8 0	— coloured, p. doz.	2 0- 4 0
Hyacinths (Roman)	12 sprays	— pink, French, doz.	3 0- 4 0
— per doz. spikes	2 0- 4 0	— yellow (Maré-	chal), per doz.
Lapageria, 12 blms.	3 6- 1 6	— red, per dozen	3 0- 8 0
Lilac, French, p. bu.	3 0- 5 0	— Safran o,	French per doz.
Lilium Harrisii, bu.	4 0- 6 0	Snowdrops, doz. bun.	0 6- 0 9
Lily of the Valley,	per doz. sprays	Stephanotis, 12 sps.	6 0- 9 0
per doz. sprays	0 6- 1 0	Tuberose, 12 blms.	0 9- 1 0
Maidenhair Fern,	per 12 bunches	Tulips, various, doz.	0 6- 1 0
per 12 bunches	4 0- 8 0	Violets, 12 bunches	1 0- 1 6
Marguerites, per 12	bunches	— Parme, French,	per bunch
3 0- 6 0	4 0- 6 0	— Czard, do.	2 0- 2 6
Mignonette, 12 bun.	1 6- 2 6	— Mimosa of Aca-	dia, do.
— French, 12 bun.	1 6- 2 6		1 0 2 0
— Varais, per	12 bunches		
0 9- 1 6			

**FRUIT.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Apples from Nova	Scotland, per	barrel	14 0-22 0
Cobs, per 100 lb.	25 0 30 0	Grapes, Gros Colmar,	1st quality, lb.
Grapes (Cape), Blk.,	20 lb. boxes	12 0 ...	2 6- 3 0
14 lb. boxes	7 6 8 6	— Alicante, 1st	quality, per lb.
White, 9 lb.	9 0 ...	Nectarines, Cape,	per box
20 lb. boxes	17 0 ...	Pine-apples, St. Mi-	chael, each
		2 6- 4 6	Strawberries, per lb.
		10 0-12 0	— 2nd quality
		8 0- 7 0	

**OLD POTATOS.**  
There is no improvement since last report.  
**NEW POTATOS.**  
Arrivals have not been quite as heavy during the past week, and good supplies realise from 2s. to 3s. per cwt. advance. J. B. Thomas.

**SEEDS.**

**LONDON: March 11.**—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's market as poorly attended, with but a moderate business doing. For Clover and grass seeds there is a quiet demand at former cheap rates. Yearling American, as well as new French red Clover seed is being shipped to New York. For Cocksfoot, Timothy, Sainfoin, and Lucerne, last week's quotations are realised. Spring and winter Tares meet a fair sale. Rye is scarce and wanted. For Rape seed the tendency is upwards. Mustard shows no change. Blue Peas and Haricot Beans neglected. The Board of Trade returns give the imports of Clover and grass seeds into the United Kingdom for the first two months of this year as cwts. 109,428, value £217,044, as against cwts. 105,644, value £261,799 for the corresponding period of 1895.

**FRUITS AND VEGETABLES.**

**BOROUGH: March 10.**—Quotations:—Savoys, 4s. to 5s. per tally; Brussels Sprouts 2s. to 2s. 6d. per bushel; Carrots, 1s. 9d. to 2s. 3d.; and Turnips, 2s. to 2s. 6d. per dozen bunches; Onions, 3s. 6d. to 4s. 6d. per bag; Horseradish, 8s. to 12s. per dozen bundles; Apples, 4s. to 6s. per bushel.

**SPITALFIELDS, March 10.**—Quotations:—Sprouts, 1s. to 1s. 3d. per half-sieve; Kale, 9d. to 1s. per bushel; Seakale, 8d. to 9d. per bundle; Broccoli, 9d. to 1s. per bushel; Bunch Greens, 2s. to 3s. per dozen bunches; Rhubarb, 2s. to 2s. 6d. per dozen bundles; Turnips, 1s. 6d. to 2s. per dozen; Parsley, 1s. to 1s. 6d. per dozen bunches; Cauliflowers, 1s. 3d. to 1s. 6d. per dozen; Savoys, 2s. 6d. to 4s. per tally; Parsnips, 6d. to 8d. per score; Onions, 1s. 6d. to 2s. per doz. bunches; Turnips, 2s. to 3s. per ton; Carrots, household, 2s. to 30s. do.; horse do., 20s. to 24s. do.; Leeks, 1s. to 1s. 6d. per dozen; Horseradish, 1s. to 1s. 3d. per bundle.

**STRATFORD: March 10.**—The supply of green vegetables has been abundant, causing a drag in the sale; the other vegetables have met with a fair demand at the undermentioned prices:—Cabbages, 1s. to 1s. 6d. per bag; Savoys, 2s. 6d. to 4s. 6d. per bag; Greens, 1s. to 1s. 6d. per dozen; Cauliflowers, 1s. 6d. to 2s. per dozen; do., 5s. to 8s. per dozen; Scotch Kale, 4d. to 6d. per sieve; Beetroot, 4d. to 6d. per dozen; Horseradish, 1s. to 1s. 2d. per bundle; Parsley, 1s. per dozen bundles; Brussels Sprouts, 1s. to 1s. 3d. per half-sieve; Rhubarb, forced, 1s. 3d. per dozen bundles; white Turnips, 1s. 6d. to 1s. 9d. per bag; Leeks, 9d. to 1s. 6d. per dozen; Spring Onions, 2s. to 2s. 6d. per dozen; Salad, 1s. 6d. to 2s. per dozen; Carrots, household, 20s. to 28s. per ton; do., cattle-feeding, 20s. to 24s. do.; Parsnips, 4d. to 6d. per score; Mangels, 12s. to 13s. per ton; Swedes, 12s. 6d. to 18s. do.; Onions, Dutch, 2s. 6d. to 3s. per bag; Bordeaux sorts, 5s. to 6s. per case; Apples, English cookers, 3s. to 4s. 6d. per bushel; do., dessert, 3s. to 4s. 6d. per bushel; do., Nova Scotian, 12s. to 15s. per barrel.

**FARRINGTON: March 12.**—Quotations:—Cauliflowers, 1s. 6d. per dozen; Turnip-tops, 1s. per bushel; Sprouts, 1s. 3d. per half-bushel; Broccoli, 1s. per bushel; Leeks, 1s. per dozen; Turnips, 1s. 6d. per dozen bunches; Carrots, 2s. 6d. do.; Artichokes, 1s. per half-bushel; spring Onions, 2s. per dozen bunches; Rhubarb, 2s. per dozen bundles; do., forced, 1s.



per dozen; Horse-radish, 1s. per bundle; Calery, 2s per bundle; Kale, 6d. per bushel; Seakale, 1s. to 1s. 2d. per dozen; Radishes, 1s. per dozen bunches; Eadive, 1s. 6d. per dozen; Scarlet Beans, 3s. per basket; Cucumbers, 7s. to 8s. per dozen; Grapes, good black, 2s. 6d. per lb.; Apples, Nonpareils, 12s. to 16s.; Baldwins, 10s. to 14s. per barrel.

### POTATOS.

BOROUGH: March 10. — Quotations ranged between 35s. and 90s. per ton.

STRATFORD: Mar. 10. — Quotations:—Dark soil Bruce, 25s. to 30s.; do. light, 30s. to 50s.; Reading Giants, 40s. to 60s.; Sutton's Abundance, 40s. to 50s.; Scotch Main Crop, 63s. to 70s.; Dunbar Magnums, 70s. to 80s. per ton.

SPITALFIELDS, Mar. 10. — Quotations:—Black lands, Brucas, 3s. to 40s.; Reading Giants, 35s. to 40s.; High lands, Maie Crop Kidneys, 45s. to 60s.; Brucas, 40s. to 60s.; Giants, 45s. to 55s.; Hebrons, 50s. to 70s.; Scotch Main Crop, 45s. to 60s.; Brucas, 40s. to 50s.; Dunbar Main Crop, 70s. to 85s. per ton.

FARRINGTON: March 12. — Quotations:—Saxons, 70s. to 80s.; Ducbar Brucas, 60s. to 70s.; do. Maie Crop, 60s. to 80s.; Hebrons, 70s. to 80s.; Sutton's Abundance, 45s. to 65s.; Maie Crop, 40s. to 5s.; Imperators, 30s. to 35s.; Magooms, 30s. to 40s. per ton.

### HAY.

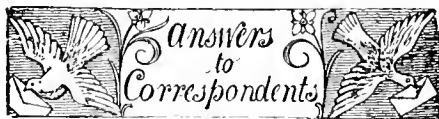
Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 87s. 6d.; inferior, 38s. to 60s.; hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 20s. to 40s. per load.

## ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

Will some reader of the *Gardeners' Chronicle* kindly tell W. Davis if there is any kind of package or small basket that would be better or cheaper for the packing and marketing of Strawberries than the small 3 lb. crate which cost £1 per gross, and state where it can be obtained?

Will some reader of the *Gardeners' Chronicle* kindly state through these columns the address of Mr. Gasman, a cultivator of hardy European Alpine plants; also that of Sendtner and Stamm, whose names one sees so often attached to Alpine hybrids?



ACCOMMODATING A COLLECTION OF ORCHIDS WHERE THE HOUSE IS BEING PAINTED: A. C. As you do not possess another house into which the plants might be transferred, you must accommodate them in one half of the house, putting up some kind of partition of tarpaulin, wood, frigi domo, strong canvas, or strawed hurdles, and when the painting is done in the cleared half, transfer the plants to that division, and go on with the work. Of course, the warmth must be kept up.

ACER NEGUNDO FOLIIS VASIEGATIS: W. H. D., Pittsburg. The plant will be quite hardy in your latitude. It will stand 60° of cold without suffering.

AUGUSTE NICAISE STRAWBERRY: J. Geary. The plants are affected by so-called "blindness," and this disorder may be caused variously, such as by affording much water before the trusses are well above the leaves, exposure to frost after the flowers are in bud, or when expanded; and some varieties have a peculiar habit of going blind if early forced, although no evidence of it is remarked later in the year. The night-temperature is 5° too high for a start, and you ought to be careful to ventilate slightly by night, as well as more abundantly by day. Keep the plants well up to the glass; and if you can afford a mild bottom-heat—say, 75°—to the plants, taking them out of it when the flowers show generally, you will attain greater success.

BOOKS: J. J. G. *Orchid Growers' Manual*, by B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—SOCIETIES AND GARDENERS' ADDRESSES: Rudolf Hertz. Purchase the *Horticultural Directory and Year Book for 1896*, price 1s., published at the office of the *Journal of Horticulture*, 171, Fleet Street, London, E.C.—G. R. & Co. *The Carnation*, by E. S. Dodwell, was published at I. Clement's Inn, Strand, W.C. It is possible, however, that the book may be out of print.

BOLBS INFESTED WITH INSECTS: Mite. The bulb you send (presumably a Vallota) has upon it some of the small transparent-looking insects known as the Eucharis-mite, which is not by any means peculiar to the bulbs of Eucharis. 2. There have been many opinions expressed as to the causes which lead to attacks from this mite. Some think that the mite (rather than being a first cause) follows decay or extreme weakness in the bulbs, resulting from a check to their growth, by unnatural cultivation, whether this be too low a temperature, too much water at the roots, or (by a series of forced growing and resting seasons) obtaining from the plants an excessive number of flowers. Mites will make no headway if the plants be kept growing strongly, for they enter only weak or partly-decayed bulbs. You might treat your Vallotas with a similar solution to that recommended on p. 177 for Eucharis bulbs, but make it rather weaker, and first cut away all decayed parts from the bulbs.

CARNATION: F. F. The plants are attacked by *Helminthosporium echinulatum*; and for remedy see our last issue, p. 306.

CATTLEYA TRIANÆI: A. T. The varieties of Cattleya Trianæi are very fine. No. 1 is the brightest we have seen this season, for the sepals and petals are so well coloured.

CULOGYNE LACTEA: W. J. W. It appears that the *Culogyne lactea* sent has been potted-up with the ordinary type, which it closely approaches in general appearance. No. 2 is *Dendrobium Pierardi*.

COSSAGEON.—Page 306, col. c, for in the Fuchsia, the calyx is absent read coloured.

DENDROBIUM WARDIANUM: J. W. A very excellent variety.

GLADIOLUS: C. W. The plants are not strong, and only the very best of them will flower this season. The Primula are not uncommon. Vine-leaf next week.

GREENHOUSE PLANTS: Amateur. Go to a nursery at this season, and make a selection on the spot of those species which please you, asking to be informed of those which are of easy culture. Do not omit bulbous plants which flower early, and creepers for the walls and rafters. Zonal Pelargoniums and Primulas should not be syringed overhead at this season. Adiantums should have a moist bottom to stand upon, and the potsides may be wetted, but not the fronds.

JAMAICA NEWSPAPER: C. L. *West Indian Field*, published at Kingston.

MALE FLOWERS ON CUCUMBER PLANTS: J. P. R. In winter, when the vitality of the plants is not high, it is prudent to pinch off the male blossoms after using the pollen; but at other seasons it is wasted labour. The syringe need not be used if a moist air can be maintained.

NAMES OF FRUITS: A. Wilson. Not known; fruit much bruised.—H. H. H. 1, Minchall Crab; 3, Golden Noble; 4, Rymer; 6, Scarlet Nonpareil; Pear, Benrre Rance. It is almost too late in the season to name fruits with certainty, for excepting the greatest care be taken, the skin gets so much bruised and discoloured as to be unrecognisable.

NAMES OF PLANTS: J. H. 2, *Auride odoratum*; 3, *Allium neapolitanum*; 4, *Polygala Dalmaisiensis*; 5, *Triteleia uniflora*; 7, *Senecio populifolius*, probably.—W. L. *Rhododendron arboreum roseum*.—J. C. *Lycaste candida*, the form of it known in gardens as *L. Lawrenceana*.—C. M., *France*, *Phalenopsis amabilis*, Blume, more commonly known in gardens as *P. grandiflora* and *P. Aphrodite* (*P. amabilis* of gardens). The other is *Ozontoglossum tripadiana*.—J. H. 1, *Polypodium punctatum*; 6, *Asplenium letum*.—Wm. W. *Ozontoglossum maculatum*, *O. odoratum*, *Laetrea decomposita*; *Maranta illustris*, the tall one; *Maranta picta*, the one with silver centre. In gardens, the Phryniams are generally called *Marantas*.—A. J. C. 1, *Ozontoglossum Egertonii*; it is generally known as "the lead from O. pulchellum," a definition which is probably correct. 2, *Dendrobium primulinum*; 3, *Ocoidium leucocibulum*.—J. C., *Selkirk*, 1 is a remarkably beautiful form of the plant known in gardens as *Ozontoglossum Ruckerianum*; 2 and 3 are unmistakably *O. Andersonianum*.—J. K. The best form of *Ocoidium obryzatum*.—*Horticulture Lidgoise*. Probably *Dendrobium × euosmum* (*Endocharis × nobile*).—*Hortus*, 1, *Erica carnea*; 2, *Erica*

*carnea alba*, commonly called *Erica herbacea* in gardens; 3, *Sempervivum tortuosum variegatum*; 4, *Sempervivum arachnoideum Laggeri*; 5, *Helleborus foetidus*; 6, *Rhododendron dauricum*.—H. S. 1, *Begonia Dregei*; 2, *Begonia incarnata*, called *B. metallica* in gardens; 3, *Begonia argyrostigma*; 4, *Lonicera tatarica*.—J. A. A good variety of *Dendrobium nobile*.—S. C. 1, *Blechnum occidentale*; 2, *Begonia subpeltata*; 3, *Begonia manicata*.—T. G. *Phaius grandiflora*.—J. A. 1, *Magnolia conspicua*; 2, *Rubus spectabilis*; 3, *Forsythia suspensa*; 4, *Kerria japonica*.

PINGS BUNGEANA: C. B. It is quite hardy in this country.

SECONDARY GROWTHS FROM THE PSEUDO BULBS OF DENDROBIUMS: C. R. D., *Newbury*. The production of growths at the joints of the pseudo-bulbs of newly-imported Dendrobiums is not liked by growers. The proper place for the new growths is the base of the old bulbs. In common sorts the growers often remove the growths proceeding from the joints of the pseudo-bulbs in order to favour the production of growth in the usual manner. In rare species or kinds desirable for propagation, they are encouraged, as it offers a ready means of multiplying the plant desired. We advise you to treat your plants as growing plants, without considering whether the growths are in the most desirable place or not. When the growths make leaves and roots, they can be removed from the lengths of the pseudo-bulbs and potted up to make extra plants.

TOMATO: A. F. Sutton's Earliest of All and Laxton's Open Air. Should the season be unusually warm, many other varieties will succeed outside.

TOMATOS: J. P. R. The "drooping" disease, for which there is no known cura. See *Gard. Chron.*, vol. xviii., p. 45.

TOMATOS AND CUCUMBERS: C. White. Without having seen specimens of diseased foliage and fruits, we are unable to give the malady a name, and can only suggest that you should employ the Bordeaux Mixture, a recipe for making which will be found in the *Gardeners' Chronicle*, July 1, 1893, p. 12. Can you not send specimens of both for our inspection? The Bordeaux Mixture, if the disease be not exceedingly prevalent on the plants, may save them; but if they are much weakened by the attack, it will be more prudent to burn the whole, and char the soil.

TROPEDEUM TUBEROSUM: *Nasturtium*. Plant in deeply-trenched soil at the foot of a warm wall, incorporating a considerable portion of sand with the staple, if it be stiff; and manure, in a decayed condition, if it be poor. Plant the tubers 6 inches deep.

WATER LILIES IN A STOVE: Mrs. A. Such "Water Lilies" as *Nelumbium speciosum*, white and rose, and very fragrant, and *N. luteum*; and the following species of Nymphaeas: *N. amazonum*, *N. ampla speciosa*, *N. stellata*, *N. s. cyanea*, *N. devoniensis*, *N. Lotus*. *N. zanzibarensis* will grow in a tank in the stove if sunshine can play on the surface of the water, and the latter is heated to about 75°. The seeds should be sown in small pots of loamy soil, or in flat baskets, the soil being weighted down by a layer of small stones, and sunk in the tank. The surface of the soil should not be more than 1 foot under water, and this would involve placing the baskets or pots on large inverted flower-pots or other contrivances, as the 3-foot deep tank is too deep. When the foliage decays, lower the warmth of the water, and let the plants remain till repotting time comes round in the spring; do not dry off the roots. Seeds and plants may be procured at some of the larger nurseries.

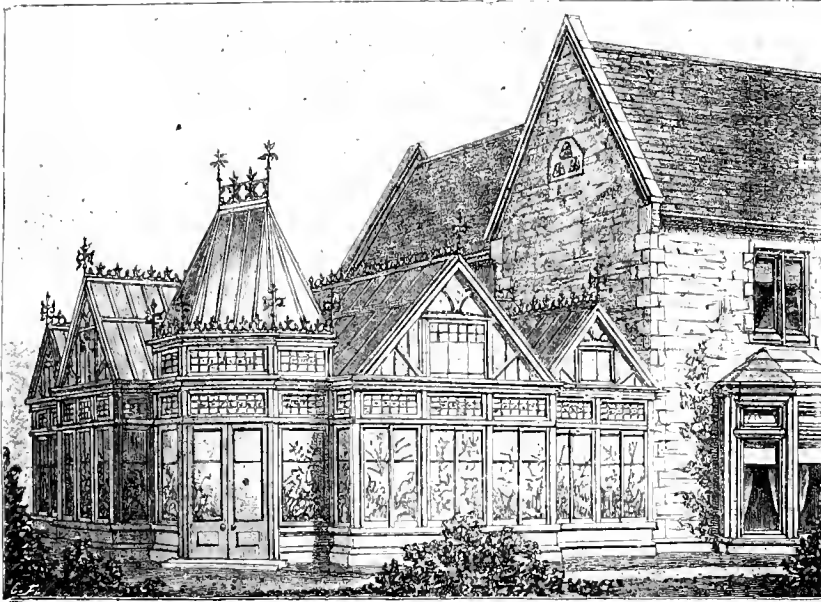
COMMUNICATIONS RECEIVED.—J. Fraser, Bevois Valley Nursery.—L. E., New York.—W. P.—G. P.—D. R. W.—G. G. Paris.—W. D., Cairo.—F. A. Peaty.—W. Penfold.—Alpha, next week.—W. Rider & Son.—T. Mawson.—G. W.—A. C. F.—G. H. A.—J. E.—P. R. L.—W. Bean.—T. A.—G. B.—C. T. D.—A. G.—W. L.—J. Slow.—J. P.—T. B.—G. W.—A. J. J. next week.—H. B. P. and H. Richardson, shortly.—C. W.—J. T.—Hallstone Assurance Co.—F. G. G.

SPECIMENS, PHOTOGRAPHS, ETC., RECEIVED WITH THANKS.—F. W. B.—W. J. F.—Sutton & Sons.

DIED.—On March 6, after 50 years' residence at Highbury Nursery, Blackstock Road, Finsbury Park, THOMAS HOWES, sen.

# J. WEEKS AND CO., F.R.H.S.,

Telegraph—  
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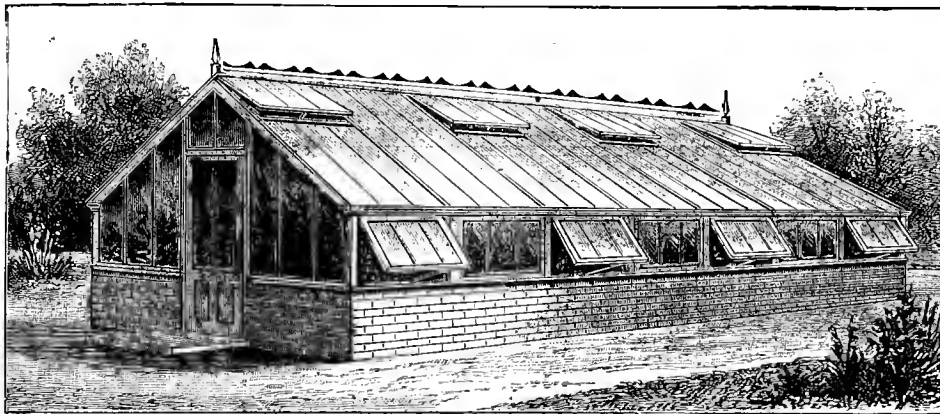
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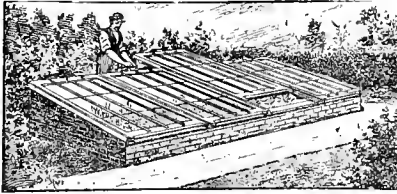
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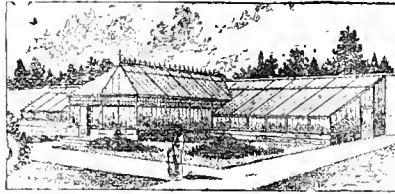
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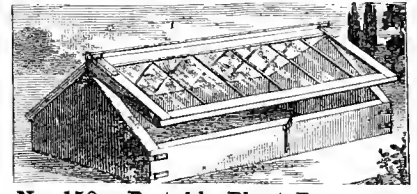
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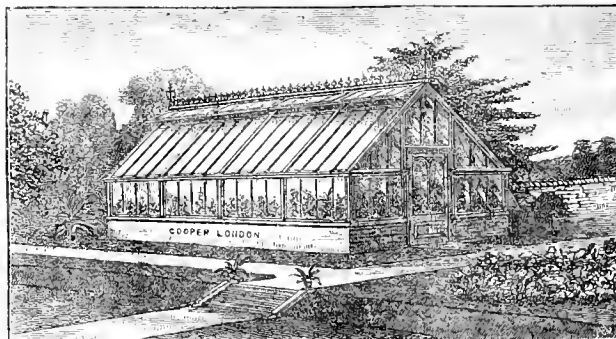
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II.—Poultry, Kennel, Rabbit, and Pigeon Appliances, &c. ... ..	65—98
III.—Rustic Work ... ..	99—134
IV.—Iron Buildings and Roofing, Church Furniture, &c. ... ..	135—178
V.—Heating Apparatus, Cooking Stoves, &c.	179—228
VI.—Horticultural Manures, Fertilisers, In- secticides, Worm and Weed Destroyers, Sunshades, Soils, &c. ... ..	229—246
VII.—Lawn Mowers and Edge Cutters, Tennis Markers, Garden Rollers, &c. ... ..	247—268
VIII.—Horticultural Timber ... ..	269—280
IX.—Horticultural Sundries, Wirework, Fountains, Vases, Statuary, &c. ... ..	281—342
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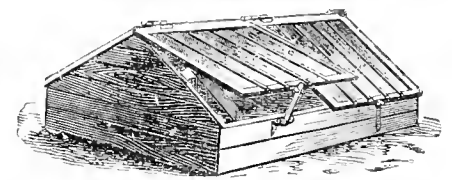
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10	" .. 0 6 0	21	" .. 0 11 6
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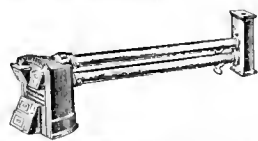
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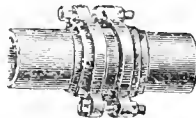
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YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

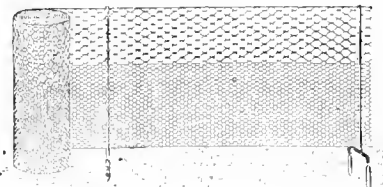
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Spring Number, with Coloured Plate, of BORDER CARNATION (Endymion). GARDENERS' MAGAZINE, March 14.—2d., Post-free, 2½d. Offices: 4, Ave Maria Lane, London, E.C.

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- SUNSET SEED AND PLANT CO., San Francisco, California—Trees, Fruits, Plants, and Seeds.
- HOGG AND ROBERTSON, 22, Mary Street, Dublin—Farm Seeds.
- JAS. DOUGLAS, Edenside Nurseries, Great Bookham, Surrey—Carnation Plants and Seeds.
- JOHN PERKINS & SON, 52, Market Square, Northampton—Agricultural Seeds.
- FOTTEBERINGHAM AND KING, Corn Exchange, Dumfries—Agricultural Seeds.
- DICKSONS, LTD., Chester—Farm Seeds.
- W. W. KELSEY, 145, Broadway, New York—Hardy Trees and Plants.
- AMOS PERRY, Hardy Plant Farm, Winchmore Hill, London, N.—Hardy Plant's, Bulbs, Carnations, Begonias, &c.
- KENT AND BRIDON, Darlington—Farm Seeds.

**PARTNERSHIP.**—A Fruit-Grower in the Channel Islands requires a thoroughly competent PARTNER, understanding all branches of the Trade, and disposing of a certain Capital.—Reply, stating full particulars, to M. M., 41, Wellington Street, Strand, W.C.

**WANTED**, in small Nursery, GARDENER, married, no family. Must be well up in Propagating and Raising for Market. Wife to cook and manage for small household; live in house. Wages 24s.; coals and vegetables. Abstainers preferred.—REYNOLDS, Beaminster, Dorset.

**WANTED, KITCHEN GARDENER** as HEAD; thorough knowledge of Fruit, Vegetables, and Flowers; another and boy kept. Wages 25s., with cottage, &c.—Address, GARDEN, Deacon's Advertising Offices, 154, Leadenhall Street, E.C.

**WANTED, a good GARDENER**, for a Large Garden. Must understand Vines, Greenhouse, Wall Trees, Flower Garden, &c. Willing to be useful. Wife to look after Foultry.—Apply, stating age, wages, and reference, to H. H., Mr. B. Wakelin, Alford.

**WANTED, a WORKING GARDENER.** Married, with a knowledge of Peach House, Vineries, Cucumbers, Tomatoes, and Vegetables. All to supply Shop Trade.—C. WHITING, White Cross Nurseries, Hereford.

**WANTED, a strong, active young MAN** as UNDER GARDENER; good knowledge of Inside and Out. Wages 14s. per week.—GEO. KEMP, The Gardens, Miseden Abbey, Bucks.

**WANTED, USEFUL MAN (SINGLE-HANDED)**, to Develop a small Market Business for Tomatoes and Cut Flowers. Wife to look after Cottage. No children. House room and firing found. Wages 16s.—G. T., 41, Wellington Street, Strand, W.C.

**WANTED, a MARKET GROWER** of Cucumbers and Tomatoes, and Pot Plants.—Apply to J. M. LEATHER, East Fields, Mitcham, Surrey.

**WANTED, a thorough energetic FOREMAN** for the Houses, well up in Plant Culture under glass. Wages 20s. per week. Bothy, milk, &c.—Apply W. DAVIES, Nidd Hall, Ripley, Yorks.

**FOREMAN.**—**WANTED**, a good pushing Man, chiefly for Fruit, with some Plants and Orchids. A preference to one used to Table Decoration. Age about 24. Wages 18s. per week; bothy, milk, &c. State full particulars, with copies of testimonials, to—A. EVANS, Lytch Hill, Haslemere.

**WANTED, a MAN and his WIFE** as GARDENER and LAUNDRESS; both good, and without family. A comfortable dwelling with coals and gas. Good wages.—Apply, by letter, to F. W., 154, Norwood Road, West Norwood, S.E.

**WANTED, TWO young MEN**, one for Rose House, and one for Ferns. Permanent situations. Good opportunity for Young Man to improve himself. Apply —T. CHILDS, New Eltham, Kent.

**WANTED, a quick, active young MAN** that understands growing Plants; and to serve Customers. Must have good character. Abstainer preferred.—T. CHALLIS, The Nurseries, Kent House, Beckenham, Kent.

**WANTED, strong young MAN**, not under 23, to take charge of large Conservatory, Store and Greenhouse Plants, Wall-trees, Pleasure-ground, &c. Not afraid of work. Bothy, &c.—Apply, stating wages, to G. CLARK, Walcot Gardens, Lydbury North, Salop.

**WANTED, a strong young MAN** for General Nursery. Quick, willing, and obliging. An Improver not objected to, if anxious to learn. Permanency. State wages to commence with.—G. F. LETTS, Nurseryman and Seedsman, West Haddon, Rugby. (Mark envelope private.)

**WANTED, young MEN** for Potting and Tying.—FAY, Florist, Cosham.

**WANTED, for a Market Nursery, SEVERAL YOUNG MEN.** Must be well up in Potting and Watering. Those from a Market Nursery preferred. Wages 18s. per week. State nationality, age, and experience to TURNER BROS., Nurserymen, Oarston, Liverpool.

**WANTED, by a Market Grower.**—Strong, willing, and reliable Man for Tomatoes, Vines, &c. References required. Wages 26s., and commission.—Write, or apply Saturday afternoon, Glenhaven, Elstree.

**WANTED, AT ONCE, UNDER GARDENER (Single).** Apply—W. TURNER, Purley, Atherstone

**WANTED, a thorough capable MAN** for indoor bloom, market work, also Tomatoes; Roses a specialty. A man well up in the latter liberally dealt with.—Letters only to J. CROUCH, Houndsfield Nursery, Lower Edmonton.

**WANTED, an active, intelligent young MAN**, well up in the routine of Outdoor Nursery Work. Good Trainer, Budder and Packer. Wages 12s. per week.—Full particulars and references to EDWIN HILLIER, The Nurseries, Winchester.

**WANTED, at once, single MAN**, to take charge of Oil Engine, to fill up time Painting, &c., in Garden. Must be steady, and well recommended. Apply, stating wages, with copies of testimonials, to—J. SIMMONS, De Walden House Gardens, Eastbourne.

**WANTED, a YOUTH (age 17 or 18)**, chiefly indoors. State experience and wages required.—J. NASH, Belvedere Nursery, Wimbledon.

**WANTED, for Seed and Florists' Business, a COMPETENT HAND.**—State terms to B. LADHAMS, Shirley, Southampton.

**WANTED, a strong, active young Man**, about 21, principally for the Houses. Apply, stating experience and wages expected to—I. WILLIAMS, Foxley Gardens, Hereford.

**WANTED, two young MEN** for small Market Nursery, with some experience.—Wages to commence with 17s. per week.—JAMES SHORT, The Law Nursery, Apperley Bridge, Leeds.

**WANTED, a young Englishman, as IMPROVER.**—Apply to EMILE COPPITERS, Nurseryman, Choussée d'Anvers, Ghent, Belgium.

**WANTED, a well-educated YOUTH**, of good address, desirous of acquiring a practical knowledge of the nursery, seed and florist business. Board and residence. Premium required.—Address S., 41, Wellington Street, Strand, W.C.

**WANTED, smart YOUTHS** with experience as IMPROVERS in Florist's Nursery, Outside. State length of service in last place; reference and wages required to—TURNER BROS., Hale, near Liverpool.

**WANTED, at ONCE, young MAN** as SALESMAN for Cut Flowers at Station Stand. Must have good experience in making up. Good character required. State wages.—H. CROUCH AND SONS, Guildford.

**FLORIST.—WANTED, at ONCE, a young Lady**, practical, trustworthy, and good Saleswoman, to take charge of small Shop.—Apply, with references, to A. WALKER, Headingley Nurseries, near Leeds.

**WANT PLACES.**

**TO GARDENERS AND OTHERS SEEKING SITUATIONS.**

*The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.*

*Advertisers are cautioned against having letters addressed to initials at Post-offices, as all letters so addressed are opened by the authorities and returned to the sender.*

**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

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**DICKSONS, Royal Nurseries, Chester**, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

**ORCHID GROWER.**—Age 28; thoroughly experienced in the management of established and imported stuff. Three years in present situation.—HENRY COOPER, Grange Gardens, Bishop's Stortford, Herts.

**GARDENER (HEAD).**—Age 40, married, no children; thoroughly efficient. J. J. KING, The Myrtles, Salsbury, Southampton, can with confidence recommend above to any Lady or Gentleman.

**GARDENER (HEAD).**—Age 28; thoroughly practical in all branches. Leaving through place being sold. Five years' excellent character; ten previous; abstainer.—LAMPARD, Mosses Cottage, Broome Hall, Dorking.

**GARDENER (HEAD).**—Age 30; fifteen years' practical experience in the requirements of large Gardens. Recommended with confidence by present employer. Good references from previous.—G. CLARIDGE, Clare Cottage, Page Street, Mill Hill, N.W.

**GARDENER (HEAD).**—Age 38, married; understands Stove and Greenhouses; Forcing Fruits, Flowers, &c., Peach and other Wall Fruit, Kitchen and Flower Gardens. Twenty-eight years' practical experience. Well recommended. Personally, Abstainer.—F. LANE, Newdigate Place, Newdigate, Dorking.

**GARDENER (HEAD).**—A GENTLEMAN strongly recommends his late Head Gardener. Age 40. Choice Fruit, Flowers, and Decorations. Well up in Conifers, Woods and estate if required.—G. NOTTAOE, Messrs. Williams & Sons, The Nurseries, Holloway, N.

**GARDENER (HEAD, where two or three are kept).**—Age 31, married; thoroughly experienced in all branches. Twelve years' good character.—SAIT, 32, Lettson Street, Cumberwell Grove, London, S.E.

**GARDENER (HEAD);** age 37, no family.—A Gentleman with confidence recommends his Head Gardener for seven years. Life experience in good establishments. Excels in Orchids, Fruit, Roses, Chrysanthemums, and a capable Manager.—B., 3, Gardener's Cottages, Swain's Lane, Highgate.

**GARDENER (HEAD).**—Age 41, married. The EARL OF MORAY can with confidence recommend GEORGE GOODFELLOW, who was in charge of the extensive Garden at Kinglans Castle, Perthshire, for nine years, and left owing to a change of proprietors.—G. GOODFELLOW, Bellfield Cottage, Corstorphine, Midlothian.

**GARDENER (HEAD).**—H. S. GRANT, Esq., Chaxhill, Newnham, Gloucestershire, highly recommends his Head Gardener to anyone requiring the services of a thoroughly practical man. Well up in all branches. Age 35.—Address, J. DREW, as above.

**£1 BONUS.**—**GARDENER (HEAD)**, or FOREMAN, in good Establishment. Married; ten years' experience; two and a half years Foreman in last place.—W., 16, King's Road, Mortlake.

**GARDENER (HEAD WORKING)**, middle-aged, seeks re-engagement end of March. Thoroughly understands the requirements of any Lady's or Gentleman's establishment; twenty-one year's experience in good service. Country preferred.—W., 2, Carnegar Road, High Wycombe, Bucks.

**GARDENER (HEAD WORKING).**—Age 27; thoroughly experienced in Fruit, Flower, and Kitchen Gardens. Can be highly recommended.—A. STEVENS, Catton Park, Norwich.

**GARDENER (HEAD WORKING).**—Age 30; thoroughly understands the Early and Late Forcing of Fruit, Flowers and Vegetables; also Orchids. Abstainer. Well recommended. State wages.—GARDENER, Bidborough, Tunbridge Wells.

**GARDENER (HEAD WORKING).**—Age 31, JAMES TAYLOR, Esq., Rendcombe Park, Cirencester, will be pleased to recommend W. RICHARDSON, who has been Foreman in these gardens for over four years. Sixteen years' experience in good establishments.—W. RICHARDSON, Rendcombe Park Gardens, Cirencester.

**GARDENER (HEAD WORKING).**—H. FENNEL, aged 23, single; for over four years Gardener to Lord St. Oswald, Appleby Hall, Doncaster, is open to engage with any Lady or Gentleman requiring the services of a thoroughly practical man; life experience in good gardens; highly recommended by present and previous employers.

**GARDENER (HEAD WORKING).**—Age 22, single; eight years' practical experience, Inside and Out. Good references.—A. RANDALL, Old Priory Cottage, B'adford-on-Avon, Wilts.

**GARDENER (HEAD WORKING).**—Age 48, married; eleven years with the late A. W. Bridge, Esq., Hawley House, Blackwater; capable of undertaking management of land and stock, if desired.—J. MINARDS, Hawley House, Blackwater, Hants.

**GARDENER (HEAD WORKING).**—Age 31, married, no family. Thoroughly experienced in all branches in good establishments. THOS. PORTER is at liberty to engage with any Lady or Gentleman requiring the services of a good all-round practical man.—Ombersley Road, Worcester.

**GARDENER (HEAD WORKING).**—Age 32; thorough practical experience in all branches, including Orchids, gained in first-class places. Excellent character.—J. BROOKS, Hallow, Worcester.

**GARDENER (HEAD WORKING);** age 35, married, no family.—A Gentleman wishes to highly recommend an experienced man. Leaving through giving up.—W. PAYNE, The Lodge, Bournhurst, Horley.

**GARDENER (HEAD WORKING),** age 31.—A thoroughly good all-round Man wants engagement; life experience, first-class character for trustworthiness and ability.—G. BRYAN, 93, Plymouth Place, Leamington Spa.

**GARDENER (HEAD WORKING).**—Age 32, married; life experience, thorough practical knowledge in all branches; highly recommended from present and previous employers.—TUCK, Shotover Gardens, Wheatley, Oxon.

**GARDENER (HEAD WORKING).**—Age 32, married. Gentleman recommends. Life experience. Well up in Fruit, Flowers, Vegetables, Pleasure Grounds. Six years Head, four previous place. Horticultural certificate. Exceptional testimonials. Good manager.—**GARD, Mr. Chaston, Spinney Cottages, Adestone, Surrey.**

**GARDENER (HEAD WORKING);** age 29.—**Mr. WILLIAMS** will be pleased to recommend **WILLIAM HUGHAN**, as above. Satisfactory references from Eaton Hall, Holloway House, and Blenheim.—**WILLIAM HUGHAN, Blenheim Gardens, Woodstock.**

**GARDENER (HEAD WORKING).**—Age 28; thoroughly experienced in Vines, Cucumbers, Tomatos, Flower and Kitchen Garden. Seven years' excellent character, three years previous.—**E. F. West Street, Ewell, Surrey.**

**GARDENER (HEAD WORKING, or good FOREMAN).**—Age 28, married; first-class references. Experienced in all branches.—**JESSE JEEVES, Church Road, Preston, Hitchin.**

**GARDENER (HEAD WORKING).**—Age 34, married, one child; thoroughly experienced in all branches. Land and Stock if required. Good character.—**GARDNER, 83, Ashbrook Road, Holloway, London.**

**GARDENER (HEAD WORKING),** where two or three are kept.—Age 28; married when suited. Life experience, both inside and out, in large establishments.—**W. LAWRENCE, The Gardens, Norton Court.**

**GARDENER (HEAD WORKING).**—Age 29. Thorough good all round; life practical experience in all branches; excellent references from present and previous employers.—**BAKER, Forest Cottage, Warth, Sussex.**

**GARDENER (HEAD WORKING).**—Age 30. Three years in present situation. Well recommended by present and previous employers.—**C. B. St. Leonards, West Malling, Kent.**

**GARDENER (HEAD WORKING).**—Age 30. **Mr. GRAY, Head Gardener, Leybourne Grange, Maidstone,** desires to recommend his Foreman to any Lady or Gentleman requiring the services of a competent man.

**GARDENER (HEAD WORKING).**—Age 35, married, no family. Highly recommended. Ten years in present situation, four and a half years' previous. Leaving through breaking up the establishment. Please state wages and full particulars.—**KINGSLAND, Ridge wood, Uckfield.**

**GARDENER (HEAD WORKING).**—Age 30, married, no family. Fifteen years' thorough experience in Orchids, Fruit, Flower and Kitchen Garden. Highest testimonials.—**S. B., 33, Cedar Road, Waltham Green, S.W.**

**GARDENER (HEAD WORKING).**—Age 35, married, one child, age 6; life experience in all branches gained in good establishments. Highest references.—**W. G., Highden Gardens, Pulborough.**

**GARDENER (HEAD, or good SECOND).**—Age 29; fourteen years' experience in some of the most practical gardens in England and Wales. Last situation, Chidwick, Bury St. Albans, two years and nine months, as Foreman. Excellent references.—**A. KEMBER, 60, Warleigh Road, Brighton.**

**GARDENER (HEAD, or good SECOND).**—Age 25; ten years' experience, inside and out. Good character from previous places.—**W. EDWARDS, 4, Moray Road, Tollington Park, N.**

**GARDENER (SINGLE-HANDED, or where help is given).**—Age 26, married when suited; fifteen years' experience inside and out; can be highly recommended; over two years' excellent character last place.—**F. CAPP, Head Gardener, Paddockhurst, Worth, Sussex.**

**GARDENER (SINGLE-HANDED, or where help is given).**—Married, age 31; abstainer; good all-round. Good references.—**H. ASHENDEN, 52, Saunders Street, New Brompton, Chatham, Kent.**

**GARDENER (SINGLE-HANDED).**—Age 27. Understands Cucumbers, Tomatos, Grapes, Plants, &c. Could undertake charge of horse and trap. Good references.—**H. Mr. M. A. ANSELL, Nurseryman, &c., 3, Whitehall Parade, Archway Road, N.**

**GARDENER (SINGLE-HANDED), or Kitchen Garden and Pleasure-ground Man.**—Age 26; twelve years' experience inside and out; good references. Gentleman wishes to recommend his GARDENER as above. State wages.—**E. B., Bellak Cottages, Queen Street, Chertsey, Surrey.**

**GARDENER (SINGLE-HANDED, or where help is given).** Age 29, single. Total abstainer. Good character. Life experience.—**A. LOVE, Burghfield Hill, Mortimer, Berks.**

**GARDENER (good SINGLE-HANDED, or one UNDER).** Eleven years' practical experience in all branches. Age 35. Single. **Mr. STOCKING** will be pleased to recommend **J. BATTLELEY** as above.—**The Gardens, Marden Park, Caterham Valley, Surrey.**

**GARDENER (SINGLE-HANDED), or where help is given.**—Age 25; experienced in general work, inside and out. Two years' and nine months in present situation. Leaving through breaking up of establishment. Good references. State wages.—**W. C., The Gardens, Cambridge House, Twickenham, Middlesex.**

**GARDENER (SINGLE-HANDED).**—Age 24; eight years' experience inside and out. Excellent character.—State wage, &c., to **H. COOKE, Minchinhampton, Stroud.**

**GARDENER (good SINGLE-HANDED).**—Age 25, single. Very good all-round Man. Highly recommended from past and previous places.—**RALPH, Staphon Gill, Jarvis Brook, Sussex.**

**GARDENER (SINGLE-HANDED, or otherwise).**—Young Man, age 23, seeks situation in Garden as above.—**Rev. E. SUMMERS, Bradrig, Isle of Wight.**

**GARDENER (SINGLE-HANDED, or where help is given).**—Age 27; married when suited. Experienced in Vines, Flower and Kitchen Garden. Very handy, Painting and Glazing, &c.—**A. FRAMPTON, 4, Denmark Road, Twickenham, Middlesex.**

**GARDENER (SINGLE-HANDED).**—Age 27; eleven years' good practical knowledge; four years' last situation as same.—**H. MITCHELL, 2, Brent Cottage, Hauger Hill, Ealing.**

**GARDENER.**—**THOS. ROBINSON, Gardener to W. LAWRENCE, Esq., Elsiefield Gardens, Hollingbourne, Kent,** can with confidence recommend his Foreman, **A. RUSTON (age 23)** to any Lady or Gentleman requiring a good and trustworthy man. Good practical knowledge of all round Gardening.

**GARDENER.**—Single; accustomed to Vines, Cucumbers, Melons, Tomatos, Flower and Kitchen Garden. Good references.—**W. HANCOCK, Gardener, Ward Green, Horsbrodale.**

**GARDENER, where three or more are kept.**—Age 25; experienced in Stove and Greenhouse Plants, Vines, Peaches, Kitchen and Flower-gardens.—**J. W., 4, Willow Cottages, New Down Road, Merrow, near Guildford.**

**GARDENER.**—Young man (age 22), seeks situation inside and out. Four years' good recommendation.—**F. WEBB, Castle Cross, Stone, Greenhithe, Kent.**

**GARDENER, where two or three are kept.**—Understands the cultivation of Fruit, Flowers, and Vegetables; highly recommended.—**A. GRAVE, Tring Park Gardens, Tring, Herts.**

**GARDENER highly recommends a young Man,** who seeks a change; has been with him three years, both inside and out. Under Glass preferred.—Further particulars, apply **W. PITTS, 3, Queen's Road, Guildford.**

**GARDENER.**—Good all-round Man. Life experience. Abstainer. Willing to be useful. Not object to Horse. Highest references.—**A. B. C., 23, Hinton Road, Coldharbour Lane, Camberwell, S.E.**

**GARDENER (SECOND);** age 24.—**Mr. FISHER** can highly recommend **J. Richardson** as above. Well up in all branches of Gentleman's garden. Four years' excellent character from present place. Married when suited.—**J. RICHARDSON, Slate Cottage, Boreham, Chelm-ford.**

**GARDENER (SECOND),** where four or more are kept.—Age 21; nine years' experience, two years' in present place.—**d. CLARK, The Gardens, Elcot Park, Hungerford, Berks.**

**GARDENER (SECOND),** where four or more are kept.—Age 22.—**Mr. TAYLOR, Gardener to H. Coleman, Esq.,** wishes to recommend a young Man as above.—**F. DIXON, Woodville Hall, Dover.**

**GARDENER (SECOND).**—Age 24; nearly two years in present situation as Second. Can be well recommended.—**J. W. BARKER, The Gardens, Hill side, Newark.**

**GARDENER (SECOND of two or three in the bothy).**—Age 21. Four years' good character. State particulars.—**H. BLIGH, The Weald, Sevenoaks, Kent.**

**GARDENER (SECOND, or otherwise).**—Age 21; abstainer. Nine years' experience, inside and out.—For particulars, **A. SPEAKMAN, 32, Richmond Road, South Tottenham.**

**GARDENER (UNDER).**—Age 20; several years' experience, both indoors and out; in the houses preferred.—**J. G., Writtl G ea, Chelm-ford, Essex.**

**GARDENER (UNDER).**—Inside or Out. Age 21. 5 years' experience. Good character.—**W. J. REED, The Gardens, High Broom, Jarvis Brook, Tunbridge Wells.**

**GARDENER (UNDER),** inside and out.—**A LADY** wishes to recommend a young Man (age 19). Has been with her four years.—**Miss H. KERKICH, Arnold's, Hayward's Heath.**

**GARDENER (UNDER).**—Place wanted for well-trained lad, age 17. Highly recommended by **Miss COOKE, Northbourne, Oxford.**

**GARDENER (UNDER).**—Age 21; nearly two years in present situation. Excellent character; leaving through breaking up.—**J. HALL, Bariborough Hall, Chesterfield.**

**GARDENER (UNDER)** in a good establishment. Five years in present situation. Good references.—**F. REED, The Gardens, Strete Kaleigh, Whimple.**

**GARDENER (UNDER).**—Young married Man requires situation as above, inside and out; good reference; abstainer.—**W. WELLS, 5, Ordnance Square, Ordnance Road, Hounslow.**

**GARDENER (UNDER, or JOURNEYMAN).**—Age 20; six years' experience inside and out. Good character. Total abstainer.—**C. EDWARDS, Stone Lodge, Ipswich, Suffolk.**

**GARDENER (UNDER).**—Age 23; good character. Used to inside and outside work.—**J. ROLLINGS, Thinghill Court Cottages, Withington, Hereford.**

**£5 (GARDENER, or GARDENER and BAILIFF)** to any one giving information leading to advertiser obtaining situation as above. First-class references.—**T. E. 41, Wellington Street, Strand, W.C.**

**GARDENER'S ASSISTANT.**—A Lad, age 15, just leaving school, wants place as above.—Apply, **7, Westwell Road, Streatham.**

**GROOM - GARDENER** seeks situation.—Age 23; life experience. Excellent character.—**S. TAYLOR, Station Road, Cullompton, Devonshire.**

**GROWER.**—Age 29; life experience in large Market Places. Well up in Plants and Cut Flowers. Good references. London preferred.—**U. X, 41, Wellington Street, Strand, W.C.**

**PROPAGATOR and GROWER.**—Age 27, single; well up in Ferns, Stove, Softwood and General Pot Stuff for Market, Tomatos, &c. Good references.—**F. W., Vine Cottage, Bridge Road, East Molesey, Surrey.**

**FERN RAISER and GROWER, or Grower** accustomed to General Narsery Stock. Age 30.—**A. M., 41, Wellington Street, Strand, W.C.**

**NURSERY FOREMAN, PROPAGATOR, and GROWER.**—Thirty years' practical experience in Roses, Clematis, Chrysanthemums, Ferns, Palms, Carnations, Forcings for Cut Flowers, Cucumbers, Tomatos, Melons, and General Nursery Stuff.—Replies in first instance to **E. M., 4, Ruck Terrace, Clifton Hill, Bristol.**

**NURSERY FOREMAN.**—Well up in the general routine of Nursery work. Long experience in all branches. First-class references as to character, &c.—**G. SOUTHORN, 4, Northcote Road, Bonnemouth, E.**

**FOREMAN GROWER.**—Thoroughly experienced, showing good results in Cut Flower Trade, as well as Forcing and Pot Stuff.—**A. F. C., 41, Wellington Street, Strand, W.C.**

**FOREMAN, in the Houses.**—Age 26; ten and a half years' experience in good establishments; four and a half years in present place.—**ALFRED WOODS, The Gardens, Mill House, Halifax.**

**FOREMAN, in private Garden.**—£3 offered for information leading to engagement. Age 28. Recommended by well-known men.—**FOREMAN, Post Office, Turner's Hill, Waltham Cross, Herts.**

**FOREMAN** in good establishment.—Age 27; thirteen years' experience; good Plant Grower and Decorator; well recommended from past and present places.—**G. COOPER, 8, rsden Gardens, Chipping Norton, Oxon.**

**FOREMAN in Houses.**—Age 25; good general experience in all its branches; also table decorations; good character.—**C. F., 6, The Grove, Eltham, Kent.**

**FOREMAN (inside).**—Age 26; life experience in Plants and Fruit, and general routine of gardening; Table Decoration and Cut Flower work.—**WHEELER, Blackmor, End, Welwyn, Herts.**

**FOREMAN, in the Houses, in Private Establishment.**—Age 23; good knowledge of Orchids. Character will bear strictest investigation.—**W. MASON, The Gardens, Leighton Hall, Iron Bridge, Salop.**

**FOREMAN, age 23.**—Has had a good practical knowledge of the cultivation of Fruit, and Soft and Hard-wooded Plant-growing. Can be well recommended by his late and previous employers.—**J. TAYLOR, 13, King's Road, Gullford.**

**FOREMAN in good establishment.**—Age 24. Nine years' experience. Four years' good Testimonial from present situation. Two previous.—**W. HARBOR, The Gardens, Clerkley Court, Leatherhead.**

**FOREMAN.**—Age 28, has had good practical experience with Fruits, Flowers, Plants, and House Decorating; five years in present situation; references unexceptionable.—**W. HOLDEN, South Lodge, Horsham, Sus ex.**

**FOREMAN.**—Age 23; eight years' good experience in Plant and Fruit-houses, Table and House Decorations. Highly recommended. Bothy preferred.—**H. RANSON, Emilerin Cottage, Fleet, Banst.**

**FOREMAN (inside or General).**—Age 30, single; first-class references.—**A. SMITH, Birstwith, near Leeds, Yorks.**

**FOREMAN, age 24.**—**Mr. E. BUTLER, gardener to Sir E. C. DERING, Surrenden, Puckley, Kent,** can with confidence recommend **ERNEST HEWER** as **FOREMAN.** He has been here as Foreman two and a half years. Well up in Fruit Culture and Plant Growing.

**FOREMAN, or JOURNEYMAN (FIRST).**—Age 25; well recommended.—**E. HUBBARD, Monk Sherborne, Basingstoke, Hants.**

**FOREMAN, in the Houses.**—Age 25; eleven years' experience in all branches. Well recommended. Disengaged.—**G. SIMMONDS, Binfield Heath, Henley-on-Thames.**

**FOREMAN, or GARDENER (SECOND).**—Age 24; three years as Second in present situation. Leaving of own accord. Ten years' experience. Good references. Bothy preferred.—**G. HOOKEY, Gardens, Ribside Updown Hill, Bagsbot, Surrey.**

**FOREMAN, Inside.**—Age 27; thirteen years' practical experience in the general routine of Gardening. Good character.—A. F. Elmstead, Chislehurst.

**FOREMAN.**—Age 23; nine years' experience in Fruit and Plant Houses, and general routine of Gardening. Good testimonials.—H. L., 41, Wellington Street, Strand, W.C.

**FOREMAN (Inside),** age 24; eleven years' experience.—Mr. G. H. CAPT, The Gardens, Holnest Park, Sherborne, Dorset, would be pleased to recommend JOHN BOND, who has been here as Foreman two years.—Apply as above.

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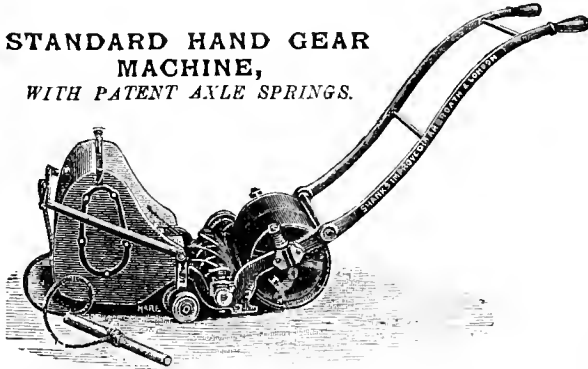


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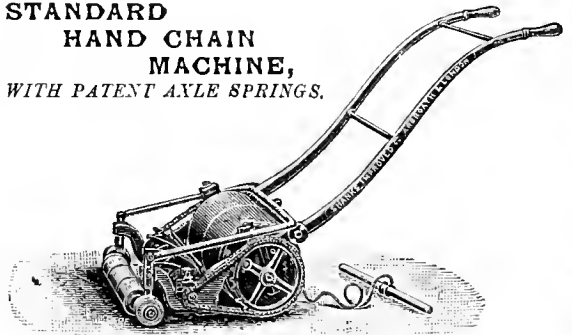
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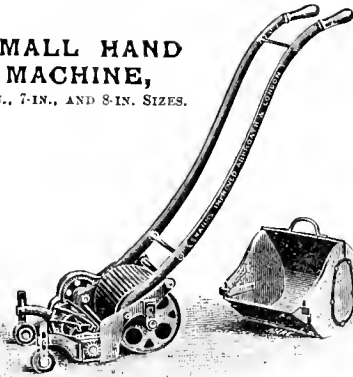
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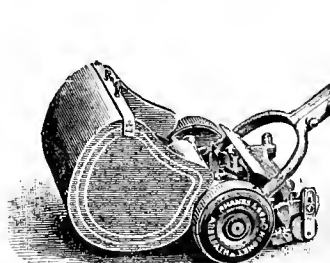
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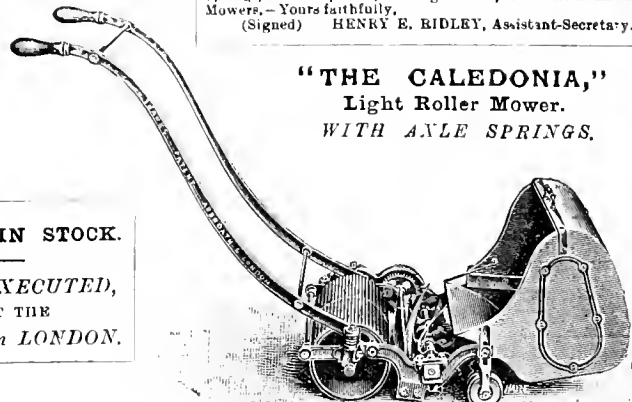
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## CONTENTS.

Alpinia nutans ... .. 369	Pyrus Sorbus, the fruits of... .. 368
Belgium, notes from ... 369	Rose-growing and pruning ... .. 357
Books, notices of ... 368	Roses, winter-grafted ... 364
Bosahan, view in the garden at ... 364	Seed-sowing ... .. 369
Carnation, the, and its culture ... .. 370	Societies—
Colonial notes ... .. 366	Cheshunt Gardeners' ... 365
Conservatory at Gwthorpe, Bournemouth ... 369	Crystal Palace ... .. 372
Epidendrum × elegantulum ... .. 361	Manchester Royal Botanic ... .. 371
Eupatoriums ... .. 367	Midland Carnation and Picotee ... .. 365
Experiments on transpiration ... .. 369	National Chrysanthemum ... .. 364
Floriét's Flowers ... 371	National Viola ... .. 365
Flower Garden, how to form a ... .. 361	Nationale d'Horticulture de France ... 364
Forestry—	Reading Gardeners' ... 365
Larch disease ... 362, 368	Royal Botanic ... .. 372
Fruit trees, protecting from birds ... .. 368	Shirley Gardeners' ... 365
Gardens, oil motors in ... 359	Trees and Shrubs—
Herbaceous border, the ... 359	Cephalotaxa Fortunei ... 361
Horticultural Club ... 364	Hamamelis arborea ... 361
Insects, injurious ... 360	Lonicera Standishii ... 361
Iris reticulata ... .. 368	Vegetable, Swede-Turnip sprouts as ... .. 369
Lilies of the East, the ... 372	Viticulture in New Zealand ... .. 370
Nursery Notes—	Weather, the ... .. 373
McArthur's, P. ... 371	Week's work, the—
Veitch & Sons, J. ... 371	Flower garden, the ... 363
Growth-growing by artificians ... .. 368	Fruits under glass ... 362
Grychid notes and gleanings ... .. 358	Hardy fruit garden, the ... 363
Plants, new or noteworthy—	Kitchen garden, the ... 363
Odonoglossum Andersonianum Kitson's var. ... .. 358	Orchid-houses, the ... 362
	Plants under glass ... 363
	Zygopetalum Perrenonidi ... 367

## ILLUSTRATIONS.

Conservatory, the, at Gwthorpe Gardens, Bournemouth ... 359
Epidendrum × elegantulum ... .. 361
View in the Gardens at Bosahan, Cornwall (Supplement). Zygopetalum Perrenonidi ... .. 337

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**SUPERB ORCHIDS, CHEAP.**—Thousands to select from. Write for LIST, free. P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

**CABBAGE PLANTS, Early, Late, Savoy,** green, 2s. per 1440, prepaid. Prize varieties of Cabbage, Onion, Sprout, Cauliflower, &c.; Shalott, Seed Potatoes (Sharpe's Victor, &c.). All Scotch, grown by Scarlett, Musselburgh. Write SCARLETT, Market Street, Edinburgh, for Price List.

**ASPARAGUS.**—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

**CHRYSANTHEMUM.—L. Cauning, Grand** Late White. Blooms from Christmas to end of February. Strong cuttings, 2s. per 100, 15s. per 1000.  
F. MANSBRIDGE, Victoria Road, Horsham.

**CUCUMBER SEED.—True Roehford's** variety; 28,000 Seeds sold last year. We now offer it at 2s. 6d. per 100; lower quotation per 1000.  
HAMLIN AND FULLER, Bletchley, Bucks.

**INDIA-RUBBER PLANT for Sale,** measuring 9 feet high, in excellent condition, and very upright; stands in fancy pot. Suitable for large Conservatory. Apply—  
H. T., 20, St. Mary's Road, Peckham, S.E.

**Special Offer to the Trade.**  
**YELLOW MARGUERITE (Fou d'Or).** Strong rooted Cuttings, autumn struck; also Cuttings of White Marguerite, 6s. per 100. Not less than 50 sent out.—  
C. W. LAW, Nurseryman & Florist, East Finchley, London, N.

**CATTLEBA INTERMEDIA, extra fine,** 1s. 6d., 2s. 6d., 3s. 6d., and 5s.; specimens, well-veined, 10s. 6d., 15s., and 21s. ONCIDIUM CRISPUM, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. PRIOR LIST free.  
W. L. LEWIS AND CO., Southgate, London, N.

**EWING'S MILDEW COMPOSITION.**—The original, certain, and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. Sold by all Seedsmen.  
C O R R Y & CO., Ltd., LONDON.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in six-tight bags, 4 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. HEESGN, Bone Mills, St. Neot's, Hants.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.

**SALES BY AUCTION.**

**MONDAY NEXT.**

**IMPORTANT SALE OF BORDER PLANTS**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, March 23, at half-past 12 o'clock precisely—

A GRAND COLLECTION OF BORDER PLANTS, RARE HOME-GROWN LILIUMS AND BULBS, ORNAMENTAL SHRUBS FROM HOLLAND, STOVE AND GREENHOUSE PLANTS, CLIMBERS, JAPANESE LILIES, ROSES, &c. On view morning of Sale, and Catalogues had.

**WEDNESDAY NEXT.**

**1000 LOTS OF ROSES AND SHRUBS.**

Several thousand choice named STANDARD, HALF-STANDARD, DWARF, CLIMBING, POT, and other

**ROSES,**

From celebrated English, German, and Dutch Growers, including many of the newest and best varieties.

Standard, Pyramid, and Dwarf-trained FRUIT TREES.

JAPANESE LILIUMS.

BORDER PLANTS, a choice selection. Well-grown PALMS, TUBEROSSES, BEGONIAS, GLOXINAS, &c.

Also—

FIVE CONSIGNMENTS FROM HOLLAND OF SMALL DECORATIVE SHRUBS, FLOWERING TREES, &c., comprising—

Several hundred AZALEA MOLLIS, a variety of RHODODENDRONS, a fine variety of small EVERGREENS for decorative purpose, Standard and Dwarf ROSES, Standard and Dwarf LILACS, BOX, well-grown RETINOSPORA, CYPRESSES, FRUIT TREES, CLEMATIS, HONEYSUCKLE, and other Climbers; LILIUMS, PEONIES, DIANTHUS; a collection of FLOWERING TREES, &c., sent direct, in splendid order for present planting.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 25, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

**Thursday Next.**

The Somerhill Collection of Established Orchids.

MR. J. C. STEVENS has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerhill, Tonbridge, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 26, at half-past 12 o'clock precisely, the FIRST PORTION of the valuable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

Cattleya Mossie Reineckiana	Odontoglossum vexillarium
" Wagneri	Cobbianum
" exoniensis	Lycaste Skinneri Imperator
Dendrobium glumaceum	Corylyne cristata alba
validum	Dendrobium oobile albiflorum
Disa Veitchii	" Cooksonii
Vanda teres	Vanda Sanderiana (Goldsmid's variety)
Thunia Veitchii	Laelia fenebrosa (extra good varieties)
Laelia Goldiana	" naceps (do. do.)
Corylyne Dayana	Anthurium Le Flambeau
Aechmea Andreanum	" Laingii
" album	" rotundispatum
" Ferriense	&c. &c.
Odontoglossum Uro-Skinneri	&c. &c.

On view morning of Sale, and Catalogues had.

**Thursday Next.**

VALUABLE IMPORTED ORCHIDS.

A fine Importation of CYPRIPEDIUM VILLOSUM, from an entirely new district; C. CHARLESWORTHII, DENDROBIUM FORMOSUM GIGANTEUM, CYPRIPEDIUM SPICERIANUM, DENDROBIUM THYRSIFLORUM, &c., just received in splendid condition. Also, by order of Messrs. W. L. Lewis and Co., a grand importation of

CATTLEYA WARNERI,

in magnificent order; LELIA TENEBROSA, CATTLEYA INTERMEDIA, &c.; ODONTOGLOSSUM HASTIABUM, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, March 26.

On view morning of Sale, and Catalogues had.

**Thursday Next.**

AN IMPORTATION OF

**CATTLEYA SPECIES,**

Just received direct, in ten cases, from Pernambuco, Brazil, in splendid order. Without Reserve.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, March 26. On view morning of Sale, and Catalogues had.

**Monday Next.**

AZALEA MOLLIS, A. INDICA, CAMELLIAS, and other Greenhouse PLANTS, 50 lots of Stova and Greenhouse FERNS, 400 Standard and Dwarf ROSES, PEONIES, SPIRÆA, BEGONIAS, GLADIOLI, LILY OF THE VALLEY CROWNS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY NEXT, March 23, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Tuesday Next, March 24.**

By order of Mr. P. McArthur, The London Nurseries, Maida Vale.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 24, at half-past 12 o'clock.

A MARVELLOUS IMPORTATION OF

CATTLEYA MOSSIE, from a new district; some remarkable varieties have opened in the cases (Cattleya Wagneri was found growing with them, and these will be offered for sale at an early date).

CATTLEYA LABIATA PERCIVALIANA AUTUMNALIS (TRUE).—Flowers in December; quite distinct from the ordinary type. Flowers are larger, and more richly coloured.

A NEW GIGANTIC CATTLEYA, provisionally named "GLUCKIANA."—This flower in February. It was found on cool high mountains at an altitude of 2000 feet; its enormous flowers are 8 inches across, bright pink, after four or five days it becomes bluish-cerulea, and remains in perfection three weeks. Every plant was collected. Dried flowers will be exhibited at the Sale.

LELIA GORTONI, new, very wonderful. The Collector says it is very lovely. It flowers at Christmas; the colour is cerulea blue. Only a few plants were found.

A Marvellous Importation of ANGULO RUCKERII SUPERBA (TRUE, GUARANTEED).—This true variety is most difficult to obtain. Every plant was secured. It gives us great pleasure in being able to offer this unique variety.

ODONTOGLOSSUM SCHILLERIANUM, RAMOSISSIMUM LILIFLORUM, LYCASTE SCHILLERIANA, ANGULO, MAXILLARIA LUTEA-FLORE, a new variety, yellow and white; ODONTOGLOSSUM STELLIMICANS, with many other valuable imported plants.

On view morning of Sale, and Catalogues had.

**WEDNESDAY NEXT.**

Great Consignment of

**220 CASES OF JAPANESE LILIES, &c.**

Just received direct, in grand condition, comprising:—

9,402 LILIUM AUBATUM.	
97 "	RUBRO-VITTATUM.
2,670 "	SPECIOSUM RUBRUM.
2,478 "	" ALBUM.
900 "	" MELPOMENE.
500 "	" TIGRINUM.
600 "	" FLORE-PLENO.
80 "	" KRAMERI, extra large.
350 "	" CORDON.
110 "	" ELEGANS INCOMPARABILE.
20 "	" SEMI-PLENO.
50 "	" LONGIFLORUM FOLIUS ALBO-MARGINATUM.
100 Cierodendron squamatum.	
300 Platycodon grandiflorum and sachalinense.	
1,920 Iris Kamperferi and setosa.	
1,018 Pears.	
840 Maples.	
150 Tree Peonies.	
291 Pavallia bullata.	
1,453 Persimmon.	
20 lbs. Polygonum sachalinense seed.	
10 lbs. Imperial Morning Glory seed.	
10 lbs. climbing Cucumber seed.	
30 roots Cypripedium japonicum and macranthum.	

4,000 DWARF PEARL TUBEROSSES, 250 large bulbs CALADIUM ESCULENTUM, GLADIOLUS LEMOINEI, HYBRIDS, Dwarf named PEONIES, 250 CYPRIPEDIUM SPECTABILE, received direct; AZALEA MOLLIS and INDICA, CAMELLIAS, Climbing PLANTS and RHODODENDRONS, BEGONIAS, DAHLIAS, 300 Dwarf ROSES, 50 lots of well-grown PALMS from an English grower, CARNATIONS and PICOTEEES (finest stage flowers), and

20,000 SEEDS PHENIX RUPICOLA.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 25, at 12 o'clock.

On view morning of Sale, and Catalogues had.

**Tuesday, March 31.**

By order of W. L. LEWIS & Co., Southgate. SPECIAL AND IMPORTANT SALE.

Grand Importations of

CATTLEYA WARNERI, collected by special permission on a large private estate, including huge mass of—

- .. INTIBICATA (?), well-leaved plants.
- .. INTERMEDIA, including many fine specimens.
- .. INTERMEDIA SUPERBA, twenty fine plants.
- .. HARRISONIA VIOLACEA, all well-leaved, and in grand condition.
- .. CITRINA, in quantity.

A choice lot of—

- .. LELIA TENEBROSA, now exceedingly scarce.
- .. EPIDENDRUM VITELLINUM MAJUS, lotted to suit large and small buyers.

ONCIDIUM MARSHALLIANUM, O. CRISPUM, ODONTOGLOSSUM ROSHI MAJUS, O. MACULATUM, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, March 31, at half past 12 o'clock.

On view morning of Sale, and Catalogues had.

**Friday Next, March 27.**

Great Sale of ORCHIDS, by Order of F. Sander & Co., St. Albans.

Splendid selections of CYPRIPEDIUMS and DENDROBIUMS, including a magnificent consignment of CYPRIPEDIUM INSIGNE MONTANUM, Sanderæ section, collected from the district which originally yielded C. i. Sanderæ. From the distinct appearance of the plants, many varieties are anticipated.

MILTONIA SPECTABILIS, var. MORELIANA.—The dark large-flowered atro-rubens type.

A consignment of CYPRIPEDIUMS sent by the Collector, as, CYPRIPEDIUM INSIGNE PUNCTATUM VIOLACEUM.—This magnificent variety has not been imported for twenty years, and among the plants offered, C. I. MAULEI may be looked for.

CYPRIPEDIUM CURTISII.—A noble, richly-coloured, and very desirable species.

A CYPRIPEDIUM species obtained from the Dokela district, and which our Collector thinks is new, or else a peculiar form of C. superbiens.

DENDROBIUM BENSONLE.—Plants in grandest order.

COELOGYNE OCELLATA, MAXIMA.—A beautiful, easily-grown, snow-white and yellow-flowered Orchid, most floriferous, deliciously scented, and very valuable for all kinds of floral decoration.

1000 Plants of VANDA CERULEA, gathered from the district which has yielded the finest varieties of all.

A splendid consignment of over 1000 plants of DENDROBIUM INFUNDIBULUM. The plants are in grand order, and we strongly recommend this opportunity of acquiring this magnificent species. The huge white and golden-yellow blossoms always command admiration, and are most serviceable for decoration. Also

THUNIA BENSONLE, DENDROBIUM CRASSINODE, D. ALBO-SANGUINEUM, D. DALHOUSIENUM, D. AUREUM, D. DIXANTHUM, D. DENSIFLORUM, ONCIDIUM VARICOSUM ROGERSHI, CYPRIPEDIUM PARISII, &c., to be sold by

MESSRS. PROTHEROE AND MORRIS at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, March 27, at Half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

**Friday Next, March 27.**

"REICHENBACHIA."—The great work on Orchids, illustrated and described by F. SANDER, E.-q., magnificently illustrated in colours, neatly bound. Second Series, Vols. I and II.

"THE ORCHIDACEÆ OF MEXICO and GUATEMALA," by JAMES BATEMAN, Esq.

MESSRS. PROTHEROE AND MORRIS will include the above BOOKS in their ORCHID SALE on FRIDAY NEXT, March 27, at 2 o'clock.

**ON TUESDAY NEXT, MARCH 24.**

By Order of

**Mr. P. McArthur,**

THE LONDON NURSERIES, 4, MAIDA VALE, W.

**MESSRS. PROTHEROE & MORRIS**

Will Sell at their Central Auction Rooms,

67 & 68, Cheapside, E.C.,

A MAGNIFICENT IMPORTATION OF

**NEW ORCHIDS,**

With many rare varieties of ODONTOGLOSSUMS,

and a splendid lot of the true

**ANGULO RUCKERII SUPERBA.**

On view morning of Sale, and Catalogues had.

**FRIDAY, MARCH 27, 1896.**

By Order of MESSRS. F. SANDER & CO., ST. ALBANS.

**GREAT SALE OF ORCHIDS.**

1000 VANDA CERULEA.  
1000 DENDROBIUM INFUNDIBULUM.  
CYPRIPEDIUM INSIGNE MONTANUM, SANDERÆ SECTION.  
CYPRIPEDIUM INSIGNE PUNCTATUM VIOLACEUM?  
MILTONIA MORELIANA.  
COELOGYNE OCELLATA MAXIMA.  
CYPRIPEDIUM CURTISII.

And splendid selections of the most beautiful DENDROBIES in great variety, including D. BENSONLE, &c.

TO BE SOLD BY

**MESSRS. PROTHEROE & MORRIS,**

67 & 68, CHEAPSIDE, E.C.,

ON FRIDAY, MARCH 27, 1896.

Tuesday, March 31.

DISA GRANDIFLORA.

Important Consignment of 1000 Tubers, received direct, for Unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on TUESDAY, March 31. On view morning of Sale, and Catalogues had.

# GREAT SALE OF ORCHIDS.

JOHN COWAN & CO., Ltd.,

Are selling next week (by Private Treaty), Large and Splendid Importations of—

**CATTLEYA LABIATA AUTUMNALIS**, the finest type.

**DENDROBIUMS** in great variety, and in grand condition.

**CYPRIPEDIUMS** in variety, and in grand condition.

**ODONTOGLOSSUMS, &c., &c.**

All at very tempting prices.

Descriptive and Priced Catalogues post free, on application to the Company—

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

**FOR SALE**, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

**To Nurserymen and Florists commencing Business** HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

**KENT**, near three important Towns.—Valuable FREEHOLD NURSERY, 23 acres; 29 modern Greenhouses, and Vineries, efficiently heated; 5 ditto, not heated; commodious Dwelling-house, Cottages, Stabling, and Out-buildings, all in excellent order. Price £5000, or offer. Full particulars of PROTHEROE & MORRIS, 67 & 68, Cheapside, London, E.C. (Folio 8627.)

**FLORIST, NURSERY, and MARKET GARDEN BUSINESS**, beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling, Piggeries, and Orchard (about 12 acres in all); rent low. Extensive area covered with Glass, and properly heated. Abundant supply of Water flowing through the premises. Two Railway Stations near. Purchase or Partner. CLEMENT GARDINER, 14, John Street, Bristol.

**FOR IMMEDIATE DISPOSAL**, on account of ill-health, in the centre of the flourishing town of Bedford, FLORISTS' SEED, and JOBBING BUSINESS. Six Greenhouses, averaging 46 feet in length by 12 feet wide each; Front Shop and Dwelling-house, with or without half an acre of Land, within 10 minutes of same.—Apply to J. COLE, Business Transfer Agent, Bedford.

**LOOCHRISTY**, near Ghent, Belgium: great Horticultural District. Unique opportunity for the creation of a splendid Horticultural Business. TO LET, with a long lease, and on very moderate terms, a LARGE PROPERTY, comprising a fine mansion, surrounded with water, close by the Railway Station. Gardener's Cottage, Stables, Conservatory and Greenhouses, with as many Acres of Ground as may be required.—Apply to Mr. L. TYTGAT, Rue des Caguettes, 147, Ghent, Belgium.

**FREEHOLD LAND**, suitable for FLORISTS and NURSERYMEN.—Any quantity up to 10 acres of good old rich Pasture, 10 miles from Covent Garden Market, close to railway-station, Great Eastern Railway. Full particulars of S. SINGLE, 20, Bucklersbury, E.C.

**£1000 WORTH OF GLASS, &c., for SALE** or TO LET, consisting of five houses 50 by 20 feet, four being new; one ditto, 40 by 20 feet; one Mushroom Shed, 60 by 20 feet; together with 1—24 acres of fine loam meadow. Houses efficiently heated, and in excellent condition. Three minutes from station; 12 miles from Covent Garden. Good growing crop. What offers? Write, ALPHA, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

**FOR SALE**, cheap, 4-foot SADDLE BOILER, with Waterway end; also THREE OTHERS, nearly new, with quantity of 3 and 4 in. hot-water pipe; Greenhouse Lights, &c.—Apply, 47, Fulham Palace Road, Hammer-smith, W., before the 25th.

**SWANS for Sale**, all ages, from One to Two Guinea each. GARDENER, Ashford Hall, Ludlow.

**PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS**, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

**FOR ORCHIDS and GARDENERS** to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

**PALM**—A good Specimen Plant for Sale, grown too large for house. For particulars, &c.—GARDENER, Machen House, near Newport, Mon.

**DAHLIA CUTTINGS**, 1s. 6d. per dozen, free. All classes; 250 varieties. Select LIST of SEEDS, DAHLIAS, CARNATIONS, PANSIES, &c., free. KERR BROTHERS, Florists, Dumfries.

**HENRY RIDES, SALESMAN**, Central Avenue, Covent Garden, W.C. Highest Market Prices. Prompt cash.

**SCOLOPENDRIUM Vulgare** Spores, 1s. p. pkt.; 12 do., in 12 var., 6s., quite hardy from my fine collection. GROOMBRIDGE, Plymouth.

**VIOLETS**.—Thousands of splendid healthy Stock Plants of Marie Louise, De Parme, Neapolitan, Double White do., 10s. per 100. Put on rail for cash. F. SIMMONDS, Maudslayi Park Gardens, near Exeter.

**2000 TOMATO PLANTS** (Chemin Rouge), very strong, in large 60 pots, showing bloom, 4s. per 1000.—LARSEN & NIELSEN, Enfield Highway, Mid-lessex.

**FERNS FROM STORES**.—*Pteris cristata* and major, 2s. 6d. per 100, 2s. per 1000; also *cristata* and A. elegans, in thumbs, 8s. 6d. per 100. PTERIS, 41, Wellington Street, Strand, W.C.

**YELLOW MARGUERITE**, Feu d'Or.—Autumn struck, fit for 48's. No garden should be without them; for summer cutting unsurpassed; 6s. per 100. WANTED, Cuttings of Lincoln. JOHN HERSEY, Florist, Handcross.

**ROOTED CHRYSANTHEMUM CUTTINGS**.—Mrs. Hawkins, Vivand Morel, 4s.; Lady Fitzwigram, 5s.; Madame Desgranges, Lady Canning, 3s. per 100. Yellow Marguerites, autumn struck, 1s. dozen, 7s. per 100, each. MEW, Florist, Earlswood, Surrey.

**FOR SALE**.—CHRYSANTHEMUM CUTTINGS, leading Market sorts. What offers per 1000? TOMATO, Chemin Rouge, very strong, out of 60's, 10s. per 100. E. J. SARGEANT and CO., Brougham Road, Worthing.

**CUTHBERTSON'S SCOTCH PRIZE PANSIES**. Sixteenth Year of Distribution. Sample dozen, exhibition varieties, 2s. 6d.; newer varieties, 4s.; 50 varieties, 12s.; 100 in 50 varieties, 20s.; 103 varieties, 25s. All correctly named; carriage paid; splendid plants, 52,000 to select from. Catalogue free.—MICHAEL CUTHBERTSON, Florist, Rothsay.

**PHLOXES, PENTSTEMONS, ANTIRRHINUMS, &c.**—For the best and most complete collections extant of these deservedly popular high-class flowers, obtain FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 146 pages. Free on application. JOHN FORBES, Hawick, Scotland.

**Important to Mushroom Growers.** CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. and G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

**50,000 EUONYMUS**, Green and Golden, all splendid bushy plants.—GREEN; 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in., at special prices. GOLDEN; 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

**DOUBLE WHITE PRIMULA**, good cuttings, 6s. 6d. per 100. Also IVY-LEAF GERANIUMS, Madame and Albert Crouse, 4s. 6d. per 100. Post-free for cash with order. GEO. DRABBE, Ketton Hall Gardens, Stamford.

**SMALL SHRUBS, CONIFERÆ, &c.**—*Cap. macrocarpa*, 8 to 9 in., 6s. per 100; Honeysuckle, 9 to 12 in., 6s. per 100; Irish Ivy, 12 to 15 in., 6s. per 100; Pinus Cembra, 6 to 8 in., 6s. per 100; Thuja Lobbi, 5 in., 30s. per 1000; *Succisa gloriosa*, 10 to 12 in., 20s. per 100; Y. filamentosa, 10 to 12 in., 20s. per 100; *Prunus Pissardi*, 2 to 3 ft., 6s. per doz.; *Acer N. variegata*, 6s. per dozen. GARLES MITCHELL, Nurseryman, Stranraer.

**ALPINE and PERENNIAL PLANTS**.—My New CATALOGUE (No. 129), containing full Lists of these Collections and of Choice Shrubs and Conifers adapted for Rockeries is just issued, to be had post free on application. It includes a List of quite New Plants, especially some splendid Lenten Roses (Helleborus), New Shrubs, &c.—OTTO FROEBEL, The Newmister Nurseries, Zurich V., Switzerland.

**FERNS and DECORATIVE PLANTS**—(TRADE).—Ferns, in 24-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 18s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, in 48's, 6s. doz.; Marguerites, Dentizas, Cinerarias, Spiræas, Genistas, in bloom, in 48's, 9s. doz.; Rencas, Ficus, Palma, Dracaenas, Cyclamen, and Mignonne, in bloom, in 48's, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

## EXHIBITIONS.

**BRIGHTON SPRING SHOW**.—TUESDAY and WEDNESDAY, April 14 and 15. Schedules, &c. of the Secretary, 56, Queen's Road, Brighton. Entries close April 8.

**BIRMINGHAM BOTANICAL and HORTICULTURAL SOCIETY**. (Founded 1829.) A DAFFODIL (NARCISSUS) SHOW will be held in the Botanic Gardens, Edgbaston, on THURSDAY and FRIDAY, April 16 and 17, 1896. Entries close on Monday, April 13. Schedules can be obtained from the Curator—Mr. W. B. LATHAM.

**ROYAL BOTANICAL SOCIETY GARDENS, REGENT'S PARK.** GRAND DAFFODIL CONFERENCE and SHOW in April. The Chair will be taken by Mr. J. G. Baker, F.R.S. of the Herbarium, Royal Gardens, Kew. The following gentlemen have promised to read Papers: Mr. F. W. Burbidge, Mr. James Allen, Rev. E. S. Bourne, Mr. C. W. Cowan, Mr. J. D. Pearson, Mr. C. Stuart, Mr. W. Robinson, Dr. Crawford, and Mr. W. J. Caparn.

**ALDERLEY EDGE and WILMSLOW HORTICULTURAL SOCIETY**.—Schedules are now ready, containing LISTS of PRIZES offered at the two exhibitions of the Society, viz., a summer Show at Alderley Edge on August 14 and 15, and a Chrysanthemum Show at Wilmslow on November 20 and 21, and they may be had from G. LEADBEATER, Jun., Fern Bank, Trafford Road, Alderley Edge. Prizes to the value of £50 at each exhibition.

**SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN.** From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony. For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden. O. LAMMERHIRT, 7, Olacistrasse, Dresden, N. Die Commission: G. KRAUSE, I. Voss; T. J. SEIDEL, II. Voss.

To Florists, Seedmen, and others. AN ARTIST (exhibitor) PAINTS FLOWERS and FRUIT from Nature for Reproduction in Catalogues and Lists.—The Studio, 39, High Street, East Overstead.

Carnations, Picotees, Cloves, and Pinks. CHARLES TURNER'S SPRING LIST of the above is now ready, and may be had free on application. The plants have wintered exceptionally well, and are very strong.—The Royal Nurseries, Slough.

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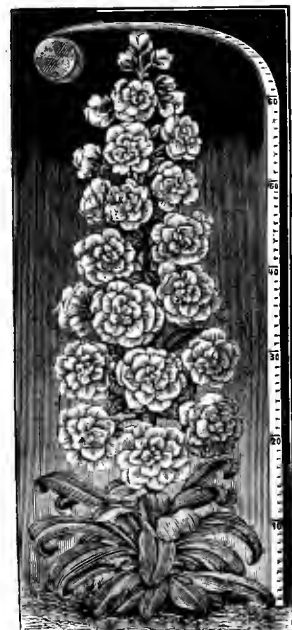
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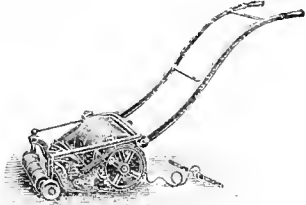
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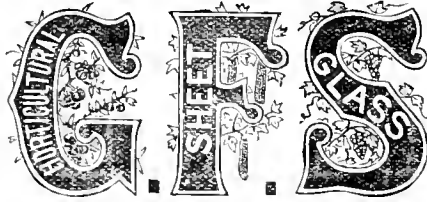
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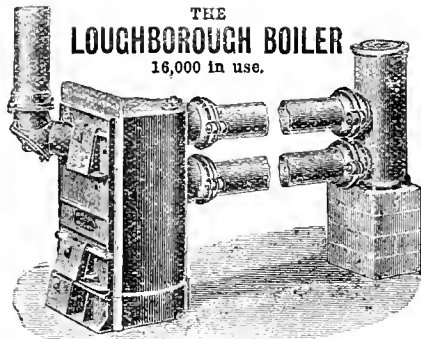
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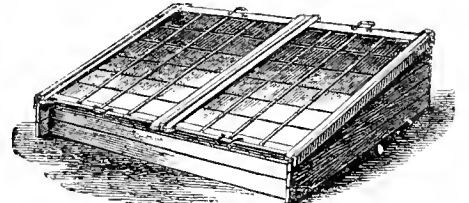
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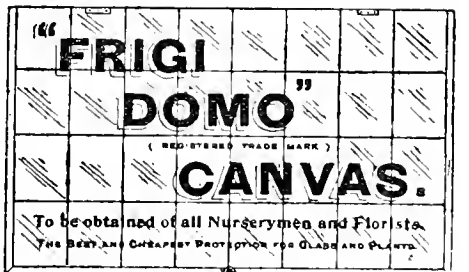
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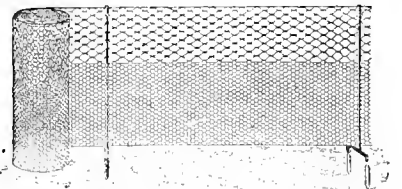
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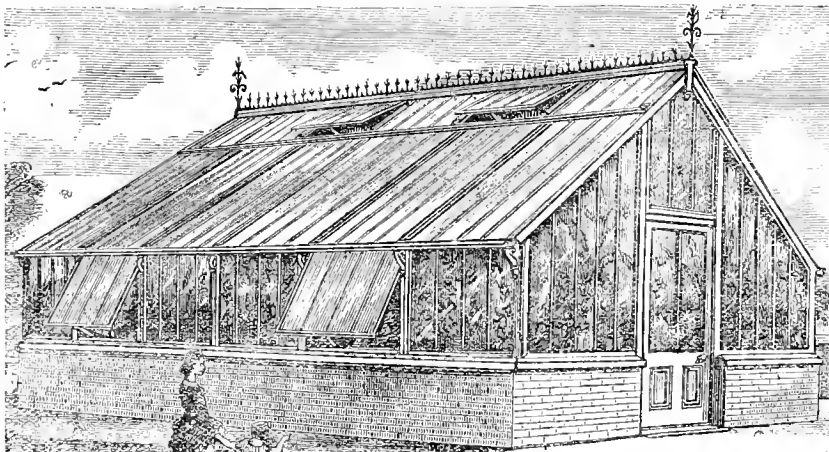
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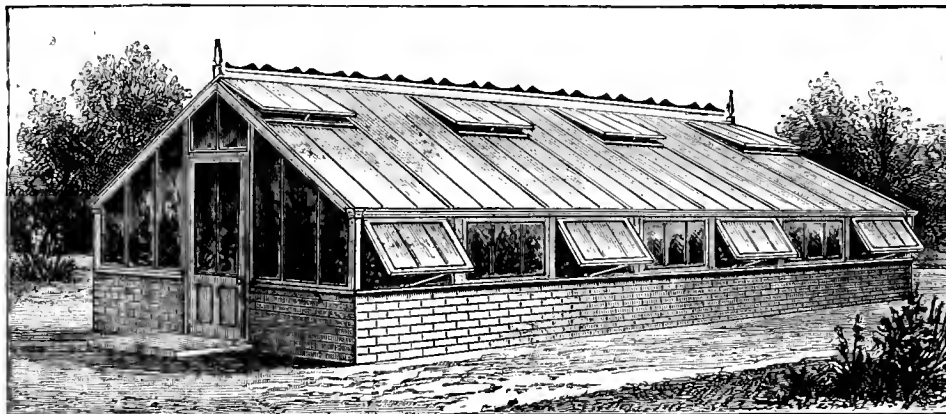
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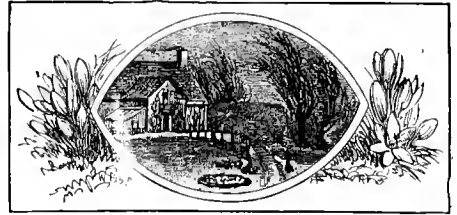
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## THE Gardeners' Chronicle.

SATURDAY, MARCH 21, 1896.

### ROSE-GROWING AND PRUNING.

THE perplexities of a man who consults a book of domestic medicine in order to find out what malady he is suffering from, are humorously described by Jerome in *Three Men in a Boat*, when one of the party, being out of sorts, consults his Buchan or Thomson, and comes to the conclusion that he has got every complaint that it is possible for any one to have, with the exception of a housemaid's knee, and thinks it rather hard he cannot trace any symptoms of that. Now, I am not at all sure but that the same perplexity must be present to the mind of any one who consults the various gardening periodicals for information or advice on any particular subject. Take, for example, the plain matter-of-fact one of pruning Roses. So much has been written upon it, so many wise people have put their heads together to give advice, that one would think there was no room left for any doubt upon the subject—and yet very diverse are the opinions. Thus, for example, the subject of pruning the white Bath Moss Rose, has been brought forward lately; one paper says it ought to be left alone, while another writer states that it ought to be hard pruned—and both claim to have succeeded on these very opposite practices. It may, therefore, be as well, now that the time of year is at hand for the operation of pruning to be performed, to say how it can best be done. The very first question which presents itself is that of time; when is it to be done? The answer to this cannot be given absolutely, for so much depends on locality. Roses in the south and west are always much more forward than those in the midlands and north, and therefore a hard-and-fast line cannot be drawn. During the very mild weather in the early part of February, when Roses were putting forth shoots at their extremities, growers began to sharpen their pruning-knives, and to think the time had come for them to begin. Then came the sharpest bit of cold we have had this winter, and rosarians began to be thankful that they had let their plants alone. Frequently the freshness of the foliage leads growers to imagine that all this vigour must be injurious to the future development of good flowers, or that it must take away some of the strength which would otherwise be given to blooms. My own somewhat lengthened observation does not lead me to this conclusion, for I do not find, as far as I can judge, that the plants suffer in any way. Of course, if the buds pushed from the bottom, the case would be very different; but it is only the buds at the end of the shoots which move.

When most people talk or write about pruning, they refer, tacitly at least, to the classes of Hybrid Perpetuals and Teas or Noisettes; and summer-blooming Roses are altogether outside their calculations. This is natural enough, for they hardly

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require any pruning at all; still, as we have seen in the case of the Moss Rose, there is a wide difference of opinion. Another point, which is not always taken into consideration, and about which varying conflicting opinions are held, is, what is to be done with newly-planted Roses? when are they to be pruned? Some say early, and some late. My own opinion inclines to the latter, and that it is better for them to get a good hold of the ground before the knife is applied. If I pruned my established plants in March, I should leave the newly-planted ones for another month, that is, if I were able to superintend the pruning. You put an ordinary gardener to prune your Roses; you give him all sorts of directions, but he either cannot or will not understand them, and applies the same pruning to all alike. Now this is a very fatal mistake, which will have to be paid for by-and-by. There are many Roses which have their peculiarities in different soils and situations; with myself this is exemplified in the case of Etienne Levet, one of the most vigorous growers in cultivation, but with me this variety is never very vigorous—why, I cannot say, but the fact remains, and were I not to prune it like moderate-growing ones, I should get no blooms at all. As a general rule, then, the end of March is about the best time for pruning. In the warmer districts the middle of the month will probably be considered the most suitable time, while in the north a fortnight later will probably be considered best. I am, of course, now alluding to what we call exhibition Roses, for I maintain that whether a grower is an exhibitor or not, the methods adopted to ensure good blooms for the exhibition-table will be those most suitable for the decoration of the garden. As I have said, the same pruning is not adapted for all varieties: the very vigorous growers will, if pruned hard, push forth a forest of shoots, but with buds disappointing in character; while the weaker growers should be pruned as hard as possible, leaving only two or three eyes at the base, for what is required is to concentrate the power, and so give the weakly-constitution plant less to do. As I always thin out my Roses in the autumn, so as to admit more air and light in the winter, and so to give more chance of the wood being ripened, there is less to be done now at this busy time. The cutting back of the shoots is a great point to be attended to. Although it is hardly possible in the present system to get what is called a handsome bush, yet this may be done with some varieties, care being taken that the top bud left on the shoot should point outwards.

I do not think that there is very great difference to be made in the pruning of Teas, except that it should not be done quite so early. There are amongst them strong growers, such as Marie Van Houtte and Madame Lambert; there are also weakly growers like Comtesse de Nadailac, and I think that as in the case of hybrid perpetuals the former should be pruned moderately, and the latter severely. The proper place for Noisettes, or those Teas which have a Noisette character about them, is a wall or fence, or failing these, a pillar; whatever pruning these require is done in the autumn. Such kinds as Gloire de Dijon and its allies, Réve d'Or, W. A. Richardson, &c., will then only require to have tips slightly shortened, and old and useless wood cut out, so as to give place to the young spring growth to be brought in. I have been surprised to find how well some of these do succeed on a wall facing the east.

With regard to the summer Roses, including Provence, Moss, &c., the plan recommended by that prince of Rose growers, the late Mr. Thomas Rivers (to whose book, *The Rose Amateur's Guide*, one naturally turns, notwithstanding all that has been written since), is to prune hard in October, leaving some of the shoots to be pruned in May—but I do not think this is the plan now generally adopted; the plants are left more to themselves, for it is found that hard pruning tends to luxuriant growth at the expense of blooming.

Nothing can be more beautiful for the ornamentation of the garden than the copper and yellow Austrian Briars. They require but little of the knife; the stronger shoots may be shortened a little, but on the whole, they are better left alone. It is

difficult to get them into shape as a bush, and after all, as they are so free-flowering, they are best left to form themselves naturally; the same may be said of the beautiful new race of hybrid Sweet Briars raised by Lord Pezance. They are very strong in their habit of growth, and are admirable for a fence or hedge, where there is space for them. In the same way the single Roses should be left to themselves where that is possible. Any one who has seen *Polyantha simplex* at Mr. Girdlestone's, of Sunningdale, where it has been absolutely left alone, will not easily forget the sight. The same may be said of *Macrantha*, Paul's Single White, and Crimson Pillar, which ought to have room in every garden where they can be accommodated, and some of these, although only summer, and, therefore, only once-blooming Roses, will occasionally give blooms in the autumn months.

These may seem to many commonplace and trite remarks, and so, no doubt, they will appear to the experienced Rose-grower; but there are numbers of persons who are not experienced, and who are always anxious to obtain information. I do not pretend to be a great authority, and my notions may seem to some antiquated, but if I err, I err in good company. *Wild Rose*.

## NEW OR NOTEWORTHY PLANTS.

### ODONTOGLOSSUM ANDERSONIANUM, *Kitsoni*, n. var.

In breadth of petal, form of the flower, distinctness of the spotting, and all the other points which gardeners admire, this is the best form of *O. Andersonianum* which I have seen, its flowers, though smaller, having the form of those of one of the best *O. crispum*, although the cream-white ground-colour of the flower, the form of the lip, and especially its odour, proclaim it to be a true *O. Andersonianum*. The sepals and petals are formed alike, and each is nearly three-quarters of an inch in width, and the lip, which is shorter than usual, has a similar width at the upper part. The flowers are creamy-white, with a purple tinge running up the middle of the sepals, which bear several large reddish-brown blotches, the petals having more but smaller spots of the same tint; and the lip, which is yellow at the base, has one large blotch in the centre. It was imported and flowered by J. H. Kitson, Esq., Elmet Hall, Leeds (gr., Mr. Thos. Bonsall). *J. O'Brien*.

### THE DOUBLE WHITE-FLOWERED CAMELLIA.

NEGLECTED as the Camellia is in these days, there is no plant which can compare with it for the conservatory as a winter bloomer. At the Royal Nursery, Slough, there are to be seen some fine plants in pots in the very pink of condition, blooming abundantly. There is an effectiveness in the massive, finely-formed, double blossoms of the white Camellia *fimbriata alba*, but this does not preserve it from fashion's verdict of being too formal, an untenable objection—there being many favourites equally regular in build. Thackeray characterised the Camellia as being his ideal button-hole flower, which it was in those days; since then Orchids, Roses, and Carnations have come into competition with it, and it has gone under in popular estimation. At Dropmore Mr. C. Herrin has some massive specimens that may be said to be covered with blossoms, of which he can cut numbers. In times past gardeners grudged the sacrifice of so much wood and foliage in cutting a flower, mainly because the shoot from which the point was cut was not likely to again produce a bud for the space of two years. But since the simple process of wiring has been introduced, the flower having a fitting calyx for this purpose, it has been found that a cut Camellia blossom will last good for nearly or quite so long a period as when cut with a portion of the shoot and leaves. Seeing the long succession of bloom extends over a considerable period, is another reason for again taking the plant into favour. Another peculiarity about the Camellia

is, that large plants will flourish and make magnificent heads when grown in smallish pots, if good drainage and feeding be provided. The fine and commanding specimens at the Royal Nursery, Slough, are in pots so small as to lead to the supposition that their roots are nudely restricted, but the amplitude of the foliage belies such a supposition. *R. D.*

## ORCHID NOTES AND GLEANINGS.

### ORCHIDS AT TAPTON COURT.

THE collection of Orchids belonging to Henry Steel, Esq., of Tapton Court, Sheffield, is at the present time very well worth a visit from admirers of these plants, the *Dendrobiums* alone forming a grand sight. *D. Wardianum* is well represented, the plants excellent, and the pseudo-bulbs of good length and substance, some of them possessing forty-five flowers, and 130 flowers on a plant. *Dendrobium Wardianum album* was a variety that was noted in flower. *D. nobile* var. *nobiliss* is a well-grown example, with 130 flowers, and *D. v. var. Sanderianum*, *D. n. Schroderianum*, and *D. n. Wallichianum* are plants which have a large number of blooms open on each. Amongst cross-bred *Dendrobiums* I observed a fine plant of *D. Ainsworthi* var. *roseum* with ninety-six flowers; and well-flowered plants of *Ainsworthi melanoticus Victorianis*, Rolfe. Among other choice crosses in bloom were the rare and very scarce hybrid, *Aspasia*, Venn, and the valuable *Amesiae*.

Cattleyas are largely grown, and among those in flower are some very fine varieties of *C. Trianaei*, including a fine healthy plant of *Trianaei alba*. *Cypripediums* are well grown, and there were remarked in flower plants of *C. villosum*, *C. selligerum majus*, *C. Lathamianum*, *C. Leeann superbum*, *C. Calypso*, and *C. Gowerianum*.

*Odontoglossums* form an extensive collection, and one large house is devoted to their culture. These plants are in the best of health and showing numerous flower-spikes; and among those in bloom is a splendid variety of *O. crispum*, and some fine hybrids. *Ceologyne cristata alba* is a species of which there are numerous examples—twenty-three pans, some in flower, were counted, the plants being in fine condition and scarcely to be excelled in the country. The other departments of the gardens at Tapton are in capital order, and considering the local disadvantages, much credit is due to the gardener, Mr. Howarth for the excellent results achieved. *H. H.*

### PLATYCLINIS OLIVACEA.

A noble specimen of this graceful white-flowered and fragrant Orchid, with about 240 flower-spikes, may soon be seen in full beauty at McArthur's Nurseries, Maida Vale, London, W. It is probably one of the most beautiful as well as the largest specimen known to exist. The species formerly known as *Dendrochilum glumaceum* was discovered by Cuming in the Philippine Islands about 1810, and for many years it remained an extremely rare plant in collections. It is evergreen, succeeds in the intermediate-house, and flowers in spring and summer. The *Gardeners' Chronicle* of Nov. 9, 1895, gave as a supplement an illustration of a splendid plant of *Platyclinis glumacea*, with over 100 spikes, grown in the gardens of Sir Trevor Lawrence, Bart., at Burford.

### ODONTOGLOSSUM ROEZLI.

There are at the present time several plants of this species in flower in the plant-stove here. The opinion is generally held that *O. Roezli* is difficult to cultivate, but that is not my experience. Our plant is kept in a stove where the warmth is never less than 60°, and the air is moist. One example growing remarkably well, in a 6-inch Orchid pan, is carrying eight fine spikes, each flower being of good size and substance. *Geo. Burrows, Berwick, Shrewsbury*.

### CYPRIPEDIUM ELLIOTIANUM.

I have at present a plant of this *Cypripedium*, having two flowers on one stem; they are both large and beautifully marked, the under flower, however, is the larger, and measures 10½ inches between

the tips of the two petals. I should like to know if this is an unusual size. *N. C.* [The measurement across the petals seldom exceeds 8 inches. Two flowers on a scape are the usual number under cultivation, although five have been produced. *En*]

*CYMBIDIUM Eburneum.*

There is a plant of this beautiful species of Orchid now in flower here which is carrying sixty-four blooms. The largest number of blooms it has hitherto borne was eighty-six. *C. Burbury, Castle Gardens, Arundel.*

dark velvety purple base of the lip, renders it very striking. The reverse of the flower is even brighter than the face.

THE CONSERVATORY AT OWTHORPE, BOURNEMOUTH.

OF all seaside resorts on the south coast of England, none has increased so rapidly of late years as Bournemouth. The situation of the town has much to recommend it as a health resort, in its breezy commons, which stretch for miles inland, the

THE HERBACEOUS BORDER.

TRILLIUMS AND OTHER PLANTS IN ONE BED.

THERE are few spring-flowering hardy plants which make such a delightful display as a fine group of *Trillium grandiflorum*, and whose requirements are so very simple. The pure white blossoms of the plant, which appear in great quantities, make it so particularly effective, that one wonders why it is not more generally seen in bold masses and groups in most gardens. It is not every kind of soil, however,

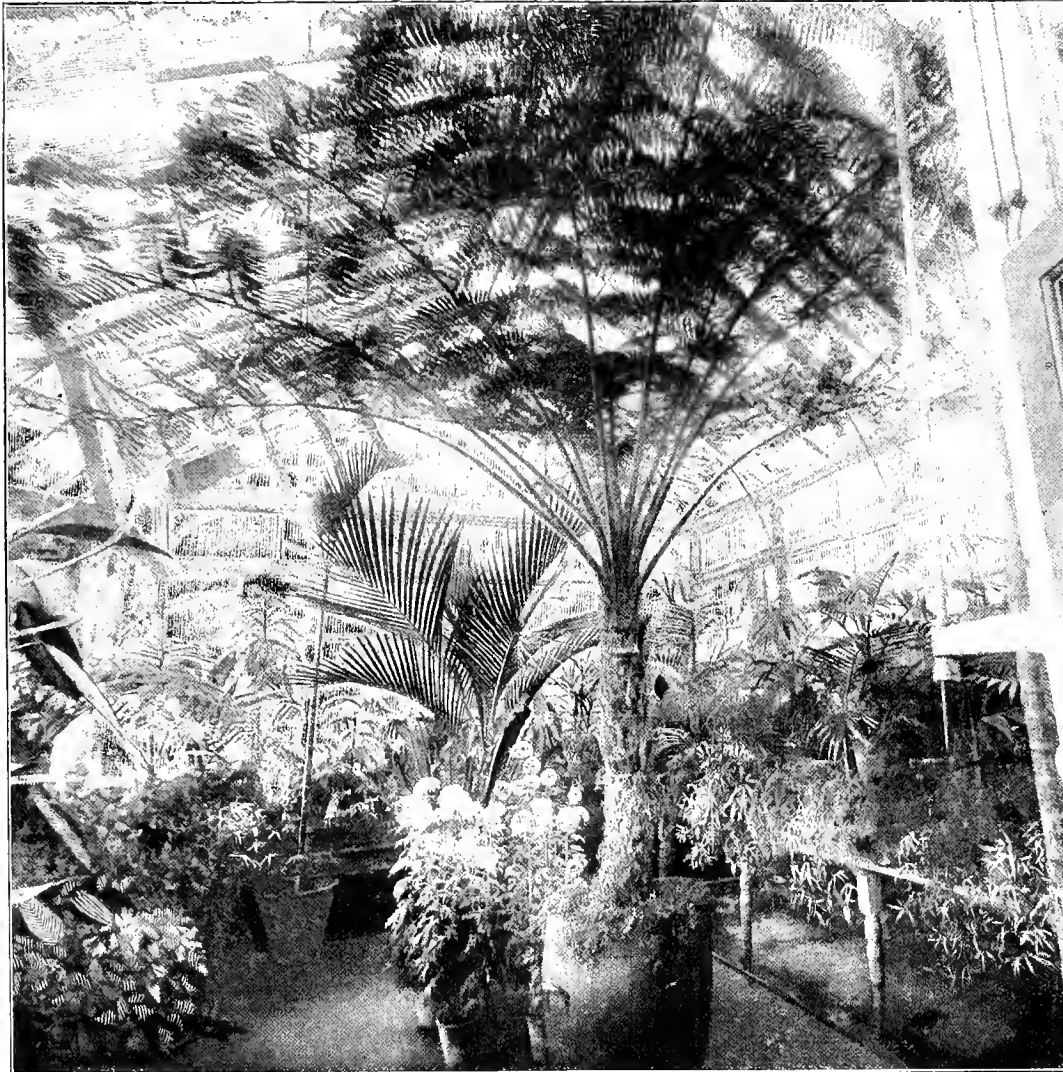


FIG. 48.—THE CONSERVATORY, OWTHORPE, BOURNEMOUTH.

*DENDROBIUM NOBILE NOBILIUS.*

From H. Cary Batten, Esq., Abbots Leigh, near Bristol, a flower has been received of a very richly and brilliantly coloured *Dendrobium nobile*, together with the information that it was purchased as an imported plant at a sale at Messrs. Protheroe and Morris' Rooms in May last. In the rich rose-purple hue of its flowers it is quite equal to *D. nobile nobiline*, and too much resembles it to warrant any other name being given to it, although it would be well to distinguish it in the collection where it now is in order that it might be tested side by side with the original *D. n. nobiliss*. The present is a large flower and the broad rose purple band at the front of the lip and facing the cream-white zone and

perfect shelter from the north afforded by the rising ground at the rear, still further helped by the extensive plantations of Pines. As a consequence of the warmth of the situation, many species of plants regarded as tender in parts distant from the sea, even in the southern shires, succeed admirably at Bournemouth; and we shortly intend to present our readers with an illustration of this fact, also taken from the garden of Major-General A. H. Hutchinson. In the present issue we give a view in the conservatory (fig. 48), which exhibits a perfect example of *Alsophila crinita*, occupying the central place; an excessively shaggy plant when young, with long fulvous hairs and large pinnae on the lengthy fronds. It is a native of Ceylon, Java, and Nilghiris.

that suits it perfectly. There are positions in every garden which might be utilised for such things, and made to produce good results. The essential points are a moist bottom and shade, and gives these and some good sandy loam, *Trilliums* will grow fairly well. The best medium is formed of a bed of peat, leaf-mould, and sandy loam, fully 12 inches deep, in about equal parts, and to this may be added one-fourth of short stable-dung. The bed ought to be made in a low-lying place, in partial shade. Apart from these *Trilliums*, such plants as *Corydalis nobilis*, *Orchis foliosa*, the *Dentarias*, *Cypripedium calceolus*, *C. parviflorum*, *C. spectabile*, would if planted in the bed assist in making a summer display; and then later *Gladiolus insignis*, *Lobelia fulgens* in



variety, as also *L. cardinalis*, while taking up but little space, would make a good display of vividly coloured blossoms and foliage. *Lilium pardalinum*, *L. canadense*, *L. superbum*, with *L. speciosum cruentum*, *L. a. Krætzeri* for early autumn. A variety of British Orchideæ would likewise find a congenial home, such as *maculata superba*, *latifolia*, and others, might find a place in such a bed; as also *Primula rosea*, *P. cashmiriana*, *P. denticulata*, would flower before the *Trillium*s; while *P. japonica*, with its great whorls of crimson blossom would come well in summer time. This last would do well inserted in the sloping bank-like side of the bed; while a charming fringe to the margin of such a bed as this would be found in blue and white, and pink *Hepaticas*. It is in such places as these that the *Hepatica* delights, always cool, and nearly all on the moist side. This with overhead shade goes a long way to making these plants evergreen, and especially if the garden be a country one. Nor would I hesitate to plant *Helleborus niger* in such a bed, being certain that these plants would succeed admirably in such a soil and position. The whole of the plants here mentioned should be treated as permanent occupants, and remain for years undisturbed. In very dry seasons, such a bed will probably require occasional watering, which should be performed with thoroughness. *J.*

#### THE FORMING OF AN HERBACEOUS BORDER.

This is a good time to go through herbaceous plants, and reduce any that may have extended beyond their legitimate dimensions. It is also a good time to form herbaceous borders or beds now that plants are beginning to make growth, and consequently, would transplant either out of pots, or from the open, without experiencing any perceptible check in the process of transplantation. No garden of any pretensions to size can be considered complete that does not include an herbaceous border planted with a fairly representative collection of hardy perennial plants.

I would advise readers of the *Gardeners' Chronicle* who have not yet given herbaceous plants a trial, to deprive themselves no longer of the pleasure which the fact of being able to cut a good supply of beautiful flowers of rich, varying, and distinct shades of colour from plants growing out-of-doors several months in the year undoubtedly affords; let them see about forming a border, or bed, as the case may be, at once.

The first step to be taken in this direction is the selection of a suitable place in which to make an herbaceous border or bed; and this, as far as the requirements of the plants are concerned, need not take long to determine, as they will grow and flourish in almost any kind of soil, light rather than heavy in texture, away from the shade of trees. The soil, if lacking in fertility, should have a good dressing of short manure trenched into it, and should the soil be of a heavy nature, it can easily be reduced to the requirements of the plants by a liberal allowance of leaf-mould, burnt-earth or wood-ashes being incorporated with it in the course of trenching or double-digging it.

In planting, set the tall-growing plants in the back and succeeding rows to front of border, according to the heights which the several kinds and varieties planted attain to. These, however, should vary from 6 to 15 inches in height in each irregular row from back to front, so as to produce a natural-like broken-up surface, taking care at the same time to arrange the plants so that they may not clash with one another in regard to their colour when in flower. And also bear in mind that subjects which come into flower at different times be well intermingled, that is, avoid mixing together plants which flower at about the same part of the season, and which, when out of bloom, necessarily leave large bare patches in the floral picture.

*Helianthus* (perennial sunflower), *Delphinium formosum*, and its varieties, *Helenium autumnale grandiflorum*, *Galega officinalis compacta*, *Papaver* (Poppy) in variety, *Phloxes*, *Eranthis robustus*, *Boltonia asteroides*, *Pyrethrum nigrosum*, *Solidago* (Golden Rod), *Spirea Aruncus*, and *S. gigantea*,

are among some of the most suitable subjects for planting the back row in a fairly wide border, and for planting in the second and third rows. *Doronicum plantaginifolium*, *D. p. Harpur Crewe*, *D. p. excelsum*, *Rudbeckia nitida*, *R. Newmanni*; *D. Pardalianche*, *Eupatorium ageritoides*, *Echinacea purpurea*, *Echinops Ritro*, *E. gigantea*, *Achillea eupatorium*, and others; *Aconitum autumnale*, *A. Napellus album*, *Asclepias incarnata*, *Asphodelus luteus*, *A. ramosa*, *Aster Archer Hinde*, *A. grandiflora Lady Trevelyan*, *A. Nova-Angliæ rubra*, *A. Madame Soymer*, *A. Amellus bessarubicus*, *A. Robert Parker*, *A. pulcherrimus*; and for planting nearer the front such subjects as *Aster amelloides cœlestis*, *A. japonica*, *Anemone japonica alba*, *Aquilegia canadensis*, *Armeria cephalotes*, *Dielytra spectabilis*, *Eryngium alpinum*, *Funkia Fortunei*, *Gaillardia*, in variety; *Arabis incida variegata*, *Heesperis matronalis fl.-pl.*, *Double Sweet Rocket*, *Hemerocallis Dumortieri*, *Irises* in variety, *Lilium candidum*, *Lychnis chalcœdonica*, *Narcissus*, *Hyacinthe*, *Megasea*, *Veronica Henderanni*, *V. gentianoides*, *V. maritima alba*, *Tiarella cordifolia*, *Tradescantia virginica alba*, *T. cœrules*, *Aubretia* in variety, *Wallflower*. *Scilla sibirica*, and *Snowdrops*, together with the *Anbrietias*, should be planted in tufts, from 3 to 9 inches from the edge, so as to avoid straight lines and all formality of arrangement in planting.

Allow a space of from 3 to 4 feet between the tall-growing *Asters*, *Sunflowers*, *Eranthis robustus*, *Boltonia asteroides*, *Rudbeckias*, and other strong-growing plants, and from 1½ to 2 feet between less robust-growing subjects. *H. W. W.*

#### INJURIOUS INSECTS.

MISS E. A. ORMEROD has just issued her nineteenth report, which embraces 152 pages of interesting and valuable matter relating to injurious insects and common garden and orchard pests during the year 1895, with methods of prevention and remedy.

The subject-matter, which is illustrated by drawings, should prove of the greatest interest to gardeners and fruit growers—in fact, the value of the work of this lady can scarcely be over-estimated. The portion calling for our especial attention is that relating to the "Eyed Hawk Moth" which attacks the Apple; the Bean-seed beetle; the root-gall weevil, which injures the Cabbage; the Gooseberry and Currant saw-fly, and red spider; the orchard caterpillars; and the Plum-tree and Strawberry beetle, which frequently do immense mischief to these fruits.

The great green caterpillars of the Eyed Hawk Moth appear to be more of an orchard pest than has generally been supposed. They seem to have done considerable damage to young Apple trees during 1895. Usually the infestation does not appear to be noticed until it forces itself on our attention by the leafage of the attacked boughs being stripped.

The Bean weevil of England (*Bruchus rufimanus*) is both a common and a destructive insect. The method of attack is for the beetle to fly to the blossoming Beans, and to lay its eggs on the young seed-vessel in the centre of the Bean-flower, whilst it is still quite in embryo state. From these eggs the grubs soon hatch, and make their way into the growing Beans. The amount of injury depends partly on the amount of what would have been the seed-leaves which is eaten away, and the consequent amount of removal of what would have fed the young plant in its first growth, and also very materially whether it is the nature of the pest to feed on the germ in the seed. This shows the great importance of examination of seed Beans and Peas before purchase.

The small knob-like excrescences on Cabbage-roots, and also on Turnip-balls, which are caused by the presence of the grub of a small weevil-beetle are a common malformation, and though the plants would be better without them, Miss Ormerod does not consider them in general to do much mischief.

Observations on insect pests last spring were of some special interest, as showing that the grubs were in no way injured by the long-continued and very unusually severe cold of the preceding winter, and some specimens examined revealed an amount of serious injury from the severity of gall infestation which the author had never met with before.

Notwithstanding the severe and long continuance of cold in the early part of the last year, the Gooseberry red-spider, which was the cause of great loss to growers in the spring and early summer of 1893, and also of 1894, re-appeared in the middle of March and early part of April in the past season of 1895, to an amount which caused serious anxiety as to the extent of injury that might again be coming on; the hot bright days which followed, however, fortunately did much to mitigate the evil. We find also from the report that the excessive cold had certainly no effect in lessening infestation of the common orchard and fruit-tree caterpillars, as for instance, the looper caterpillar of the Winter Moth, which did much damage in various localities, not only to fruit-tree leafage, but also, and on a broad scale, to Oaks.

The attacks of "ground beetles" to Strawberry fruit, which in 1894 did much mischief at Woodborough in Nottinghamshire, on the grounds of one Strawberry grower, showed itself again in the past season, and on a much more serious scale. It appeared in many places in the district in great numbers and attacked the fruit just when it was beginning to ripen, so as to cause considerable loss. The same beetle has been found to attack young plants of Mangold when they are just above ground-level. *J. J. W.*

#### EXPERIMENTS ON TRANSPIRATION.

In the *Botanische Zeitung*, E. Stahl has described a number of interesting experiments, on the results of which he bases a method by means of which it can be demonstrated to the eye whether a plant loses water by transpiration, and also through what parts of its surface the loss takes place. For this purpose A. Marget had formerly employed white paper impregnated with a mixture of mercurous and palladous chlorides, or with palladous and ferrous chlorides and tartaric acid. In the dry state the paper was whitish-yellow, but it became darker, and finally black as it absorbed water. When applied to the transpiring surface the loss of water could be estimated by the change in colour, and at any point the colour could be fixed by simply dipping the paper in a solution of ferric chloride. Other investigators, however, have found Marget's method unsatisfactory, and Stahl has resorted to the use of cobalt salts, especially cobalt chloride. He soaks strips of Swedish filter paper in an aqueous solution (1 to 5 per cent.) of this salt and dries them, their colour then varying from light to deep blue, according to the strength of the solution employed. As the paper becomes moist, the colour changes to pink and then to white. In use a small piece of the cobalt paper is thoroughly dried, placed in position on the plant, then held firmly against the surface, and protected from the air by means of a thin piece of glass or mica, which is held in place by small clamps. In cases where leaves have stomata on the under side only, cobalt paper on that side is reddened very quickly, often in a few seconds, while that on the upper side of the same leaf may retain its original colour for several hours. Where stomata occur on both sides, the reddening is proportionate to the number, and in the case of *Trifolium repens*, the leaves of which have more stomata on the upper than the under side, the paper fades more rapidly on that side. No reddening occurs in the case of slightly-wilted leaves, or in any instance where the stomata are closed on account of an insufficiency of water in the plant, even when the leaves are exposed to the sun. The slight extent to which evaporation through cuticularized epidermis takes place is thus demonstrated, whilst fully turgid leaves applied with water are said to illustrate the same fact. *Pharmaceutical Journal*.

TREES AND SHRUBS.

HAMAMELIS ARBOREA.

FROM the end of the month of January to the middle of March this year, there has been no hardy shrub in flower which in beauty equalled the Japanese Witch Hazel, and never do I remember to have seen it so fine as it has been this season. Near to the Orchid-houses at Kew there is a group of some half-a-dozen plants which are 6 feet to 8 feet high, and have every one of the smaller twigs covered with closely-set golden-yellow flowers. These plants are happily situated in having a large Pine tree behind them, against the dark foliage of which the thin, crooked branches are seen traced in

LONICERA STANDISHII.

Whatever this Honey-suckle may lose in the absence of colour in its flowers, is amply compensated for by the early date at which they appear, the exceeding sweetness of their perfume, and the freedom with which they are borne. It belongs to the shrubby (as distinguished from the climbing) section of the Loniceras, and was originally introduced from China by Fortune on behalf of the Royal Horticultural Society. The flowers are white, produced in pairs on a short peduncle, several pairs clustering round one node. Nearly allied to this is *L. fragrantissima*, another introduction of Fortune's, and now also in bloom. It differs chiefly in the leaves, which are shorter and more rounded than those of *L. Standishii*; and

probably, to their resemblance to the Yew, they are not much planted in gardens. They form neat spreading shrubs, usually dense of growth, with long deep-green foliage, and succeed best in the shade, and when planted in mossy, cool ground. *A. D. Webster.*

EPIDENDRUM × ELEGANTULUM.

ON the occasion of the meeting of the Royal Horticultural Society on the 10th inst., Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited a remarkable and beautiful cross in Epidendrum under the above name (fig. 49), the parents being *E. Andreoso-Wallisi* ♂, and *E. Wallisi* ♀. The plant has the neat habit of the first-named, but the flowers, which are large, are like the latter, and have the segments flatly displayed. The sepals and petals are rich dark brown with a whitish space at the base, and beautifully spotted with red-brown over the greater portion of the area, the spots margined with a thin yellow line. The lip is white, yellow-coloured at the base, and spotted with rose colour.

The plant shown possessed three stems, each surmounted with a corymb of blossoms, five in number in one case, and two each in the others.

THE FLOWER GARDEN.

(Concluded from p. 326.)

MAKING FLOWER-BEDS AND BORDERS.—If there is any likelihood of water rising to within 18 inches of the ground-level at any time, the soil should be excavated to that depth, and 6 or 9 inches thick of brick-rubble or clinkers laid over the bottom of each bed, breaking it fairly fine on the top, as drainage; and should the natural soil be of a heavy and consequently cold nature, a liberal allowance of leaf-mould should be incorporated with the best of it, and in sufficient quantity to fill the individual excavated spaces 9 inches higher than the ground-line in the middle, so as to allow for the loose soil settling down a little in the course of a week or two. This mixture will form a good rooting medium for all kinds of bedding plants. When the above-mentioned work is completed, the ground should be finally raked over and turfed—that is, if turf perfectly free from the roots of noxious weeds can be obtained. The turves should be cut at 3 feet long, 1 foot wide, and 1 inch thick, these being laid closely and evenly together over the spaces reserved for greensward. This done, a little light, fine mould—or leaf-mould where the latter is plentiful—may with advantage be strewn over the surface, and then be brushed well over with a stiffish besom so as to fill up any crevices there may be in the turf, and at the same time serve as a slight manurial top-dressing, and a few days later (all the better if rain has fallen in the meanwhile) roll with a heavy roller to produce a firm and even surface. But where the obtaining of turf of the description indicated cannot be relied upon, it is much better and cheaper to sow the ground over thickly and evenly with some good mixture of grass seed, at the rate of seven or eight bushels per acre, any time between February and October, but the sooner the seed is sown in spring the better, covering it lightly with fine, light soil, raking this over, and rolling as soon as it may be done without the soil sticking to the roller, scything over and machining as soon as the blades of young grass have become numerous and strong enough to benefit by the operation—say about three weeks from the time of sowing the seed—scything it over a few times before using the machine lawn-mower. Vases to be planted alternately, and in due time with spring and summer-flowering plants, may with advantage be placed at short intervals along the terrace-walks, as well as at certain points on those communicating therewith.

HARDY FERNERIES, &c.

In the vicinity of most gardens and houses may be found shady and, perhaps, objectionable nooks, in which flowering or variegated-leaved plants will not flourish. These may be rendered

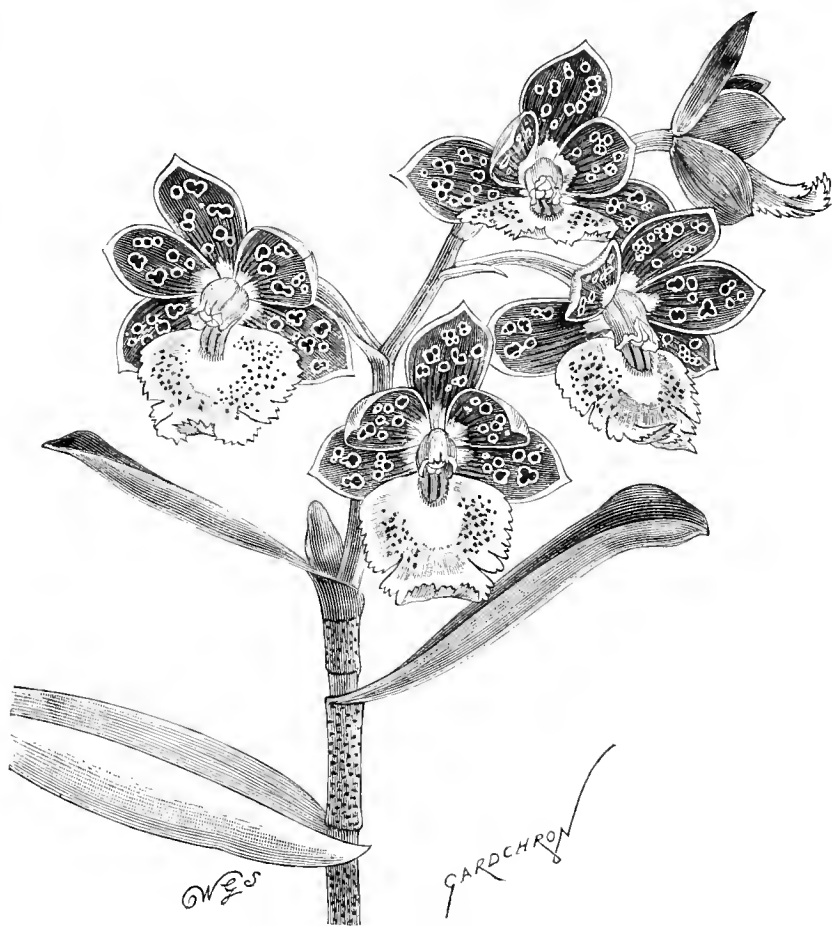


FIG. 49.—EPIDENDRUM × ELEGANTULUM.

gold. When planting this shrub, the advantage of some such background (Pine, Holly, Yew, &c.) should be borne in mind, for they themselves are as bare of foliage now as the common Elm. Examined individually, the flowers prove to be curious in form; there are four petals, each nearly 1 inch long, perhaps one-sixteenth of an inch wide, twisted, and wavy. The sepals are short, rounded, and crimson. Although the American species (*Hamamelis virginica*) seeds freely in this country, such is not the case with *H. arborea*, and it has to be propagated by grafting on seedlings of the former. It is not yet a common shrub, but its beauty is so striking that it deserves to be seen in every garden. The other Japanese Witch Hazels—*H. japonica* and its variety *Zaccariaiana*—have flowers of a paler yellow, but although valuable in flowering so early in the year, they are inferior to *H. arborea*.

while they are nearly glabrous, those of *L. Standishii* are covered with fine hairs, and have a distinctly ciliate margin. The name *fragrantissima* has been applied to the evergreen species known as *japonica*, *Halleans*, &c., and it is in consequence frequently described as evergreen, being in reality as deciduous as *L. Standishii*. *W. J. B.*

CEPHALOTAXUS FORTUNEI.

At the present time this uncommon shrub forms a very ornamental object from the abundance of the male flowers, which impart a yellow tint to the sombre foliage. I do not remember to have seen the pretty Plum-like fruit produced in such quantities as during the past season, in some instances the branches being literally bent down with the weight of the fruit. *C. drapsacea* has produced fruit quite as freely. Both species are interesting; but owing,

interesting and beautiful spots by placing thereon somewhat irregularly together old roots, ragged stones, or clinkers, raised to the desired but irregular heights by the addition of light soil, or soil rendered so by the addition of leaf-mould, and then planting amongst them hardy British Ferns, in variety, making the soil firm about the roots in planting.

A few standard trees of light-flowered Rhododendrons planted in conspicuous places in or adjoining the flower-garden, singly in small beds—say 4 or 5 feet in diameter—in peaty soil, and carpeted with trailing plants of the delightfully fragrant pink-flowered *Daphne Cneorum*, form objects of great beauty during the summer months. Single specimens of *Kalmias*, Tree or Moutan *Pæonies*, *Laurustinus*, Sweet Bay (*Laurus nobilis*), Weeping Ash (*Fraxinus pendula*), Heather (*Calluna*), *Capreaus Lawsoniana*, *C. Lawsoniana erecta viridis*, and *Fraseri*, Portugal Laurel, *Aucubas* (both forms), Pampas-grass (*Gynerium argenteum*), &c., are very telling subjects when judiciously disposed, as also are the several delicate and richly-coloured and finely-cut foliage of the Japanese Maple (*Acer*), now in cultivation. *Ræbeds* and *rosaries* should also be included. *H. W. Ward.*

## FORESTRY.

### THE LARCH DISEASE.

A STRICTLY impartial reader of "J. S. W.'s" letter on this subject in the *Gardeners' Chronicle* of February 23, might be excused for failing to see the utility of quoting a passage in which the name of a disease is mentioned, and immediately afterwards expressing a doubt as to the writer of the passage being aware of its existence. One might almost be tempted to ask whether "J. S. W." knows that *Peziza Wilkommii* and the Larch disease are one and the same thing, were it not that we are informed that the late Mr. McGregor and a Welsh nobleman have, together with your correspondent, definitely settled the whole matter, presumably to their entire satisfaction. I have always noticed that when sound arguments fail in a discussion, a landowner (who is either large or does things extensively), is invariably introduced, like Grandfather Smallweed's "friend in the City," to cover a retreat, or give an air of respectability to irrelevant statements. It would be interesting, however, to have "J. S. W.'s" particular disease diagnosed, for doubtless he has a special strain of his own which "culture and situation cannot modify." The virulence of the disease, he tells us, has nothing whatever to do with the vitality (or lack of it), of the host. The fact that our nurserymen are able to sow it, and that it runs under conditions which are the most favourable possible for its host, are further proofs that "J. S. W.'s" disease differs in important respects from the ordinary one. The Larch disease, as I know it, causes what is usually known as a canker or blister, but which in reality is the death of the cambium layer, and this dead spot becomes larger year by year as the fungus which causes it extends. Now, this is exactly similar to what takes place when an Ash or Beech is attacked by *Nectria ditissima*, and trees may be seen quite as badly infected with the latter as Larch is frequently infected with *Peziza*. Other parasitic diseases might be mentioned. The reason why the Larch disease is so prominently brought to our notice lies in the fact I have already mentioned, viz., that the Larch has been planted up-hill and down-dale, in highlands and lowlands, and in every sort of soil and situation, with as little regard for its tastes and requirements as is paid to a fencing-post. If this explanation is not the correct one, why is it that a certain proportion of plantations succeed, or that certain parts of a plantation succeed better and are more free from disease than the rest? It is sheer nonsense to assert that the Larch is a total failure in this country so long as we have well-grown plantations in which the disease is little more than a botanical curiosity (if anything so common can be considered curious). If soil and situation, and the

influence they have upon the growth of the tree, are immaterial factors in the spread of the disease, there is no reason whatever why the condition of Larch plantations should vary to the extent it does. The fact is, it goes against the grain with some persons to own they have made a mistake, and those who plant much invariably do make mistakes sometimes. With the Larch disease always present, it is not surprising to find it assert itself when its host becomes stunted and enfeebled by unfavourable surroundings or conditions of growth. Then is it that our planters put on sackcloth and ashes, and fly to restoratives which the nurseryman dispenses to the tune of a few pounds per thousand. "J. S. W." kindly mentions the Japanese and American Larcher, the latter of which do so well in Canada. We have also been told that the Tyrolese Larch does very well in Switzerland, but it does not do everywhere here. Will the Canadian Larch have the same fault? *A. C. Forbes.*

## THE WEEK'S WORK.

### THE ORCHID HOUSE.

By W. H. WHITE, *Burford, Dorset.*

**THUNIAS.**—These deciduous plants, which naturally have a complete rest in the winter season, and which are pushing up growth from the base of the old pseudo-bulbs, stand in need of attention as regards affording fresh rooting material. The plants should be turned out of their pots, the whole of the soil shaken from them, and the dead roots cut away and then re-potted. The usual mode of cultivating Thunias is in clumps of pseudo-bulbs, and it is a very convenient one, as when the plants are in bloom the effect is better than when they are cultivated singly in small pots. It is important to have clean pots, of 7 or 8 inches in diameter, which should be half filled with crocks, over which a thin mass of fibry loam should be placed, and into which the roots will penetrate, greatly to their benefit, at about the time that the flower-buds appear. Plant the pseudo-bulbs about 2 or 3 inches apart, taking care to keep the young growths just below the rim of the pot, and fill up to their base with peat, loam, and sphagnum-moss, and sufficient clean crocks to maintain porosity in the compost. It should be here stated that every pseudo-bulb should be fastened to a neat stake. Place the pots in the lightest position in the East Indian or Dendrobium-house, standing them upon inverted pots if necessary, to bring them near the roof; for, unless they get abundance of sunlight, they will not bloom well. For the next few weeks water them carefully, increasing the quantity when the new roots push into the compost. When established, an occasional dose of weak liquid-manure is beneficial to them. The following are of easy cultivation, *Marshallii*, *Benzonia*, *alba*, *candidissima*, *pulchra*, and the pretty hybrid *Veitchiana*. All of these varieties of Thunia may be readily propagated by taking off the back pseudo-bulbs in the month of June, cutting them off at the joints into lengths of about 4 to 6 inches, and inserting them firmly as cuttings into small well-drained pots, in a mixture of chopped sphagnum and coarse silver-sand. When fresh shoots are pushed forth, grow them along quickly in strong heat.

**ARUNDINAS.**—The pretty *Arundinas bambusaefolia* and *Philippii* are terrestrial Orchids, which may be similarly treated to Thunias.

**SPATHOLOTTIS.**—The varieties *S. Lobbi*, *S. Fortunei*, *S. angustorum*, *S. aurea*, and *S. Regnierii*, will soon begin to grow anew, and should be repotted into the same kind of compost as that advised for Thunias. These may be grown in the warmest house in a moist light position. The *Dendrobium* seedlings, or as many of them as are starting to grow, and require repotting, should have attention. In carrying out this operation, avoid putting them in pots that are larger than the tiny plants require, and as a potting material use sphagnum-moss and clean crocks broken very small, which must be pressed firmly around them. Until they reach the flowering stage, these seedlings make the most progress if no peat be used about the roots. Suspend the pots in a hot moist stove or propagating-house, and do not afford much water before the roots obtain a good hold of the compost, when it may be abundantly given. In the intermediate-house, *Miltonia vexillaria* is in full growth, and in consequence the plants stand in need of abundance of root moisture. Each growth should be periodically

examined for insect-pests, and if any are remarked, apply the usual remedies. The prevailing weather is in every way suitable for the growth of *Miltonia*, as it permits of abundance of air being admitted to the house without fear of damaging the leaves. Do not make use of heavy shading over the plants, which causes weak, flimsy growth, but allow a moderate amount of sunshine to reach the plants, with plenty of ventilation to strengthen them. *Miltonia spectabilis* and *M. Moreliana* should have the same kind of treatment.

**LÆLIA MONOPHYLLA** should be placed in well-drained pans of peat and sphagnum-moss, and suspended in the coolest part of the house until summer comes, when the *Odontoglossum*-house will be found a suitable place for it. The singular-looking *Nanodes Medusa* may also be repotted, and hung up near to the roof-glass in the cool-house.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Bollington Hall, Burton-on-Trent.*

**GRAFTING.**—The season for grafting is near, and as soon as the sap begins to ascend and the bark parts easily from the wood, is the time for a beginning to be made with grafting, remembering, however, that it is better to be a little late than too early. There are many methods of grafting, but in private establishments it is seldom that more than two are employed, viz., tongue or whip-grafting for young stocks and small branches, and crown or rind-grafting for larger trees. It is not necessary for me to enter into the details of preparing the stocks and scions for either method, but it may be stated that in order to be successful in the grafting of either young or old trees, the stock should be healthy, and the scions taken from well-ripened shoots, neither too soft or large, nor weakly, and which have been cut some time previously, and laid in some cool shady place, with the intention of keeping the buds in a dormant state. Grafting should be done expeditiously, the various cuts made clean, therefore a number of sharp knives should be employed, and the inner bark and cambium layer of both stock and scion must be made to fit closely on one side at the least. Grafts may be kept in position by ties of soft bast, raffia, worsted, &c., the last-named being the best if grafting-wax is used to cover the graft. When clay is used, it should be well beaten with a mallet some time before it is wanted for use, all hard substances being removed, and sufficient water added to bring it to an easily-used consistency. Before it is actually made use of, cow or horse-dung, or, failing these, chaff should be mixed with it in the proportion of one-third to clay two-thirds. The chief use of clay or wax in grafting is to exclude the air and moisture, and it is very essential to success that it be well worked into the crevices; and when sufficient has been used, to sprinkle a little dry sand or finely-sifted coal-ashes on, to prevent the clay adhering to the hand when finishing it off. A little moss tied on the clay, and damped with a syringe every two or three days for a time if the weather be dry, will prevent the cracking of the clay. If wax is used, enough should be put on to well cover the tying material, which will suffice to exclude the air. The grafting-wax sold under the name of "Homme-Lefort" is a very convenient form for use in grafting, being sold in a cold state ready for use.

### THE KITCHEN GARDEN.

By G. HERRIN, *Gardener, Dropmore, Maidenhead.*

**CELERY.**—Preparations should now be made for sowing seed for furnishing plants for the main crop. Where Celery is required in large quantity, a hot-bed frame affords the simplest means of raising the plants. The hot-bed should be made of equal parts of stable-litter and hard tree leaves, which have been prepared by frequent turnings and mixings, and it may be made 2 feet in depth, and wider than the box. Fill the latter also to within 6 inches of the glass with the warm materials, treading them down evenly, and on this spread a layer of leaf-mould 2 inches thick, upon which place the soil in which the seeds will be sown. The soil must be of some light kind, and should be passed through a 3-inch meshed sieve, and be an inch in depth after being made moderately firm. A few days after making up, the seeds should be broadcasted thinly, and very slightly covered with finely-sifted soil. The frame may be kept covered with mats till the seeds germinate. When a small quantity of plants is required, boxes or pans may be used, placing them in a vinery or other structure,

having a temperature of about 60°. The pans, &c., should be covered with pieces of slate or glass, removing it when the seedlings appear. Varieties of Celery are many, and of these I find Early Rose suitable for early and mid-season use, and Sulham Pink and Standard Bearer excellent for late use. Plants from the earlier sowing will now be ready for pricking out, which should be done at 3 inches apart each way, on a slight hot-bed made similar to the seed-bed described above. The soil should be finely-sifted and loamy, and have about one-third leaf-mould mixed with it to ensure the plants lifting with good balls. Air carefully, and shade from bright sun till the seedlings are partially established; and use tepid water when moisture is required. Heads of Celery for late use should now be lifted from the growing quarters and laid in trenches in some place shaded from the sun—on the north side of a wall by preference—where, covered with the earth, so as to exclude the light from the blanched portion, they will remain tender and fit for use for some weeks longer. Celery Standard Bearer is now very good here, and shows no signs of bolting or decaying.

**CELERIAC, OR TURNIP-ROOTED CELERY.**—Seeds of this useful root should also now be sown; and the treatment described for blanched varieties will, for the present, apply also to this plant. The roots are very useful for stewing and flavouring [and salads, &c.]. The plant should receive more general cultivation than it does at the present.

**ONIONS AND LETTUCE.**—With a continuation of mild weather, autumn-sown Onions may be transplanted, the blanks in the rows where any exist being filled, and others made if necessary. These plants are now making free growth, and the lifting will require to be carefully done, and the planting done firmly to ensure any good results. Lettuce, both autumn and spring-sown, may be similarly treated. The latter, which will have been raised in frames, may be planted in any spare spaces at the foot of south wall, where, if the soil be made moderately light and rich, they soon mature, and form nice little heads, tender and well blanched. The variety, Early Paris Market, is excellent for this first planting. Another small sowing of Lettuce should now be made in the open quarters, and may consist of Golden Queen, Cabbage, and Superb White Cos.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

**SEED SOWING.**—The seeds of many plants grown in the greenhouse should now be sown. Balsams, if sown now, will come into flower in June, and if well grown, add much to the gay appearance of the greenhouse or cool conservatory. The Camellia-flowered varieties, are those mostly grown, and to grow them well, the seeds must be sown in leaf-soil and silver-sand, and the seed-pots plunged in a gentle bottom-heat, a dozen seeds being enough for a  $\frac{1}{2}$ -inch pot. As soon as the seedlings have got their first rough leaves, prick them off singly into thumps, and shift repeatedly till they reach 7 or 8-inch pots, in which fine plants may be obtained with proper culture. In the later shifts well-rotted leaf-soil two parts, and one each loam and dried cow-mannure should be used. Balsams are gross feeders, and benefit greatly from copious waterings with liquid-mannure; and to grow them to perfection, the plants should be plunged in bottom-heat of 75° to 80° till they come into bloom, taking the precaution to afford ample ventilation meantime.

**CELOSIA.**—These tender annuals are useful for grouping in conservatory, but there are several strains, and only the superior ones should be grown. When the gardener gets a good strain, he should endeavour to keep and improve it by selecting only the best forms as seed-bearers, throwing the others away before contamination occurs. Seeds may be sown forthwith, and again in the middle of April, and even later. The general treatment in the early stages is that recommended for the Balsam, but in the later a shelf in the stove near the glass, where there is plenty of sunlight, is a suitable place. For small plants for the side stages, and for indoor decoration, 5 inch pots will be large enough for the final shift; but for large specimens 8-inch pots are not too large. At a potting soil, use loam, leaf-mould, and sharp sand.

**TUBEROUS-ROOTED BEGONIAS** sown last autumn may now require to be potted singly into thumb-pots.

**CYCLAMENS.**—These plants are not, as a rule, well done in private places, gardeners seeming to rely more upon plants obtained from the nurserymen

than on own raised ones. While this may be the surest way of having good plants, still, fairly good results are achieved by commencing with a packet of seed saved from an excellent strain of Cyclamen persicum, which should have been sown in the autumn. The seedlings thus raised will now be ready for potting into thumps in good loam and leaf-mould, with a small quantity of silver sand. A span-roof house or pit are the places in which the Cyclamen grows best, and the pots should be stood on finely-sifted coal-ashes or other non-conducting material which holds moisture, and affords a cool bottom for the plants to stand upon. Repeated re-pottings, small at each time, are very essential to good results, the size reached at the final shift being 5 or 6-inch pots. During the early stages of growth, a certain amount of shade from bright sunshine is required, but it should not be of a fixed kind if it can be avoided; and occasional sprinklings of Clay's Fertiliser do good during the later stages of growth. A temperature a trifle higher than that of the intermediate-house is required till full size is reached.

**CALCEOLARIA HERBACEA.**—These greenhouse annuals should now receive their final shift into 6, 7, and 8-inch pots, according to the size of the plants; and good yellow loam, mixed with one-fourth rich manure, preferably cow-dung in a dry state, and sharp sand being used at this repotting. Let the plants be down rather low in the pots, and pot firmly, affording water sparingly for a few days afterwards. A shelf in the greenhouse near the glass, or a cold frame which frost cannot enter, are suitable places till the plants show for bloom.

**PRIMULA SINENSIS.**—Seeds may now be sown for furnishing early-flowering plants, sowing again in about one month. The soil for filling the seed-pots may consist of peat one-third, loam finely-sifted one-third, leaf-mould one-third, and one-sixth of the whole sharp sand; put plenty of crocks into the pots or pans with sittings of the soil over these, and fill up to within half-an-inch of the top with the above mixture, leaving this rather rough on the surface. Sow the seeds thinly and evenly, but do not cover it, watering the soil with a fine rose can, doing this sufficiently. Before the pots are put into the mild hot-bed, cover them with a piece of thick brown paper, which keep on till the seed begins to germinate. It is the proper course to let the seedlings remain in the seed-pots or pans till they have several leaves and a good quantity of roots, before pricking them off singly into pots.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**PRUNING EVERGREEN SHRUBS, ETC.**—Common Laurel, Rhododendron ponticum, growing in the shade of trees, that may have become unsightly in consequence, or because of a straggling growth, may now be cut back. If the operation be done at this time of the year, it soon causes the stems to become brittle with young shoots, and thus presenting a tidy appearance. Plants of Ivy on walls and trellises may have the fore-right shoots cut back, and dead leaves and shoots removed. Walks which consist of binding gravel, and the lawn, should be well rolled, the former at least once a fortnight; and if they can be got into good condition before the drying north and east winds occur, will remain good for a long while, with but little more labour expended upon them.

**THE FLOWER-BEDS.**—These should occasionally be attended to, and all decaying leaves removed from the plants, and tree-leaves which may have found their way there cleared out from among the plants. All conspicuous blank spaces should be made good with plants and bulbs from the reserves. Some of the flower-beds are already gay with the fast-opening flowers of Dutch bulbs and other subjects.

**ASTERS, STOCKS, ZINNIAS, EVERLASTING PLANTS, ANTIRRHINUMS, LARKSPURS, ETC.**—Seeds may now be sown on beds in frames, on a gentle hot-bed, made up of about equal parts of fresh stable-mannure and hard tree leaves, to a depth of 15 or 18 inches. When the rank heat is dissipated, the hot-bed should receive a surfacing 3 or 4 inches thick of fairly rich light, somewhat sandy soil, on which the seeds may be thinly sown, lightly covering them with finely sifted soil. As soon as the seedlings appear, abundance of air should be afforded on favourable occasions by day, removing the lights altogether if very warm weather prevails. By this means sturdy growth is encouraged. It is also advisable to leave a little air on the frame during the night, at least as long as the danger from steam from the hot-bed

materials is present. The frame should be covered at night more or less according to the weather; the temperature may be kept at about 55°.

**VIOLETS.**—The beds or borders in which these plants will be grown during the summer should be prepared betimes in a partial shady situation. In hot, dry sunny situations the Violets get infested with red-spider and badly crippled, but in partly shady ones there is less danger from this cause. The ground should be dressed with decayed manure, such as that from a spent Mushroom-bed; and if leaf-mould can be afforded, so much the better, and afterwards be bastard-trenched or deeply dug. A good time to divide and transplant the plants is during the month of April, and if possible a showery day being chosen for the job. The stronger plants should be pulled into small clumps or single crowns, each with some amount of roots attached, and planted in rows about 1 foot apart, affording water as soon as the planting is finished. Some gardeners prefer to increase their stock of plants from runners, but unless the conditions are very favourable this method is not to be recommended, runners being not produced by the old plants till late in the season. The runner forms undoubtedly an excellent plant where it can be got early. Plants which have been forced should not be used for propagating purposes if others can be obtained, the results seldom being satisfactory.

### FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

**EARLY VINES.**—When the stoning of the berries is finished, and the second swelling has begun, the night temperature may be advanced to 70°, taking advantage of sunshine to shut up early in the afternoon, and thus, by securing all the sun-heat possible, the temperature in the early hours of the night will be maintained without much fire-heat being needed. When colouring commences, more air should be afforded, and the moisture in the house gradually reduced. Inside borders at this stage should be afforded a good application of warm liquid-mannure, to stimulate root-action, and assist the final swelling and colouring of the berries. A mulch of fresh short stable litter should be placed on the border. Damping the vine at closing time must be continued till the colouring of the fruit is well advanced, then reducing it gradually in amount till it is altogether discontinued. Should red-spider make its appearance, the infested leaves must be carefully sponged with warm water and soft-soap. In the case of Madresfield Court, and other varieties, the berries of which are liable to splitting at the point when they begin to ripen, less air and moisture should be afforded the Vines, and a constant and regular circulation of warm buoyant air maintained in the vine; and rather than stop the laterals very closely at this period, an extension of three growths should be allowed, if it may be done without crowding the foliage too much, root-action being intensified thereby. In the case of pot-Vines, great care is necessary in affording water at the root after colouring begins, only just as much as the Vines need, and which will keep them healthy and vigorous. No manure-water should be afforded the pots after the fruit begins to colour.

**SUCCESSIONAL VINES.**—The disbudding, stopping, and tying down of shoots will now require almost daily attention, the practice of letting shoots extend, to be afterwards removed or shortened back severely, being inimical to successful culture, and is almost certain to be followed more or less by banking. The stopping of shoots should be done at the second or third leaf beyond the best bunch, according to the space at command, and by pinching out the point of the shoot; and in the case of free-setting varieties, as the Black Hamburgh, superfluous bunches should be cut off as early as a selection of the bunches is possible. Such free varieties should also be thinned as soon as the berries are formed, or injury to the berries will result.

**MELONS.**—Plants in bloom need a dryish air, and to be ventilated freely. It is necessary to fertilise the blossoms daily, till a full crop of fruit is set, and to stop all lateral shoots at one leaf beyond the fruit. The aim should be to keep the bottom-heat at from 80° to 85°, affording enough moisture at the roots to preserve the plants from flagging. When the fruits begin to increase in size visibly, water may be more freely afforded, and humidity in the pit or house maintained by damping the bed, &c., with an occasional syringing of the bine in bright weather at closing time.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

## SHOWS.

TUESDAY,	MAR. 24	Royal Horticultural Society's Committee's Show.
WEDNESDAY,	MAR. 25	Shropshire Horticultural Society's Spring Show. Torquay Gardeners' Society's Show.
THURSDAY,	MAR. 26	Hort. Show at People's Palace, London, E. (three days).

## SALES.

MONDAY,	MAR. 23	Azaleas, Ferns, Roses, Gladioli, &c., at Protheroe & Morris' Rooms.
TUESDAY,	MAR. 24	Imported Orchids, from Mr. P. McArthur, at Protheroe & Morris' Rooms.
WEDNESDAY,	MAR. 25	Great Sale of Japanese Lilies and Plants, Tuberoses, Carnations, Peonies, Palms, &c., at Protheroe & Morris' Rooms.
FRIDAY,	MAR. 26	Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.

Winter grafted Roses. The method of grafting Roses touched upon by a correspondent in these pages on February 29, is by no means a new thing in this country, and was practised very commonly in good gardens in the first half of the century. But for some reason it has fallen into abeyance; still, it is worth while to revive it where labour in the garden is not scarce, and there are a few pits and frames which can be utilised for these purposes. Dog-rose stocks of various heights used to be potted in 48's and 32's after being trimmed, and the roots reduced to a size that enabled their being potted; and it does not matter if the stem goes into the middle or is at the side of the pot. This was done in October, and the stocks were set aside till the end of December, being watered at the root when dry. They were then put into a pit, with a temperature of 60° by day, and 55° by night, and kept fairly moist and close. A pit of two lights will hold a great number, as the pots may be placed on one another two or three deep. Scions were taken off at that time, and laid-in in a cool, moist, frost-proof place, in readiness for use when the bark of the stock was easily detachable from the wood. This occurs in about ten or twelve days after placing in heat.

The methods of grafting are immaterial—tongue, whip, crown, or rind; the chief point

being a union of the cambium-layer of stock and scion. As a good deal of sprinkling or syringing is necessary—well, at least twice a day—grafting-wax was found to be more trustworthy than clay, and easier to apply. If L'Homme Lefort's wax is not at hand, tallow and bees-wax, applied warm, will do as well. It is used merely to exclude the wet. The lights were kept close, and in a fortnight most of the grafts were taken; and the ties had to be cut in one or two places, so that they should not clip the bark too tightly, and those stocks on which the scions were making growth were removed to a slightly less close pit, where the warmth was also not so high, but had, say, the temperature of the intermediate-house. Those which showed flower, and most of them did, were grown gently on for flowering in the greenhouse in March and April; and all were by degrees inured to the air in time for setting outside in May. These standard Roses come in usefully for lighting up masses of Camellias and other greenhouse plants not in flower themselves, the heads of blooms showing just above these—and all Roses are appreciated in the spring time, even should the heads of the plants not have arrived at large size, or be very symmetrical in shape.

The plants come in for the same kind of uses as those raised from budded stocks in the ordinary way, only they are one year in advance of what those would otherwise be, and the blooms they throw are of use at a season when Roses are not plentiful. In May and June the bulk of the plants were turned out of their pots into good soil, in a sunny part of the kitchen garden, and securely staked, care being taken to have stakes long enough to go through the heads, and to which the chief branches were loosely secured with bast, otherwise the winds would play havoc with them. The next year the plants were of sufficient size to be employed in filling vacant spaces in, or making new beds of Roses. Grafted Roses are in all points as good and as enduring as budded ones.

Root-grafting was not much practised formerly, for seedling Briars, Manetti, polyantha, and La Grifferaie Roses as stocks were unknown; and we do not seem to have got much more forward by their use—at least, the private gardener has not done so; although their introduction has enabled the trade to meet the immense demand for Roses, which it could not have done in Roses on aged Briar stocks, and on their own roots—that is, from cuttings. Here is a difference which the private grower ought not to lose sight of, viz., that what is suitable and proper for a nurseryman to employ is not equally so for him; and it is owing, perhaps, to the former not generally recognising this fact that the home propagation of many kinds of plants is but little followed in gardens.

VIEW IN THE GARDEN AT BOSAHAN (see Supplementary Illustration).—The view in the garden at Bosahan, Corwall, which we give in the present issue, shows how effectively the Pampas-grasses, with Bamboos and similar forms of vegetation, appear against a background of rich foliage. In due season colour may be obtained by the intermixture of Eremurus and Tritonia.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held on Tuesday, March 24, in the Drill Hall, James Street, Victoria Street, Westminster, from 1 to 5 P.M., at which the committees will meet as usual. At 3 o'clock a lecture will be given by Mr. W. GIGLLEN, on "Saladings."

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Right Hon. the Earl of LATRIM, G.C.B., P.C. (the Lord Chamberlain), has kindly undertaken to preside at the fifty-seventh Anniversary Festival Dinner, in aid of the funds of the Gardeners' Royal Benevolent Institution, to be held on May 30, at the Hôtel Métropole.

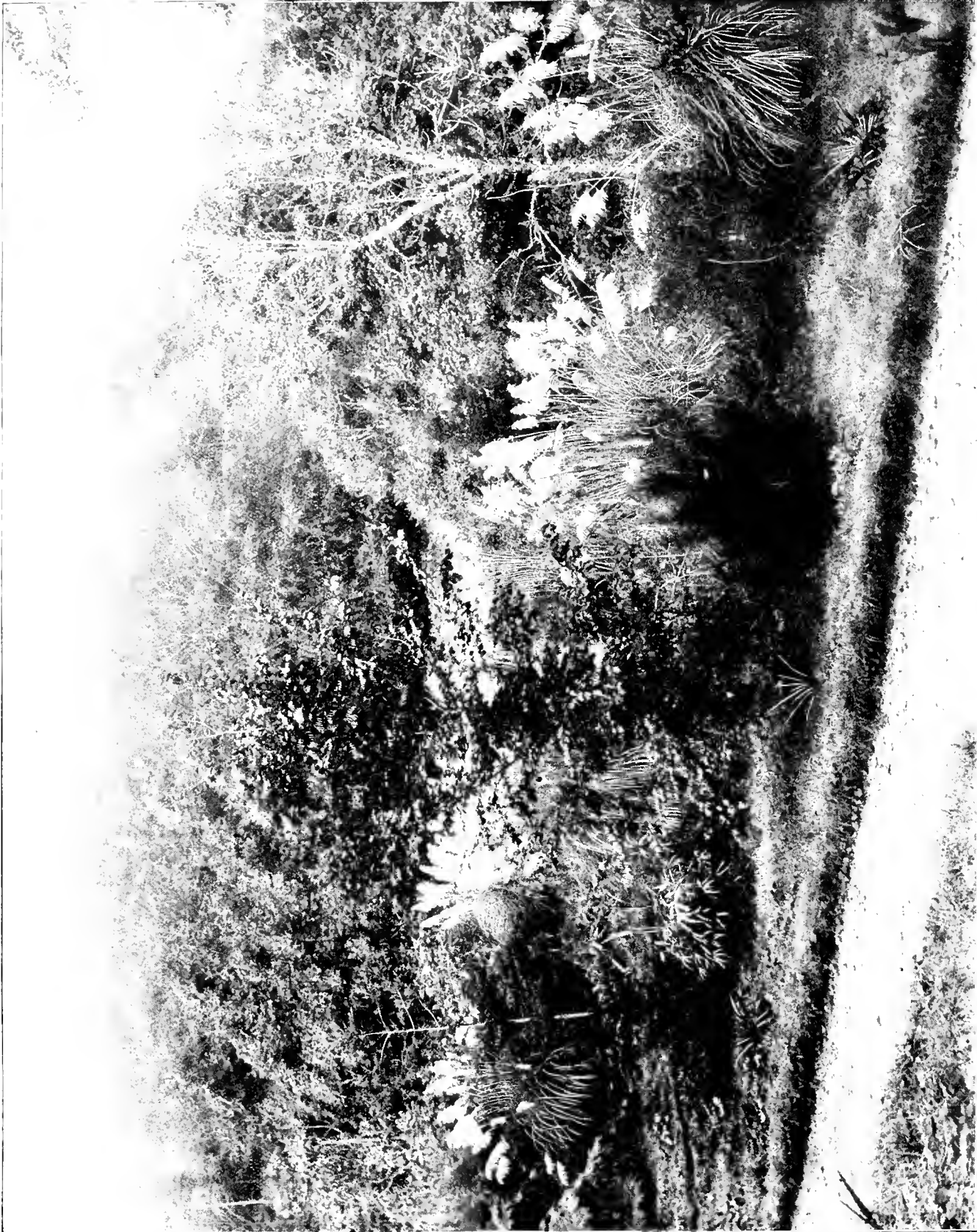
THE ROYAL GARDENERS' ORPHAN FUND.—We learn that His Grace the Duke of BEDFORD has kindly consented to take the chair at the Annual Festival Dinner on Thursday, June 18.

HORTICULTURAL CLUB.—The monthly dinner and *conversazione* took place on Tuesday evening, the 10th inst., at the rooms of the Club, Hotel Windsor; the chair was occupied by Sir J. T. D. LEWELLYN, Bart., M.P., and Mr. W. T. THISELTON DYER was the special guest of the Club. There was a large attendance of members and friends, including Mr. Alderman Skewes-Cox, M.P., the Rev. W. Wilks, Messrs. H. J. Veitch, II. Herbat, James H. Veitch, E. J. Cockett, H. J. Pearson, C. E. Pearson, A. H. Pearson, George Paul, George Nicholson, A. F. Barron, George Buyard, Harry Turner, F. Rivers, R. Johnson, and the Secretary. The health of Mr. Dyer was proposed by the chairman, as was also that of Mr. Skewes-Cox, and the other visitors, and both were suitably acknowledged. Mr. George Paul then read an able and interesting paper on "The Resurrection of the Older Sorts of Roses," which gave rise to a lively discussion, in which many interesting facts were elicited. The *conversazione* was closed by a few remarks from the chairman, who thanked Mr. Harry Veitch for the beautiful flowers with which the table was decorated, and Mr. Rivers for some English-grown Oranges. The dinner altogether was a great success. We hope to publish Mr. George Paul's paper in a future issue.

FRENCH ROSE SOCIETY.—According to *Le Jardin* for March 5, the Rosériste section of the Société Nationale d'Horticulture de France decided, during the *séance* held on February 13 last, that its staff should be constituted as follows:—President, M. Léon Simon; Vice-Presidents, MM. Leveque and Scipion-Cochet; Secretary, M. Pierre Cochet; Vice-secretary, M. Rothberg; Delegate to the Council, M. Dany. This section will organise, at Paris, during the grand horticultural exhibition in May, a special Rose Congress; a little later, about July 10, they will hold, in the rooms of the Société Nationale d'Horticulture, Rue de Grenelle, a Rose show, which, doubtless, will attract many admirers. Further, the Société Nationale des Roséristes Français, on the occasion of their Assemblée Générale on February 17, elected a provisional committee, composed of the following members:—President, M. le Comte de Bonchard; Vice-president, M. Pierre Guillot; Secretary, M. Octave Meyran; Treasurer, M. Bernaix fils; Members, MM. A. Bernaix, Bonnaire, Brechon, Charreton, Croilier, Dabrenil, Gamon, Griffon, Jacquier fils, Laparrières, Pernet-Duchet, and Praelier.

ST. MARY, WHITECHAPEL, HORTICULTURAL SOCIETY.—This urban Society, which exists for the purpose of fostering a love of plants amongst the children attending the schools of this parish, and which, in this connection, holds shows, distributes seeds and plants, and is affiliated with the People's Palace and East London Horticultural Society, is extending its useful work, and, as a matter of course, its expenditure likewise. We have before us a statement of its modest financial position, which shows an income for the year of £25 0s. 9½d., and a total expenditure of £24 19s. 0½d. Mr. FRED. PEARY, Hon. Secretary, 4, Camden Terrace, Ilford, is urgent in his appeals for further assistance, which doubtless some of the readers of the *Gardeners' Chronicle* will gladly accord him.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the General Committee took place at Anderton's Hotel, Fleet Street, on March 16, which was largely attended, Mr. B. WYNNE presiding.



A VIEW IN THE GARDEN OF A. PENDARVES VIVIAN, ESQ., ROSAHAN, CORNWALL.



Letters were read from Sir E. Saunders, thanking the members for his re-election as President; and from Mr. Harry J. Veitch, also thanking the members for his election as a Vice-President. A vacancy having occurred on the General Committee since the annual general meeting on the 24th ult., Mr. J. Walker, of Paddington, was unanimously selected to fill the vacancy. As it is usual at this period of the year for six members of the Floral Committee to retire by rotation, but who are eligible for re-election, the result of the poll showed that Messrs. George Gordon, H. J. Jones, C. Gibson, and E. Rowbottom were re-elected; and Mr. Norman Davis and Mr. J. Lyne, elected in the places of Messrs. W. H. Fowler and J. H. McHattie. Mr. Thomas Bevan was unanimously re-elected Chairman of the Floral Committee for the ensuing year. The Chairman made a statement setting forth what had been done by the Jubilee Committee, and laid upon the table the two schedules of prizes to be offered at the two exhibitions to be held in November next. It was reported that the Special Jubilee Fund had reached the sum of £240, in addition to special prizes, cups, &c., amounting to a similar sum; the Chairman stating that further donations were necessary to enable the Jubilee Committee to fully carry out their original programme; and also announced that the Jubilee Banquet would take place at the Hôtel Métropole on November 3, and a Conference Meeting on the opening day of the second show, viz., November 5. It was resolved that a certain sum be transferred from the general account to make the Reserve Fund up to £100, and that this sum be put on deposit at the bank. Nine new members were elected, and four societies admitted to affiliation. Heartly votes of thanks were passed to the Chairman and Secretary for their services in connection with the Jubilee Celebration. The prospects of the Society never looked brighter than at the present time; but further contributions to the special Jubilee Fund are earnestly desired, to enable the programme to be carried out in all its entirety.

**THE NATIONAL VIOLA SOCIETY.**—A large gathering of Viola enthusiasts was held in the Guildhall Tavern, E.C., on Tuesday, the 17th inst., when a resolution passed at a recent meeting of the members of the London Pansy and Violet Society, that they incorporate themselves under the broader title of the National Viola Society was unanimously carried into effect. With Mr. Wm. Robinson, F.L.S., as president; Dr. Shackleton, of Sydenham, chairman of the committee; Mr. H. A. Needs, of Woking, hon. treasurer; Mr. Richard Dean, of Ealing, superintendent of exhibitions; Mr. A. J. Rowberry, of Woodford, hon. secretary; and a strong committee of amateur and trade growers, the remodelled society should meet with success. Under the general trade title of Viola, tufted, show, and fancy Pansies, as well as all the other types of the genus, will be encouraged. It is proposed to hold one or more exhibitions, with a Viola conference during the forthcoming summer in the gardens of the Royal Botanic Society, Regent's Park, N.W., the Council of the latter society having kindly offered accommodation, with facilities for a practical trial of plants in the society's gardens. A Floral Committee will be appointed to sit periodically during the season to adjudicate upon the merits of seedlings or sports that may be submitted to them, with a view to certificates being granted, particulars of which, together with the schedules of the society, will be issued at an early date. The hon. secretary, Mr. A. J. Rowberry, of the Crescent, South Woodford, Essex, will receive the names of ladies or gentlemen desirous of joining the society, by which means they will assist in the advancement of the cultivation of this class of beautiful flowers, the development of which has recently made such rapid bounds. The annual subscription is 5s., which will include all entries, with free admission to the exhibitions and conference.

**SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The second annual general meeting

was held on the 16th inst. at the Parish Room, Shirley, Southampton; the members mustered in good numbers, and the president, Mr. W. F. G. SPRANGER, C.C., presided. The report read, showed a steady progress, there being 140 members against 111 last year. Fifteen meetings had been held during the past year, the average attendance being fifty-two. The balance to the credit of the society was £1 16s., not including some unpaid subscriptions, which, however, are not yet despaired of. The retiring officers were all re-elected, and there was a very hearty vote of thanks to the horticultural and local press for the admirable and lengthened reports given of the meetings unanimously passed, as was a vote to the chairman of the evening's business. The business now over, the public were admitted to an entertainment, consisting of songs, recitations, &c., kindly given by members and some outside friends, and a very enjoyable two hours was spent.

**PETERSHAM MEADOWS.**—The bill promoted by the Dyart trustees, and which if carried, would seriously have injured the view from Richmond Terrace, was rejected by the House of Commons on Thursday last by 262 to 118.

**THE NATIONAL TESTIMONIAL TO MR. BARRON.**—We are requested to state that the general committee, which was formed to promote this testimonial, will meet at the Hotel Windsor, Victoria Street, S.W., on Tuesday next, at 2.30 P.M., to make arrangements for the presentation.

**EUCHARIS.**—Mr. ERNST KRELAGE publishes in the *Tijdschrift voor Tuinbouw*, a monograph of the species of Eucharis, with an illustrative plate. May we suggest to our Dutch friends the desirability of adding to their memoirs a summary or abstract in French or English.

**THE NURSERYMEN'S, MARKET GARDENERS', AND GENERAL HAILSTORM INSURANCE CORPORATION.**—The first ordinary general meeting was held at SIMPSON'S, 101, Strand, on Friday. In a subsequent number we shall allude at greater length to the satisfactory progress of this useful society.

**CONIFERS.**—A "hand-list" of the species and varieties grown at Kew out-of-doors and under glass, has just been issued. It is prefaced by an interesting historical introduction by Sir JOSEPH HOOKER, and by some extracts from the late JOHN SMITH'S records of Kew. The list is arranged according to the most recent method of grouping, is interleaved, and is provided with a full index, so that its value to the cultivators of this important class of plants will be great. The list is sold for 3d. at the Royal Gardens.

**THE SURVEYORS' INSTITUTION.**—The next ordinary general meeting will be held on Monday, March 16, 1896, when a paper will be read by Mr. ARTHUR C. PAIN, Associate, on the "Light Railway Bill, 1896." The chair to be taken at 8 o'clock. All inquiries with reference to the junior meetings should be addressed to Mr. A. NORMAN GARRARD, 8, Frederick's Place, Old Jewry, E.C.

**PROFESSOR MARMADUKE LAWSON.**—It is with great regret that we announce the death on February 14, of Prof. LAWSON, the Director-General of the Government Cinchona Plantations, Madras. On the death of Prof. DUBREY, Professor LAWSON occupied the chair of botany in the University of Oxford, a position he vacated on going to India. Prof. LAWSON was a contributor to *Hooker's Flora of British India*, and devoted himself at one time to the study of Mooses.

**READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—Mr. T. NEVE, chairman of the above association, presided over a largely attended meeting on Monday evening, 9th inst., to hear a paper on "Some Little-grown but Meritorious Hardy Flowers," by Mr. FRANK TUFNAIL, of Messrs. SUTTON & SONS' flower-seed department, which proved to be of a very interesting character. Mr. TUFNAIL began by saying, that in selecting this subject for the members' consideration and discussion,

it was not his intention to give a list of plants that were going to revolutionise the present flower-garden and displace well-known favourites, but rather bring to their notice some little known, or rather little grown, hardy flowers, deserving of equal favour and culture. Some are of recent introduction, others are kinds which once graced the gardens of our forefathers, and were banished by carpet-bedding. Many of the species are especially good for cutting and table decoration, others are re-chosen because of their adaptability for certain situations and seasons. After affording some hints on the cultivation of hardy perennials and annuals, the lecturer proceeded to deal with the descriptions and names among others of the following. Hardy perennials: *Achillea eupatoria*, *Ranunculus aconitifolius* fl. pl., *Papaver alpinum*, *Commelina coelestis*, *Armeria formosa*, *Chelone barbata*, *Coreopsis grandiflora*, *Eryngium alpinum*, *Eryngium giganteum*, *Agrostemma coronaria*, *Calandrinia umbellata*, *Gypsophila paniculata*, *Iberis Fruiti*, *Lychnis chalcidionica*, *Oonitis rotundifolia*. Hardy annuals: *Phacelia campanularia*, *Gypsophila elegans*, *Larkspur*, stock-flowered rosy scarlet, *Lavatera rosea splendens*, *Linaria reticulata anreo-purpurea*. The lecturer concluded by advising those present to grow a dozen of the species he had mentioned, as he felt sure they would be more than pleased with the result. A lengthy discussion took place on the various plants brought before their notice. Various flowers were staged by Messrs. TUFNAIL, ALEXANDER, and TOWNSEND, bunches of Sutton's Earliest of All Wallflower attracting much attention.

**"JAMAICA BULLETIN."**—We have received the January part of the *Bulletin of the Botanical Department, Jamaica*, which contains, among other matter, "Notes on the Orange, giving Hints on Pruning and Dressing;" "Coccidias or Scale Insects," by T. D. A. COCKERELL; "Notes on Kola, Orria Root, the Use of Eucalyptus Oil in Yellow Fever;" and "Synoptical List of Ferns" (continued).

**THE MIDLAND CARNATION AND PICOTEE SOCIETY.**—The fifth Report shows that this society continues to maintain and improve its position, new members filling the places of those removed by death and other causes. The exhibition held at Edgbaston on July 31 and August 1 last year was an improvement on any previous one, but the season being an early one, southern growers were less to the fore than usual. Many honorary exhibits were made, and the display generally was much admired. In 1895, the donations and subscriptions amounted to £136 17s.; special prizes to £22 9s. The outlay, inclusive of a donation of 5 guineas to the Gardeners' Royal Benevolent Institution, amounted to £192 7s. 7d., and the income to a sum of £232 9s. 10d.

**CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The usual fortnightly meeting of this Society was held on Thursday, March 12, at Turnford, Mr. W. HARISON presiding, and Mr. J. H. DEAN contributing an interesting paper on "Pears as a Market Product, and Grown under Glass." With regard to the style of houses, he suggested that they should have the appearance of ordinary span-roofed vineries, say, 220 feet long by 28 feet wide, with ventilating lights reaching from the ridge to the gutter-plate (instead of the small top-lights now in ordinary use), and that they should be fitted with Harris's patent light-lifting gear, and fixed at the lowest point of the roof, as an abundance of air will at most times be essential. A moderate supply of hot-water piping, to enable the fruit to be ripened in cold seasons, and to preserve the fruits of late varieties, and also to aid in starting trees for an early supply if required. Then erect in line, 3½ feet from outside wall, suitable deal battens, 1½ by 2 inches, 3 by 3 inches at each end, fixing all firmly to the sash-bars and base of house. The lecturer went on to describe the operation of stretching galvanised wire, and the preparation of the border. He recommended planting the trees 4 feet apart close to the trellis, planting 1-year



old cut back bushes worked on the Quince stock, and left unpruned 1 year previous to planting, the unpruned wood thereby becoming fruiting wood, and capable of bearing the first season. Mr. DEAN closed his lecture with a few remarks on two probable diseases that would occur under this mode of treatment, namely, green-fly and canker. The next meeting will be held in St. Mary's Hall, Cheshunt, when Mr. JAMES HUDSON, of Gunnersbury House Gardens, will deliver a lecture on "Stove and Green-house Climbing Plants." NIEL MACKENZIE, Esq., will preside.

**NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The monthly meeting of this Society, held on Tuesday, March 10, at their Room, 25, Westgate Road Newcastle, was well attended by members, and Mr. JOHN BOLLOCK occupied the chair. A varied collection of choice blooms was on the table, including Rhododendrons, Dendrobiums, Narcissus, Tulips, and others. There were ten new members proposed; after which Mr. HENRY INNES, Leeze Park, read a paper on "The Yeast Plant," illustrating the development and functions of the vegetable-cell by the aid of black-board drawings, which added much to the interest of the subject.

**PRIMULA "SNOWDON."**—Mr. WILLIAM BULL has submitted for our inspection flowers of a new form of the fimbriate section of Chinese Primrose. The flowers are of excellent quality, exceeding 2 inches in diameter, deep, solid in texture, dead white, with a pale-yellow eye. The habit is said to be good. It is, no doubt, an excellent variety.

**PUBLICATIONS RECEIVED.**—*The Tomato, and How to Grow it for Profit*, by JOHN COBBAN, Rotherham.—*Fruit-Growers' Year-Book*. Edited under the direction of the Earl of WINCHELSEA. (Cable Office, 30, Fleet Street, E.C.; and in several towns in England, Scotland, and Ireland, and Jersey and Guernsey.)—*One and All Gardening*, edited by E. O. GREENING.

### PLANT PORTRAITS.

**ERANTHUS GRANDIFLORA.** *Orchid Album*, vol. xi., pt. 129.  
**LYRIBEPHYLLUM GUAYANENSE.**—A cross between *C. Stonei* and *C. Spicerianum*. *Revue de l'Horticulture Belge*, March 1.  
**DICENTRA CUCULLARIA.** *Meehans' Monthly*, March.  
**NOLINA RECURVATA.** *Garden and Forest*, March 4.  
**PHYSALIS FRANCHETI.** *Revue de l'Horticulture Belge*, March.  
**RENANHERA STORIELI.** *Orchid Album*, vol. xi., pt. 129.  
**SONERILA MADAME PAUL DU SOIET.**—A cross between *S. orientalis* and *S. margaritacea*. Leaves green, thickly bestrewn with white spots. *Illustration Horticole*, t. 52.

### NOTICES OF BOOKS.

**INSECT LIFE:** a short account of the classification and habits of insects. By F. V. Theobald. (Methuen & Co., 36, Essex Street, London.)

This is a carefully-compiled introduction to the knowledge of insects, which may be recommended to those who wish to gain a general knowledge of the subject, and especially to teachers and others engaged in agricultural and horticultural colleges. It is a little too advanced to put into the hands of a novice, but a student who has already some little knowledge of general physiology will find the book very helpful. It details the structure, embryology, and life-history of insects, and explains the modes of classification usually adopted. A chapter on the use of insecticides is added, in which the virtue of prevention is strongly and most appropriately urged. The methods of spraying fruit-trees with Paris Green and similar substances are explained. A bibliography and an index complete the volume, which is well illustrated, and should have a place in every cultivator's library.

**BEETON'S NEW DICTIONARY OF EVERY-DAY GARDENING ETC.** Entirely new edition, with 550 illustrations. (Ward, Lock & Bowden.)

There is a great deal of useful information to be gleaned from this volume, which is issued at a low

price, and therefore does not compete with other more carefully-compiled works of a similar class. This edition is stated to be "completely re-written and thoroughly revised," but obviously much further revision and correction are desirable in certain articles. Very good are those portions relating to allotment and kitchen gardening. The monthly calendar may also confidently be recommended—and, indeed, all the portions devoted to practical gardening.

### HAND-LIST OF ORCHIDS CULTIVATED IN THE ROYAL GARDENS, KEW.\*

It is not within the scope of the ordinary observer, although he may frequently be a visitor at the Royal Gardens, Kew, to form even an approximate idea of the extent of the wonderful collection of plants there, or of the labour, the skill, and energy, which must necessarily be shown by the Director and the staff, in order to preserve the botanical essentials of the vast establishment, and yet to make that interesting and often gorgeous display of flowers in each department generally here to be seen, but which the casual observer too often regards as "a matter of course," and the inevitable out-come of the resources of the gardens. In like manner even the professional gardener, probably frequently makes the tour of the place, regarding it as a garden pure and simple, and without for a moment considering that the gardening part of the question is the least difficult to deal with, while the partially concealed scientific work which the indefatigable Director causes to ramify from Kew to the uttermost parts of the earth—work done both by brain and hand—makes it a true botanic garden and centre of British and Colonial gardens, of which the nation may be proud. Even the specialist fails to grasp the completeness of the collection of plants in his own particular branch. Few Orchidists, for instance, will be prepared for the evidence of the very numerous genera and species of Orchids which Kew possesses.

The list to which we have already briefly referred, enumerates some 200 genera and 1800 species, and is arranged in the simplest manner possible, the name in each case being followed by the authority, the country from which the plant comes, and where possible a reference to a figure. The principal synonyms of each are also given in alphabetical order with reference to the proper name. In every respect the list is well-arranged, so as not only to be a reference to the plants cultivated in the gardens, but also to be of service to every gardener or amateur interested in Orchids, and into the hands of the majority of which it will doubtless find its way, the few pence which it costs placing it well within the reach of every lad employed in gardening. The showy and the botanical species in the gardens seem fairly balanced, for while there is a tolerably complete set of such showy things as *Cattleyas*, *Lælias*, *Odontoglossums*, &c., which are commonly met with in private collections there are surprising collections of some of the botanical species usually regarded as curiosities, and always regarded with much interest and admiration, even by those who profess to care for none but those with showy flowers. Thus, perhaps, for the first time in the history of Orchid culture, does an enumeration of over sixty species of *Bolbophyllum*, thirty species of *Cirrhopetalum*, and a like number of *Catasetum* appear as being cultivated in any garden; and so on with other genera which are rarely represented in gardens. In the list, too, it is noticeable that some of the plants received with garden names and not yet proved, are treated with proper toleration, their names being enumerated with "Hort." attached; and in some instances, the Orchid-grower will be pleased to see that certain names which he has always considered "botanical crotchets," appear in what he regards as their proper places. For example,

*Oncidium splendendum* takes its proper specific rank; and the true *O. tigrinum*, var. *splendendum*, in italics, refers it back to *O. splendendum*. Whatever pretence the examination of dried specimens of *O. splendendum* might give for placing it under *O. tigrinum*, it is very clear that those who know the living plants, also know that there is practically no resemblance. So also in the enumeration of the *Odontoglossum* the gardener will be pleased to see that his plan of keeping *O. Andersonianum* distinct, instead of huddling it with an incongruous lot under *O. crispum*, which it and others often placed under it, certainly will not fit. This useful *Hand-list* will come as a surprise and a pleasure to all who are interested in Orchids, and who will, apart from the help the list will give them be glad to learn by it that our great Botanical Gardens at Kew are fulfilling their proper functions towards the now favourite class of plants coming under the common denomination of Orchids. The *List* is to be obtained at the Gardens, price 6d.

### COFFEE IN CENTRAL AFRICA.

IN 1878 I was appointed by the Church of Scotland Foreign Mission Committee to proceed to Blantyre, East Africa. Before leaving, the foreman (now Curator, and a friend of my own) of the Royal Botanic Gardens, Edinburgh, gave me the first Coffee plants, which I tended carefully on the way out, and, with the same care, they were planted in the Mission garden.

In the year 1880 we had a small crop on the parent tree, about 1000 beans in parchment, which were all sown. Four hundred of the seedlings were planted in the Blantyre Coffee-garden in February, 1881. In 1883, off the 400 trees, 1½ cwt. of Coffee were gathered. I may mention the size of the pits was 6 feet wide by 3 feet deep; they were filled up with alluvial soil, cow manure, and wood ashes. I believe this accounts for the enormous crop.

The last crop which I pulled off the mother tree, after being pulped, washed and dried, weighed ¾ lb., and I am certain that the Coffee culture in some parts of British Central Africa will turn out as well as in any other Coffee-growing country in the world, if well attended to.

The late Mr. Henry Henderson, of the Blantyre Mission, brought from home in 1879, 56 lb. Liberian Coffee seed which I had the pleasure of sowing. Only seven grew to maturity; one was sent to Zomba, another to Mandala, the rest were planted in the Mission garden. They took nine years to bear fruit; the bean seemed to be sound and of good quality, but little has been done with this variety. Blue Mountain and Orange Coffee were introduced by Mr. John Moir or his brother while joint managers at Mandala, but I cannot give the year of its introduction. The Blue Mountain, as far as my experience goes, is well suited for high elevations in the Shire Highlands. The Orange Coffee is more tender, and perhaps better suited to lower elevations; at the same time, I have taken a good crop off the few plants which I have. As to the quality of the Coffee I cannot give any opinion, nor as to its origin. *Jonathan Duncan*, in "The Central African Planter."

### COLONIAL NOTES.

#### L A G O S.

THE annual report of the Botanic Station, of which Mr. H. Millen is curator, shows that good progress is being made in the introduction, culture, and distribution of tropical economic plants. Among European introductions, Cucumbers, Radishes, Beans, Turnips, Beetroot, and Kohl Rabi have done exceedingly well. Rubber plants generally thrive, such as *Manihot Glaziovii*, or Ceara rubber, and *Castilloa elastica*. Hevea Spruceana has not been so successful, but *Ficus elastica* does well. Liberian Coffee is largely planted. *Eucalyptus* and *Casuarina*, which do not succeed in other west African colonies, have been successfully established at Lagos.

\* *Hand-list of Orchids Cultivated in the Royal Gardens.* (London: Printed for Her Majesty's Stationery Office by Eyre & Spottiswoode. 1896.)



FIG. 50.—ZYGOPETALUM FERRENONDI.

(Colours, olive green and brown, with lip of rich violet; the flowers of natural size.)

## ZYGOPETALUM × PERRENONDI.

THE illustration (fig. 50) shows a very beautiful cross out of *Z. intermedium* × *Z. maxillare* Gautieri, which was shown at the Royal Horticultural Society's meeting on the 10th inst. by M. A. A. Pecters, of St. Gilles, Brussels, and which received an Award of Merit. The sepals and petals are of an olive-green tint, with bars of brown, and the relatively large lip—the most conspicuous part of the bloom—is of a rich violet colour.

## EUPATORIUMS.

FEW plants are more useful for winter or spring decoration than the Eupatoriums, and although gardeners, with large houses to fill, grow them largely, they are not much grown in small gardens. The plants do not require much heat. Several varieties are very suitable for decorative purposes, and for cutting; few plants are more valuable when grown in a cool greenhouse. The flowers are not showy, but come at a dull season, and in tolerable abundance. Some Eupatoriums may be grown in the warm-house, but do just as well in a cool one. Those which are known in gardens under the name of Hebeclinium are usually grown warm, but even these do well in the open air in the summer months, when they have filled their pots with roots.

I will note chiefly those which succeed under cool treatment, taking *E. riparium* first, although it can be made to produce its blooms in the warm-house with no more injury than a certain softness and want of durability in the flowers so obtained. To get the finest blooms, plants should be propagated yearly, and very good ones can be obtained in twelve months from the time of striking the cuttings. The plants also seed freely, especially *E. riparium*, if the plant is stood on the ground when in bloom; but the cuttings striking readily, there is little reason to employ seed. To obtain good size, and afford more time for the plants to grow, cuttings are taken from plants when they are cut down after blooming, if possible selecting the shoots which spring from the roots and have not flowered. These are struck in the early autumn, and given a shift into 48-sized flower-pots before the winter sets in, and afterwards kept in cold frames from which frost is kept out. About the middle of the month of February these plants are slightly pruned, and when broken they are repotted into 6-inch pots, and by the middle of May they are ready for their final shift, that is, into 8-inch or larger pots, if they are to be grown of a very large size. By raising plants in this manner there is no need to retain the old plants, which may be thrown away as soon as flowering is past. The young stock of plants is plunged in coal-ashes or Coco-fibre out-of-doors during the summer months, and liberally supplied with liquid-manure and clear water, especially when the pots become filled with roots, and every sunny afternoon watered overhead as the sun declines. Any neglect in watering is sure to be followed by loss of the lower leaves, which is a disfigurement. Old plants, if kept, are rather troublesome, needing much greater quantities of water, and they make a great number of small shoots which do not flower. If small plants for the fronts of stages are required, these may be raised in this month, and grown on till they come into 6-inch pots. These small plants are of service in filling vases for forming groups in apartments, &c.

For market purposes, Eupatoriums are less suitable, and I believe their usefulness is mostly as pot plants, and for cutting for home uses. *E. riparium* and *E. Weinmannianum* are pretty objects in vases, being light and graceful; and when grown cool they last for a long time. *E. odoratum* is a free grower, and blooms freely late in the autumn, and lasts a long time in bloom; and if the plant is well stopped, it makes a very fine bush. The three varieties I have named are about the best of the winter and spring bloomers, and as the blooms appear in quantity from October to April, they are among the most valuable. *E. ageratoides*, a free-flowering variety, of less height than those, much-branched, and quite hardy in most parts of the kingdom, is also effective as a pot-plant.

The Hebecliniums are so good for spring decoration they should be included, especially as they are known as Eupatorium ianthinum and E. atrovirens. These, if afforded greenhouse treatment, make fine decorative plants for use in March and April. They were formerly known as Hebecliniums, but are now put under Eupatorium. These should be raised from cuttings inserted in a sandy soil in a temperature of 65° to 70°, and they are best when taken after the plants have flowered—although it is a gain in point of time to take the young shoots at any season. E. atrovirens is the better of the two; the flowers are of a bluish-lilac tint, produced in large trusses, and the leaves are of a deep green hue, and large size. E. ianthinum, an older introduction, has purplish-coloured flowers, borne in terminal corymbs, and deeply serrated leaves, of good size. These two species may be grown on if desired year after year; if cut back and potted annually, making large specimens. When cut back it is necessary to keep them somewhat dry at the root, and then partially shake them out and re-pot in three-quarters loam, one-quarter leaf-mould, with some dry cow-manure or spent Mushroom-bed manure finely sifted. The potting must be firm. At first, afford them a frame, with plenty of water at the root as the growth progresses, and from June to September stand them in a sunny spot in the open air.

The other varieties named should be grown in good fibrous loam, with dried cow-dung or other manure, very light or porous soils being avoided. If labour is not abundant, the plants may be planted out in good ground, and lifted and potted early in the month of September, taking care to have a good ball with each plant. E. riparium and E. Weinmannianum do well when lifted from the open ground and planted in frames, two crops of blooms being obtained in this way. When grown cool, Eupatoriums require no stakes to support them if they have been stopped twice when growing. Insects do not infest the plants to any extent, unless it be red-spider in very dry summers. *G. Wythes.*

## HOME CORRESPONDENCE.

**PROTECTING FRUITS FROM BIRDS.**—Those of us who are located in woody districts, and who attempt to grow any of the hardy fruits of which birds are fond, have always to protect them. Compositions of lime, soot, &c., commonly used for making buds distasteful to the bullfinch and sparrow, are helpful, but not always effectual, while the ordinary herring-netting, if properly secured (which is sometimes very difficult), is, perhaps, the most satisfactory for such crops as Strawberries, which last for short seasons only. In the fruit garden here a means of protection has been adopted, of which perhaps a description will be interesting, although the contrivance is by no means new. A similar means has, I believe, been recommended by Mr. Iggulden. It consists of a framework of galvanised iron 8 feet in height, covered with 3-inch mesh galvanised wire-netting, constructed in the following manner: The framework of the sides is formed of a series of strong hurdles made of iron bars 1½-inch by ½-inch, securely bolted together, while the covering is made of iron transverse bars 1½-inch by ½-inch, forming 6-foot squares, and supported by 1½-inch iron pipes placed 12 feet apart, which rest upon iron plates 18 inches beneath the surface of the ground, and carry socketed caps, to which the bars are strained, and firmly secured. The netting is laced to the framework, and on the sides which form a portion of the boundary of the garden, about 1 foot of netting is pegged to the ground as guard against rabbits. Closely-fitting gates or doors are placed at the entrance to each walk, which are opened during seasons when birds are harmless. The occupants of this enclosure are Cherries, Plums, Pears, Raspberries, Currants, and Gooseberries. Its sides are furnished with cordon trees, and it answers its purpose admirably; it has not, however, escaped criticism. First, it was said, that owing to the exclusion of birds, the trees would be ruined by insects. These have, so far, proved to be no more troublesome than they were previously. Secondly, the trees, it was said, would receive injury from the galvanised covering; it was thought, pos-

sibly, that in some way galvanic action would take place. Thirdly, a fear was expressed that injury would result from excessive radiation of heat, from the action of the iron. As no apparent injury has been sustained by the cordon trees, which are actually in contact with the galvanised metal, and as some of the trees planted under the covering two years ago have already been root-pruned, in order to check their strong growth, while Raspberry-canoe have grown through the top, I think there need be no alarm on these points. In the erection of protectors of this description, they must be made sufficiently strong to resist a weight of snow; but it is advisable to shake a heavy fall from them, and thus relieve them of an unnecessary strain. *Thos. Coomber, Hendre Gardens, Mon.*

**ORCHID GROWING BY THE ARTIZAN.**—What a marvellous advance has been made in the growing of Orchids in this country since the enormous importations has reduced their value to the price of Pelargoniums and Fuchsias! In almost every town or borough district there are a few of the "horny-handed sons of toil" that take to their cultivation. This last week the writer has seen two collections growing under exceptional circumstances. The one was owned by John Hampson, Whitefield, a shoemaker; the other by Edward Wolfenden, Radcliffe, a stonemason. The only access to the former's glass-house was through the workshop—where "John" was toiling away making clogs, so much need by workmen in the manufacturing districts of Lancashire—then through the back kitchen, and into a yard, where the small semi-span house was completely filled with a variety of Orchids, some doing well. The house was heated with hot-water, and it was quite pleasing to see some nicely-grown pieces of Dendrobium Wardianum in flower, and in one or two very good varieties. Dendrobium appear to be the favourite flowers with both rich and poor, and little wonder there is such a variety among them, as the flowers are lasting. Along with these were some Cattleyas, and Odontoglossum Rossi at the one end, which has been very cheap of late, flowering profusely. There was a nondescript lot, huddled together without any semblance of order, the desire being more to get the flowers. It was a small house with a very narrow passage, but it shows really what may be done in a back-yard of a small tenement. Edward Wolfenden, the stonemason, has got a bit of ground opposite his modest-looking tenement, and he has erected a house divided into two compartments, and out of his modest earnings he has saved enough to get up a very nice collection. He began buying cheap plants, but he has gone on, and is now dispensing with his common plants, and getting some of the better articles. As he said, we must "creep before we walk;" every penny he can spare in a fair way goes to the purchase of Orchids. I was surprised to see, for instance, nice lots of Cypripedium Lesanum giganteum in fine flower, and one of the best, too; and also the Stand Hall variety of Dendrobium splendidissimum grandiflorum, as well as such good things as D. Cooksoni and D. Ainsworthii. In the cooler division were an excellently-grown lot of Odontoglossum crispum and plants of that order. One would like to see the plants more orderly arranged; however, they were clean and free from insects. These men read Orchid literature greedily, but they have generally a mind of their own; and although they are in some measure guided by a Calendar of Operations, each has his own way with particular favourites. *J. A.*

**LARCH DISEASE.**—It is interesting to know that Sir C. W. Strickland has both the Japanese and black American Larches under cultivation, and it is to be hoped that later on he will let us know how the latter has succeeded, it being considered by many persons a tree that is well worth trying for profitable planting in this country. An official connected with the Canadian Pacific Railway writes to me that the timber is of excellent quality, and largely employed for railway and other purposes. Referring to the Larch disease, it is impossible to say on what it depends, healthy trees up to forty years old, and growing on almost every conceivable soil, and at various altitudes, having suffered alike throughout Great Britain. It has been asserted that trees growing in low and damp situations suffer most; but such is not the case, as I have repeatedly noticed in many parts of the country. Probably nowhere is the disease worse than on the dry sandy lands of parts of Bedfordshire, as witness some of the woods between Bletchley and Woburn; while on chalky upland ground at Colesborne, Gloucestershire, it is

equally bad. I have just returned from reporting on some plantations in the Midlands, and there on dry chalky ground the Larch is suffering in a wholesale manner from the disease; while several large plantations in South Wales have required to be re-planted, owing to the widespread destruction of the Larch by disease, the soil being a light, rich loam. My own opinion is, that neither soil nor site have much to do with the spread of the disease. I noticed last week that in a large Larch plantation nearly three-fourths of the trees had recovered from the disease, and this is some consolation, though the timber of trees that have been affected can never be of much value. It is wrong to say that the Larch disease is well known in Ireland, for such is not the case—at least, that I have heard of. With the kind co-operation of the editor of the *Irish Farmers' Gazette*, I have many letters in my possession from landowners in different parts of Ireland, one and all of whom positively state that the Larch disease is unknown in their woods. *A. D. Webster, Bawnmoor, Herts.* [We have further evidence on this subject which we shall print next week. Ed.]

**IRIS RETICULATA.**—One of the most beautiful of all hardy flowers is *Iris reticulata*, of which I have some bulbs planted on west and east borders. Those on the former began to flower early in February, and were followed by those on the latter, on which today, March 11, I have 150 flowers in all, open. The flowers are very fragrant, deep violet and lustrous yellow in colour. *J. Slow, Wilts.*

**THE FRUITS OF PYRUS SORBUS.**—I have read with interest your note on Count de Murard's fine specimen of *Pyrus Sorbus* (*Sorbus domestica* of other botanists), and of the uses made on the Continent of its fruits; but I note that you do not mention the fact that the fruit is eaten in the raw state when "bletted"—like a Medlar. It is in this state that it may be made into jelly, just as the Medlar may be used. *Françoise.*

**GARDENERS AND STEAM-ENGINES.**—I would point out to "Hortus" that it is never safe to sneer at things one does not understand. More especially is this true in respect to art matters. For instance, had he said nothing about "garden designers and other faddists," I should have been willing to admit that he was able to appreciate the spirit of garden design—now I know that for him a garden in its fullest and best sense does not exist; therefore I should not be in the least surprised at any act of vandalism which he might commit in it. That is rather a good, original, and philanthropic idea which "Hortus" brings about gardeners helping their employers these hard times; but perhaps a still better plan would be to reduce the size of the gardens—many of them could be reduced with advantage. In my first letter I tried to impress on gardeners the importance of keeping their position as craftsmen, one of the most honourable positions any man can fill. At the same time, I endeavoured to point out that a garden was the one thing left to us which need not and ought not to be commercialised; but "Hortus" and Mr. Don say, or at any rate imply, that we must march with these times of general progress—but in the matter of crafts we have been passing through a period of retrogression, and not progression. To such an extent is this true, that many people cannot distinguish between a steam joinery and a piece of genuine carpentry. They would as soon have a cast-iron entrance-gate as a wrought-iron one. To them, the man who turns the handle of the street-organ and the one who plays the anthems in church on Sunday are both equally musicians; and so the man who attends the steam-mower is to them just as much a cunning workman as the one who uses, as some men can still use, the scythe. Referring to the question of extravagance in the laying-out and maintenance of public parks, which is somewhat outside the question under discussion, their economy must always be judged in keeping with the amount of pleasure or instruction given. For instance, judged on this basis, a picture by a good and inventive artist might be cheap at £100, but a machine-print of the same picture might be dear at 5s.; and yet many people, of whom "Hortus" would probably be one, cannot see where the difference comes in. In conclusion, I have only to re-state my firm conviction that a garden is not the place for mechanical appliances, that they are antagonistic to the spirit of the thing, and that gardeners in countenancing them are lowering their prestige, if these steam, or any other mechanical appliances, have to be used. Confine them to cricket-grounds and other places generally under the management of municipal

scavenging departments, but do not bring them into our gardens or public parks. *Thomas H. Mawson, Windermere.*

**A DESIRABLE VEGETABLE.**—Some time ago I called attention to a very much neglected dainty vegetable, i.e., blanched sprouts from Swede-Turnips, and some of the correspondence which followed showed that very different opinions were entertained by people who had experimented with them. Since my original note was written, we have tried various experiments, and I think I can safely say that I have found the cause and remedy for the very irregular quality, and also how to grow the sprouts to the best advantage; and this being the time when they can be grown in any quantity without artificial heat, it is desirable that our experience should be noted as early as possible. The sprouts which form in the Turnip-heap, although used by farm labourers, are rank and strong, having nothing to recommend them, and we, for two years, grew them in a Mushroom-house, which was partly out of use. In this the atmosphere became most offensive, and although the sprouts were fairly good in flavour, and occasionally very good, the result was not everything which could be desired, and the crop, from ordinary closely-trimmed Turnips, was small. This year we have kept some Swedes untrimmed, and are now placing them close together in a box, the bottom of which is covered with a few inches of damp sand, the box being loosely covered by a mat. Under these conditions, we get a small forest of very fine shoots, perfect in flavour, free from objectionable "turnip" taste, and which we prefer to well-grown Seakale. Those who have no untrimmed Turnips, can easily test the quality and flavour, although the crop will be comparatively small. They will be able to judge as to the quality, and form an opinion as to the desirability of extended operations next year. My own opinion is, that the sprouts would be a first-rate and good selling vegetable for market purposes, fetching a good price, costing very little to produce, and would be a very powerful competitor to Seakale at a season when first-class vegetables are expensive. They can be obtained in any quantity, under the same conditions as forced Rhubarb, from Christmas; the only points necessary are absence of manure or strong-smelling soil, and as much ventilation as is possible without the admission of light. *Thos. Fletcher, Grappenhall, Cheshire.*

**THE TIMBER OF THUIA LOBBII (GIGANTEA).**—I am obliged to Mr. A. D. Webster for reminding me that the timber of this tree has been imported, but I referred to its importation on a commercial scale, which has, I believe, not yet taken place. *A. C. Forbes.*

**ALPINIA NUTANS.**—The notice and figure of this interesting stove plant in *Gardeners' Chronicle*, p. 301, will no doubt cause it to be grown more commonly in gardens than at present is the case. Allow me to point out that, independently of its flowering, the growths are useful for mixing with cut flowers, especially in winter, emitting when handled a delicious fragrance. It is known commonly as the "Cinnamon plant," in reference to the agreeable scent of its foliage. *C. Herrin, Dropmore.*

**SEED SOWING.**—Within the next few weeks, the sowing of seed will be a part of the gardener's duties, and in order to obtain success, much care and good management are required on his part. Many of the seeds are very small, and unless care be taken, failures are certain to occur. In the first place, where much seed-sowing has to be done, a quantity of new porous soil should be prepared; leaf-mould, not too much decayed, or cocoa-nut refuse, are capital ingredients to use. The loam should be light rather than heavy, and with it sweet and open peaty soil passed through a fine sieve, and sand should be mixed. No soured, used-up soil, or any in which insects are present, should be used. The seed-pans and pots should be clean and dry; if new, they should be steeped in water for a few minutes before using them, and the crocks should also be free from dirt. The sizes of pots may vary from 4 1/2's to 3 1/2's, and these should be filled to one-third their depth with drainage materials, the rougher portion at the bottom, and finishing off with small crocks, and finally, moss or siftings. The compost must be fairly moist; and in filling the pots and pans, at the least half an inch space should be left for covering the seed, and for watering purposes. The soil must be made moderately firm by hand-pressure, and the surface rendered smooth. When filled stand them on a level surface, and allow a

gentle watering through a very fine rose-can, using tepid water, and in about fifteen minutes the seed may be sown. Tuberoses *Begonias*, *Gloxinias*, and many of the very fine seeds should be scattered evenly on the surface of the soil, and pressed down with something that is clean and dry, taking care that the seeds do not "lick up;" afterwards sprinkle a little dry sand over them, but afford no water for some time. These seeds should be placed in a temperature of 60° to 65°, placing a square of glass over each pan or pot, and a piece of paper, which should remain till the seeds germinate, when the glass should be tilted up and the paper removed. Stand the seed-pans on a damp bottom, at a distance from the hot-water pipe, shading them from direct sunshine till the seedlings are strong enough to bear it. The pans and pots should be immersed to the rims in warm water, but the water should not overtop the soil, or the seed might get washed to the sides. If the house in which the seeds are placed is much syringed, the squares of glass should be replaced, or some other means taken to prevent water reaching them. When large enough to handle, no time should be lost in getting seedlings pricked off into other pans or boxes, or damping may occur and many be lost; a little dry sand sprinkled over the plantlets sometimes prevents damping to any great extent; with large seeds less care is required, for as a rule these seeds are buried deeper in the soil, and are not liable to be washed out. *H. Markham, Moreworth Castle.*

## BELGIUM.

### CHÂTEAU DE BOTELAER, AT DEARNE, ANTWERP.

THE plants grown here are very varied, and most carefully tended. M. Florent Pauwels cultivates them for his own pleasure and that of his family only.

On February 22 I noticed in his Orchid-houses numerous fine *Cypripedium*, such as *Roebelini*, *Lathamianum* × (a remarkable variety), *Botelaerianum* ×, which I have already described in these columns, it having bloomed last September, and is now again bearing a fine flower; *selligerum* ×, *Chamberlainianum*, *Victoria Maria* of the *Chamberlainianum* class, especially as to form, the standard in colour a uniform pale olive-green, the petals very spiral, but not striped, the slipper salmon-red, but I think it inferior to *Chamberlainianum*; *C. melanophthalmum* × *hirsutissimum*, a very fine variety, with petals of unusual width and beautiful colouring, nicely spotted and with a blackish standard; *C. expansum*; *Lindleyanum*, with eight flowers, and which is rare; *albo-purpureum*, well coloured, and other varieties.

There were some fine specimens of *Vanda*, of *Cattleya Trianaei*, one of which had a very dark and bordered lip; *C. bogotensis*, nearly all white; *C. Schroderi delicatissima*; a well-flowered example of *Cologyne flaccida*; *Lelia asperbium*, rarely seen with us; two vigorous plants of *Phaius grandiflorus*, one with two, the other with three flower-stems, more than 3 feet long; *Auellia africana*, blooming freely; *Dendrobium aureum*, crassinode; and *Zygopetalum crinitum* in good variety.

Very admirable are the hundreds of blooms of *Odontoglossum Rosei majus*, which fill half a large house, and among which are some very pretty varieties; in the same house is a collection of *Lycaste Skinneri*, one plant of which is streaked with purple, and is flowering abundantly. *Chysis bractescens*, imported last year in January, is now flowering, and bears three good racemes of bloom.

M. Pauwels has, moreover, a most interesting collection of *Anthurium*, among those now in flower are *roseum superbum*, *Hooibrench*, M. Louis Fournier, M. F. Pauwels, and many good seedlings. He has also an increasing collection of *Crotone*, which are certainly not neglected in Belgium nowadays.

### HORTICULTURAL MEETING AT GHEENT.

At the meeting on March 1, some pretty Orchids were shown by M. Jules Ilye, including *Cypripedium Louis de Langhe*, a valuable acquisition; *Cymbidium Philbrickianum*; *Odontoglossum excelsum* var.

*Cavallinianum*, an admirable variety with a long raceme of splendid flowers, the sepals pale yellow, bordered with deep canary-yellow, and with two or three spots of carmine-red; petals white, broadly margined with yellow, and with four or five spots of crimson very conspicuous on the white ground, the lip beautiful and white; *Cypripedium Albertianum* var., which I think an excellent variety, and resembling *Spicerianum*—the standard is very broad, and together with the petals much spotted over the whole surface; *Cattleya Trianaei*, delicate in colouring; *Epidendrum Stamfordianum*, with eight pretty flowers of very pronounced colouring; *Odontoglossum Rokeri*, *Albertianum*, *roseum* and *Wilkeanum*.

M. H. Dallière staged *Cypripedium excelsum*, with a large flower with a beautiful standard.

In addition to the Orchids, the *Cyclamen persicum* *pavillo* from M. de Langhe *Vervaeae* may be mentioned as a feature of this meeting. The variety named Brussels Best won a Certificate of Merit *par acclamation* and *avec les félicitations* of the jury. These *Cyclamens* are a testimony to the skill and perseverance of the grower. At first sight the blooms suggest those of *Primula sinensis* in form; the petals are curling, spreading, and flat, thus much enlarging the flower. All the colours found in *Cyclamen* are here represented; in addition, some of these varieties have flowers bordered with yellow or white. This acquisition should lead to a new race of *Cyclamen* well adapted for bouquets.

M. de Smet Duvivier staged a collection of *Cyclamen persicum album giganteum*, well-grown plants, with large and numerous flowers with broad pure white petals, borne on very stout, straight peduncles.

The Société Horticole Gantoise showed two *Palme*, *Psychoraphis Augustae*, very graceful in foliage and bearing, resembling *Coccoloba Weddiana*, and *Bentleya nicobarica*, belonging to the group of *Palme* with large leaves, cut like those of a *Chamaedorea* the colouring tender green.

There were also shown two fine *Cliveiae* from M. Claeys and M. Gustave De Cock; a pretty *Caraguata cardinalis*, blooming well, sent by M. L. De Smet-Duvivier; and *Erica cucullata*, from M. G. De Saegher—these all obtained Certificates.

### SOCIÉTÉ ANONYME HORTICOLE LOUIS VAN HOUTTE PÉRE.

This firm is in the highly prosperous condition maintained by Belgian horticulture in general. Last year five new Palm-houses were built; this year fifteen others are in process of construction, and are also intended for *Palme*, *Dracænae*, and plants grown in a warm-temperate atmosphere.

### MEETING OF THE BRUSSELS ORCHIDÉENNE.

At the last meeting a natural hybrid attracted much attention—*Odontoglossum* × *rubiginosum*, apparently from *O. crispum* and *O. luteo-purpureum*. The ground-colour is greenish-yellow, much spotted with dark chocolate. This charming Orchid won a First-class Diploma of Honour *par acclamation*; it was shown by L'Horticulture Internationale (M. L. Linden). This exhibitor was also successful with *Odontoglossum Wilkeanum* var. *olivaria* a very large star-like flower, in colour dull olive-green; *O. W.* var. *elongatum*, with a larger and more brightly-coloured flower than the preceding variety; *O. W.* var. *fuscum*, pale sulphur-yellow; *Trichopilia suave*, blooming well; *Dendrobium Wardianum superbum*, a fine variety with a very large well-coloured flower; *Cologyne cristata alba*; *Cattleya Trianaei* var. *atrata*, with exceedingly delicate flowers, the petals a fine width, and the lip a good colour; *Burlingtonia Lindeni*, a basket bearing an abundance of trusses of small pretty white flowers; *Cypripedium Fascinator*, and other Orchids.

M. Ch. Van Wembeke staged a fine *Cypripedium Calypso*, a well-blomed specimen of *Odontoglossum pulchellum*, and *Cattleya Trianaei*, with a very large flower of remarkable colouring. *Cattleya Trianaei alba*, from M. Madoux, was the purest white that I have seen; the same exhibitor's *C. Trianaei* is an



enormous specimen, well flowered, and belonging to a good variety.

From the Royal Gardens at Laeken (Director, Mr. H. Knight) came *Dendrobium formosum giganteum*, very beautiful; *Odontoglossum crispum superbum*, flower nice and full, large, pure white, the sepals and lip well spotted. M. Van Cauwelaert sent a fine *Cypripedium Lathamianum inversum*, dark in colouring, and distinctive in form; and *Odontoglossum Rackeri*, a pretty shade of dull claret colour. *Cypripedium Lindleyanum*, from M. Florent Pauwels, was also much admired.

Two houses at l'Horticulture Internationale are stocked now with various species of *Odontoglossum* in full bloom, among them M. Linden has arranged some fine varieties of red-veined *Anthuriums*, and the effect is gorgeous. *Ch. de Bosechère*.

VITICULTURE IN NEW ZEALAND.

EARLY in the "sixties" Cape wines were very much pressed on the attention of the British public, but as the taste of the public had not been "educated" sufficiently, Glenlivet, Kinahan, and Allsop, continued, and continue, to hold their ground. Australia next went to work in the viticulture direction, and wine from that Continent is well known at home, though not, possibly, as Australian; and thus it is easy to understand how New Zealand has become anxious to be placed on the list of wine-producing countries—if it may not be able to send to market fresh fruits in competition with those from the Cape and elsewhere. In the "South Island" there would appear to be a very great field for the viticulturists, fine Grapes are produced, and fairly good wine made by growers for their own consumption. Most fruits of the temperate zone, and sundry subtropical products, luxuriate in company with the Grape-vine, and at last it was determined to invite Mr. Romeo Bragati, expert in viticulture to the Government of Victoria, to inquire into the whole subject and report. All of this he has done in an exhaustive manner, the only unsatisfactory part of his story being the record of phylloxera ravages in one district—some hundred Vines being affected in one vineyard.

Mr. Bragati writes:—"We journeyed to Auckland, and ascertained whether any of the Vines were stricken with phylloxera. On the Mount Eden Road, I regret to say, I found two vineries infected by this terrible pest. In both places I found 101 Vines affected. I at once communicated that fact to the Department of Agriculture of New Zealand, and I understand the necessary measures to eradicate have been taken."

In the course of many days' journeyings by rail and road, Mr. Bragati examined orchards and small vineyards, and was deeply impressed with the prospects of success, which he thinks could not fail to be attained by the proper outlay of capital in localities not too far removed from railways or other means of transport. Some folk have taken to growing the Vine under glass—a protection Mr. Bragati considers quite useless in such a country. He is of opinion that capital, co-operation, combined with intelligent methods of cultivation and treatment of the finished products, would certainly lead to a great measure of success; also that fruit-canning might be carried out as a very profitable enterprise. It is said to think how large a quantity of excellent fruit, as Apricots, Plums, Apples, Walnuts is thrown to the pigs after the quantity of each required for home consumption has been secured and preserved or otherwise treated. So down the far spreading and broadening valleys, dominated by mountain ranges, Mr. Bragati took his way, sorrowing at inevitable waste on farm after farm, but thinking of the prize yet to be won in the fields to which we have sent so many husbandmen. Horticulture - viticulture is handmaid to all the virtues, and in this pursuit the demon of strong drink is cast forth, and thrift, sobriety, and happiness helped to the front. And to all this may be added

a far-widening field for the gardener of every degree—for the members of many another trade, and all of our own English-speaking race. Such reports as that above alluded to are of great value to colonies struggling into competition with old-world countries, such as Spain, France, Italy, Germany; with such help, with scientific handling of all subjects engaged in, with energy and perseverance there can be but one result—success. E. C.

THE CARNATION AND ITS CULTURE.

(Concluded from p. 135.)

HEALTH and vigour of the Carnation, as of other horticultural plants, may be to some extent inborn qualities, yet their continuation it will generally be acknowledged depends, in a controlling degree, on favourable and congenial surroundings. It becomes obvious, therefore, that the prospect of success in Carnation culture, will stand in direct relation to our knowledge of what constitutes congenial circumstances in the case of these plants. The tendency towards degeneration in the Carnation is probably a deep-seated one, and is most likely due to slowly acting adverse circumstances of various kinds. In some instances it may be the result of an uncongenial climate, in others of an unsuitable soil, in others the lack of a proper supply of desirable plant-food; in others, again, to several of these adverse circumstances combined; and may be in all of them, to some extent at least, as stated by Dr. C. A. Goessmann, and suggested by Mr. Martin R. Smith, attributable to the weakening influence of our artificial system of selection and propagation. A system of manuring, whether for the Carnation or for any other plant, may be called well-devised or rational when it is based upon the results of a careful examination into the chemical composition of the plant under cultivation, and of a due consideration of its natural qualifications for availing itself of the needed plant-food, both from the atmosphere and from the soil. The relations of the various mineral constituents of the plant to its successful development must, also, be fairly understood in order to know what elements of plant-food ought to be present in the soil in an available form to render success possible.

For the purpose of answering some of these problems, and to determine if possible the cause of failure in Carnation culture after the first year's growth, Mr. Martin R. Smith submitted to chemical analyses some Carnation plants of one-year old growth in the season of 1894. Five plants were selected for examination, these being of a sturdy habit of growth, with stout robust stems and broad healthy foliage. The blooms had been removed. The average weight of each plant, including roots washed free from soil, was 13 oz.; the five plants, therefore, weighed just over 4 lb. The chemical composition of these plants in their fresh state was as follows: they contained 73.4 per cent. of water, and 26.6 per cent. of dry substance. When this dry substance was burnt to ash it yielded 3.08 per cent. of mineral matter. The fresh whole plants gave 0.474 per cent. of nitrogen.

On submitting the ashes of the whole plants—stems, leaves, and roots—to analysis, the following percentage results were obtained:—

Composition of the Carnation (whole plant).

	Per cent.
Silica ... ..	4.63
Iron and alumina ... ..	21.33
Carbonate of lime ... ..	22.41
Magnesia ... ..	2.18
Potash ... ..	29.16
Soda ... ..	2.88
Sulphuric acid ... ..	3.16
Phosphoric acid ... ..	12.56
Carbonic acid, chlorine, &c. ... ..	1.49
	100.00

So far as we are aware, this is the first chemical analysis of the Carnation that has ever been published. Let us see what it teaches.

In the first place, it may be remarked that the

amount of nitrogen (0.474 per cent.) is very high, and points to the fact that when the Carnation plant is subjected to a continual and heavy cutting, whether for blooms or for propagation purposes, the strain upon the constitution of the plant, and the draft upon the soil for nitrogenous plant-food, must be very great indeed, and shows the necessity of a constant and available supply of nitrogen by manure. In the second place the percentage amount of ash or mineral matter in the Carnation plant is high also, pointing to the fact that a full and available supply of mineral ingredients must be present in the soil to prevent plant exhaustion.

The composition of the ashes of the Carnation is remarkably significant, showing an enormous proportion of potash and of phosphoric acid. It is evident, therefore, that these two mineral constituents—potash and phosphoric acid—are in great demand by the Carnation plant for building up its fabric, and for maintaining health and vigour; but without a corresponding amount of nitrogen these mineral substances would prove comparatively useless. At the Massachusetts Experimental Station in the Horticultural Department, it was found when experimenting with Carnations cultivated under glass that out of thirteen different combinations of fertilisers, sulphate of potash with sulphate of ammonia gave the best results. In a second test of six single fertilisers, nitrate of potash gave the best results as to vigour of plant and production of blooms; sulphate of potash gave the next best results; while dissolved bone-black realised the poorest results, showing that phosphoric acid alone, that is without a combination of either potash or of nitrogen, is of little avail for Carnation.

Turning again to Mr. Martin Smith's analysis of the Carnation, we find that the actual amount of mineral ingredients in one plant of the average weight of 13 oz may be apportioned as follows:—

	oz.
Silica ... ..	0.019
Iron and alumina ... ..	0.088
Carbonate of lime ... ..	0.092
Magnesia ... ..	0.008
Potash ... ..	0.117
Soda ... ..	0.011
Sulphuric acid ... ..	0.013
Phosphoric acid ... ..	0.053
Total ... ..	0.400

The Carnation evidently requires a staying manure, that is one which becomes available slowly but regularly. Amateur gardeners frequently make a great mistake by adding an excess of manures at one time to their plants, and thereby condemn the manures if any damage is done. Many plants are doubtless spoiled by over-manuring, yet at the same time a deficiency of the necessary plant-foods is also detrimental to the proper growth of plants. Dr. A. B. Griffiths says, "There is nothing like a happy medium in manuring, as in other matters—excesses and deficiencies are alike injurious."

In order to determine the question of the amount of plant-food appropriated by the Carnation in its roots and in its above-ground growth—stems and leaves—analyses of these parts of the Carnation plant were made. The selected constituents are given below:—

Percentage Constituents in different Parts of the Carnation Plant.

Constituents.	In the Roots alone.	In the Stems and Leaves.
	Per cent.	Per cent.
Carbonate of lime ... ..	25.89	19.46
Magnesia ... ..	2.28	2.11
Potash ... ..	21.50	33.6
Phosphoric acid ... ..	8.94	14.01

We see from these results that the roots of the Carnation contain nearly 6½ per cent. more lime than do the stems and leaves. The magnesia varies but little in the different parts of the plant. The potash accumulates to the extent of over 12 per cent. more in the stems and leaves than in the roots and the phosphoric acid of the stems and leaves in

5 per cent. in excess of that in the roots. These facts show most conclusively that it is the above-ground portion of the Carnation plant that is the most likely to suffer, and to show exhaustion from a too severe process of cutting. *J. J. Willis, Harpenden.*

NURSERY NOTES.

ORCHIDS AT McARTHUR'S NURSERY, MAIDA VALE.

A very fine show of Orchids, and especially of the remarkably good, distinct, and well-bloomed varieties of *Dendrobium* noble, now beautify the largest Orchard-house in McArthur's nursery, Maida Vale. One group of them in which the true *D. n. nobilium* and three others, which are almost as good, were observed as effectively arranged with plants of *Cælogyne cristata* alba, *C. c. Lemoniana*, *Dendrobium Findlayianum*, *D. splendidissimum grandiflorum*, and other *Dendrobiums*, &c. On each side of the house are placed fine forms of *Cattleya Trianaei*, *Cypripedium* × *Lathamianum*, *C. × Swinburnei*, and other *Cypripediums*; *Ada aurantiaca*, *Saccolabium bellium*, *Cymbidium devonianum*, *Odontoglossum Rossi majus*, *Lycaste Skinneri*, and *Chysis bracteata*, which here thrives remarkably well, and even small plants are sending out good spikes of large wax-like white and yellow flowers. Among the importations sent home by the collector of the firm from Venezuela, are some good specimens of the curious *Mormodes baccinaria*; and quite lately received are a number of fine *Anguloa Ruckeri superba*, and a reputed new *Cattleya*, which if it answers the description given by the collector, should be a remarkable novelty. A new *Lælia* with very singular looking short, stout pseudo-bulbs, is among the new-comers.

J. VEITCH AND SONS.

One of the particular objects of interest at this nursery at the present time is the collection of *Hippeastrums*. Very many of our readers have doubtless an idea of the collection, and of the thorough treatment it receives, both of actual observation. For the benefit of others, it may be stated that the plants are housed in an excellent sun-roofed structure of considerable dimensions, with side-beds containing the later and smaller bulbs, and a higher middle-bed where the chief display is seen. All the pots are plunged out of sight, being neatly covered with tan, and in this manner a pleasing effect is secured. This season the plants have done remarkably well, and developed more foliage than is usual in the case of the earlier-flowering bulbs. The fine healthy foliage is also the most pleasing relief that could be afforded the showy flowers. Though we should be slow to limit the possibilities of any plant for further improvement, it has been evident for several years past that the old *Amaryllis* has undergone such transformations in regard to the form and size of the flowers that little else could be hoped for in the same direction. From the number of seedlings we saw at Chelsea, it was apparent that efforts are now directed towards obtaining greater variety in colour, and especially in the direction of albino or lighter-coloured varieties, such as the seedlings *Eros* and *Fedora*. The first-named is nearly perfect in form, and white over the greater portion, but there is veining, and partial irregular lines of bright red. The upper segments in this flower and others, is less white than the lower ones. *Eros* is very similar to the one just described, but the veining is more persistent. The variety looked a good one, it may be added, and it carried four excellent flowers. *Clonia* may be mentioned as another instance of the same kind of bloom, the greater part white, and what little colour there is present, being of a bright tint. But there is another direction where perfection is striven after, viz., a bright-coloured flower (as distinguished from the old peculiar red), marked with a clear white star. Such are *Emin* and *Maida*, and probably there are others. It is a type which many will regard with

favour. Of course, the selfs are not neglected, and among the latest seedlings are some splendid varieties, with flowers of various degrees in depth of colour, and all of great substance of petal. *Ovis* is an instance; and in this and some other cases the green or white base is entirely obliterated. *Marcus* is another superb flower, of similar characteristics; and *Rugia*, a specially bright rosy-crimson, very rich, and satisfactory in form. Then there are self-coloured ones, possessing a prominent green star, as *Owick*, a bright rosy-crimson flower, and others. A seedling named *Geta*, and a few like it, exhibit a new shade of purple over the flowers.

The last we can now mention is *Idalus*, but it is not the least in regard to size. The orange-red flowers of this variety are uncommonly large, but they do not possess the finer qualities in those others we have selected for notice. The collection will be more fully in bloom a week hence, and we think few who are near the place will think the plants unworthy of an inspection. The variation in the seedlings will be found to be on the lines indicated in this brief notice.

FLORISTS' FLOWERS.

THE AURICULA.

SINCE the remarks made on p. 84 were written the weather has been most favourable to all the sections of the Auricula. The cultivator, however, should carefully note any changes that may take place in the weather. If an east wind occur, double the number of mats will be necessary for the frames, and if the plants are in the house, sufficient heat must be maintained to keep the temperature above the freezing point. Auriculas cannot be forced by artificial heat with any degree of success. One-half of my collection was in frames, and the other half in a heated house, when the sharp frosts on three successive nights occurred a few weeks ago; the thermometer registered 12°, 15°, and 15° of frost respectively, but with double mats over the glass-light, the plants have not received the least injury. Care is now necessary in the supply of water to the roots. It is very injurious to the plants if allowed to become over-dry at the roots. Admit air as freely as possible during fine, warm weather, and avoid draughts in the event of cold winds.

THE PINK.

The garden Pinks, though easily grown, and hardy enough to thrive in any garden, are yet well worth some extra care and attention. The plants in beds and the open border have required making firm in the ground after the recent frost, and the addition of some rich compost around the roots is very helpful to them. A hardy plant like the Pink, which loves the free, open moorland, does not succeed in a close, stifling atmosphere. Forcing must be so managed that the plant does not feel the process. The plants are a long time before flowering, and it is best to start them in a temperature just a little above that of the greenhouse, increasing it slowly to 45° or 50° at night. The plants should be kept as near the glass as possible, and in such a position that the air will blow amongst the plants. Never must the night temperature exceed 55° to 60°. Cuttings or slips may now be put in, to obtain strong plants for forcing next season; the slips root even more freely than those of the Tree-Carnation, and their treatment is much the same in every way, except that the young Pink plants, as soon as they are strong enough, should be planted out in the open border, to be lifted and potted up in the month of September, so that the plants may be well established before they are taken to be forced.

THE PANSY.

The Pansy is even more difficult to force than the Pink, yet it is surprising what beautiful flowers are shown in April at the spring exhibition held at Newcastle-upon-Tyne, and to obtain flowers at that time in the North, some forcing is necessary.

The plants should be potted into their flowering-pots in February or early in March, in an open sandy compost containing good yellow loam, a fair proportion of leaf-mould, well-enriched with decayed cow-manure, and with plenty of sand added. The pots should be from 6 to 8 inches in diameter. The plants should be relieved of all flowers and flower-buds at the time of potting, and the growths may be pegged down over the surface of the soil. The plants must not have more than a greenhouse temperature, and they do best in a low pit where the lights may be removed whenever the weather is fine. Very beautiful blooms, however, may be obtained in March and April from ordinary garden frames. For very early blooming the plants should be put into their flowering-pots in September of the previous year, and some care is necessary in watering them during the winter months. *J. Douglas.*

SOCIETIES.

MANCHESTER ROYAL BOTANIC.

MARCH 13, 14.—The first show of the season, under the auspices of the Manchester Royal Botanic Society, was held in the Town Hall on the above dates. Orchids formed the chief feature, these plants covering two-thirds of the table space round the walls and centre of the magnificent hall, quite eclipsing the more modest beauties of the spring bulbs, &c. *Dendrobiums* were numerous, and seemed to command the most attention from connoisseurs—indeed, this genus formed a large moiety of the exhibition.

Among the chief amateur exhibitors were E. ASHWORTH, Esq., Harefield Hall; THOMAS STATIER, Esq., Stand Hall; W. THOMPSON, Esq., Waltho Grange, Stone; H. WEETMAN, Esq., Little Haywood, Stafford; and SAM HINCHLIFFE, Esq., Hale, Altrincham. In Mr. ASHWORTH'S collection were some choice *Dendrobiums*, including *D. splendidissimum grandiflorum*, with thirty six flowers on one pseudo-bulb, the blooms of surpassing brilliancy, which received a Floral Commendation; *D. Schneiderianum*, with immense flowers—this is one of the most striking crosses. We also note *D. nobile Sandersi*, a chaste flower of moderate size, with fine soft tints—after the way of *D. × Rolfei*, but in no way its equal. *D. nobile Hardyana* was also good. In this collection were some *Cattleya Trianaei*, pretty *Odontoglossums* of various species, good-flowered *Lycaste Skinneri*, and many other Orchids well shown by Mr. HOLBROOK.

Mr. STATIER'S collection (gardener, Mr. Johnson), was, as usual, well to the front. Nothing could be finer than the pure white *Dendrobium nobile Amesiae*, *D. n. Schroeterianum*, &c.—or by whatever name it is called, it is a flower of great beauty, that well merited the First-class Certificate awarded to it. The cultivation of the Stand Hall *Dendrobies* stood out prominently, but we have seen the flowers of both *D. nobile nobilium* and *D. splendidissimum grandiflorum* much finer than on this occasion. The *Cypripedium hirsutissimum* called the Stand Hall variety is a dark-coloured gem, the varnished flowers very striking, and the dorsal sepal, which is rather small, has a striking appearance from the blackish-purple flushing, surrounded with a broad greenish-yellow margin. The two plants of *Cælogyne cristata*, with quantities of racemes, showed good culture; and the piece of *Cypripedium Southgateense auratum* was by far the choicest and most beautifully spotted exhibited.

Mr. MUNSON (gr., Mr. Stevens) maintained a 1st place with *Odontoglossums*, and although it is not the season to see *O. crispum* at its best, there were several very good ones, some with racemes bearing about twenty flowers of good size and form. Among the varieties were *O. elegans*, with a fine arching raceme, bearing flowers resembling *O. Andersonianum*, but more elongated in the segments, and arching in outline. The ground-colour is white, and the spotting a rather pronounced Indian-red. The panfuls of *O. Rossi* in its largest forms were good; the fragrant *Dendrochilum glumaceum*, a lovely Orchid; and the bright colour of *Mesospidium vulcanicum*, told well in the group.

Mr. WEETMAN'S plants were under the charge of Mr. Keeling, Bradford, and a very good lot they were. The best *Deadrobie* here was *D. nobile elegans*, a grand form, having both size and substance in the flowers; and one called *D. n. Weetmani* is after the style of *D. nobile var. Sandersi*. *D. × Dominianum* is still holding its own among novelties, and as a specimen plant it is very telling. The specimen of an *Odontoglossum triumphans* had fine flower-spikes; as also did *O. luteo-purpureum*, which is what we once grew as *O. radiatum*, was excellently flowered. One of the best examples of *Oncidium speciosum* we have seen was in the exhibit, the rich, brindled segments contrasting well with a thick lemon-coloured, roundly-ovate labellum.

Mr. HINCHLIFFE made a very creditable first appearance at showing, his collection filling one of the corners of the hall. The *Oncidium scrodes* in several plants were finely grown, and the large panicles of brown and yellow flowers went well with those of *Cymbidium Lowianum* and confronted with *Deadrobiums*, among which was a well-flowered *D. Cooksoni*. Some *Odontoglossums* were notable, particularly a pink-flushed and blotched *crispum*, some *O. Harryanum*,

several *Cypripediums*, the whole enlivened with bright-leaved *Codiaeums*, and set amongst *Palms* and *Adiantums*.

The trade collections were represented by Mr. J. CYPHER, Cheltenham; Mr. J. ROBSON, Bowdon; Messrs. HEATH & SON, Cheltenham; B. S. WILLIAMS & SON, Holloway, London.

Mr. CYPHER put up a grand collection, particularly of *Dendrobiums*, and received the only Gold Medal awarded at the show. Chief among his *Dendrobies* were *×Ainsworthii* Cypheri. This is the finest flowering and richest coloured of all the *Ainsworth* section. The plant had about 200 flowers on it. There were several types of *D. nobile*, but good plants from Mr. STATTER, and good flowers of *D. nobile nobilium*, were conspicuous by their absence. *D. nobile pulcherrimum* is an exceedingly dark flower, but wanting in good form. There appear to be several varieties of the pale *D. ×Cypheri*; one plant here was full of good flowers, showing albeit what cultivation can do. The whole of a large number of seedling *Dendrobies*, and selected imported plants, were clean and well grown. A very good form of the shy-flowering *Cattleya speciosissima* was noted, and many forms of the enduring *C. Trianaei*, along with the brilliant reddish-flowered *C. Lawrenceana*, *Cypripedium villosum*, and a seedling *×Druryi* were conspicuous for good quality. This form is strong in the umbellate *Epidendrum*, of whose *O'Brienianum* and *xanthinum* were exceptionally good, and do not become lanky like the old but beautiful *E. rhizophorum*.

Mr. JOHN ROBSON had a rich display, and his *Dendrobiums* were varied and good, *D. Wardianum* being very notable; and *D. Cooksoni* was a fine specimen covered with flowers. Some of the dark *D. nobile* type were very striking, and a light one of the albiflorum type received a First-class Certificate. We noted also some good *D. crassinode*, the beautiful *Cymbidium eburneum*, some good *Phalenopsis*, including the prettily-spotted *Stuartiana*, and a miscellaneous lot of altogether a hundred plants effectively arranged.

Messrs. HEATH & SON had *Dendrobium nobile giganteum*, a magnificent variety, far eclipsing *D. n. nobilium* for form, although not quite so rich in colour. It is not unlike a good *Phalenopsis Aphrodite* in form and closeness of segments, and altogether was one of the most captivating plants in the show. Along with this were *Cymbidium Lowie-eburneum*, a beautiful piece, with fifteen flowers; some good *Cattleya Trianaei*, the unique *Cypripedium Rothschildianum*, a good *C. Argus Moensii*, and the larger form of *C. Swioburnei*.

#### MISCELLANEOUS.

B. S. WILLIAMS & SON staged chiefly a good lot of *Cyclamens* and *Heaths*, with a sprinkling of *Oreohids*, among which the hybrid *Calanthes* were telling. Among other exhibitors, DICKSONS, Chester, had a grand display of *Daffodils* arranged in an effective manner, confronted with the pretty purple *Iris reticulata*, and the effective *I. stylosa × Blacina*, and several bits of *Primula denticulata* in white and other colours.

Mr. B. FINDLAY sent from the Royal Botanic Gardens a fine lot of *Hyacinths*, *Narcissus*, and other bulbs, nesting amongst *Palms*, &c., along with some miscellaneous *New Holland* plants. *Boronia megastigma* is always welcome. The two specimens of the Old Man Cactus (*Pilococcus senilis*) commanded attention, and there were several good *Lycastes* and *Dendrobium Wardianum*.

DICKSON, BROWN & TAIT had a considerable assortment of well-grown and well-flowered *Hyacinths* and other bulbs.

JOSEPH BROOME, Esq., Sunay Hill, Llandudno, sent admirable bunches of cut flowers from hardy plants, which diffused fragrance all around, consisting of *Wallflowers*, *Stocks*, *Primroses*, *Polyanthus*, &c.

Messrs. JAMES & SONS, Farnham Royal, sent a group of flowers of *Cinerarias* of remarkable size, form and substance, some of the flowers measuring 3 inches across.

Messrs. EDWARDS & SON, floral decorators, had lots of designs in wirework filled in with *Ferns*, *Asparagus plumosus*, *Smilax*, &c., making an effective group.

The MOSS FARM Co., Chorlton-cum-Hardy, exhibited a very excellent sample in three different lots of *Mushrooms* grown in the open air on one of the reclaimed farms of the *Widlington Local Board*.

The opening day was wretched, and the attendance correspondingly so.

### CRYSTAL PALACE.

MARCH 14.—The exhibition of bulbous and other spring-flowering plants at the Crystal Palace on Saturday last, was not quite equal to our expectations. Last season, under quite opposite climatic conditions, the *Hyacinths* and other bulbs then staged had necessarily been subjected to considerable forcing in order to hurry them for the show. Under these circumstances, it would be no wonder had they been of indifferent quality. *Hyacinths* at any rate, however, were not so good on Saturday as shown last year, and the show of most subjects was not by any means large. A few of the exhibits were nevertheless very noteworthy, and in this respect may specially be mentioned the collections of *Cyclamens*.

The best collection of *Hyacinths* as usual was from Mr. JAS. DOUGLAS, Great Gearies Gardens, Ilford, who had 1st prize for thirty-six plants. It may be useful to append the names of the best varieties shown. They were *Levathan*, *Mont Blacc*, *Snowball*, *La Grandesse*, white; *Amelia*, and *Lady Clinton*, blush. The last-named is a very fine new single-flowering blush variety, produces a good strong spike of large flowers; *Souvenir de J. H. Veen*, *Captain Boyton*, *Sir H. Berkeley*, and *Kiog of the Blacks*, dark blue

or purple; *Lord Derby* and *Czar Peter*, very pale blue; *Roi des Helges* and *Vurbaak*, red; *Chas. Dickens* and *Rosea maxima*, rose; and *King of the Yellows*. The 2nd place was taken by Mr. JAS. GIBSON, gr. to E. H. WATTS, Esq., Devonhurst, Chiswick; and Messrs. J. WINTER & Co., Bon Marché Nursery, Gipsy Road, West Norwood, were 3rd.

Mr. DOUGLAS won 1st honours for *Tulips* also, with thirty-six plants in very fine flower, and exhibited with fresh well-coloured flowers; Mr. W. Howe, gr. to H. TATE, Esq., Park Hill, Streatham Common, was 2nd; and Mr. J. GIBSON 3rd.

*Narcissus* of the *Daffodil* section were well shown by Mr. WM. HOWE, who gained 1st prize with twenty-four plants, none of the varieties being exceptional ones; Mr. JAS. GIBSON was 2nd. In the similar class for varieties of the *Polyanthus*-flowered section, Mr. DOUGLAS again was 1st, being followed by Mr. HOWE and Mr. GIBSON.

In the class for thirty-six plants of *Cyclamens*, the ST. GEORGE'S NURSERY Co., Hanwell, made a most meritorious exhibit. The plants were pictures of a good habit and well-flowered strain, and all the flowers of clear colours or pure white. Mr. J. G. Mowbray, gr. to Meior Ho. H. C. LEGGE, Fulmer Gardens, Slough, was 2nd, whilst equal 3rds were awarded to Mr. THOS. WALKER, Gordon Nursery, Staines Road, Hounslow, and Mr. THOS. PESTRIDGE, Boston Park Road Nursery, Brentford.

Mr. DOUGLAS, with a nice collection of seedling varieties, was 1st for twelve plants of *Amaryllis* in flower, and Mr. WM. HOWE followed. Mr. JNO. R. BOX, Croydon, was the only exhibitor of *Cinerarias* in the larger class.

Twenty-four Chinese *Primulas* were shown best by Mr. JAS. BATEMAN, gr. to Mrs. KING, Southwood, Sydenham Hill, but sufficient coloured varieties were not included; Mr. J. G. Mowbray was 2nd.

In the larger class for *Lilias* of the Valley in 8-inch pots, Mr. THEODORE JANNOCH, Dersingham, won with nice plants in 8-inch pots. *Mignonette* was not shown in a manner needing remark. There was only one collection of greenhouse *Azaleas* exhibited, and Mr. ROBT. WELLS, Longton Nursery, Sydenham, was awarded a 1st prize. The plants were well-flowered, and were nice and fresh-looking. Many classes in the schedule were without entries, and the remaining ones are for a smaller number of plants than those already noticed, and from which the previous exhibitors were debarred.

Thus, Mr. JAO. SCHUMACHER, gr. to M. JACOB, Esq., Lywood, Gipsy Hill, took a 1st prize for twelve *Hyacinths* in pots; Messrs. JAS. WINTER & SON for twelve *Tulips* and for twelve *Narcissus* (*Daffodil* section); Mr. THOS. CROSSLAND, gr. to W. M. BULLIVANT, Esq., Homewood, Beckenham, had 1st for twelve *Cyclamens*—in this case the flower-stems were unsatisfactorily slender, and each supported by a neat stake. Mr. C. Lane, gr. to E. H. COLES, Esq., Burntwood, Upper Caterham, won for twelve *Cinerarias*; and Mr. M. Webster, gr. to E. J. PRESTON, Esq., Keley Park, Beckenham, had the best twelve *Primulas*. There were four prizes awarded in this class, including two equal 3rds.

Mr. JAS. GIBSON secured a 1st prize for pots of *Lilies* of the Valley, but most of the exhibits in this class had apparently been recently potted up, and the flowers flagged a little.

There were several exhibits of a table of *Cyclamens* arranged with a few *Palms* and *Ferns* on a space of 60 square feet, but again the ST. GEORGE'S NURSERY Co. took the leading position; Mr. THOS. PESTRIDGE was a good 2nd.

For a miscellaneous group of decorative plants, only one exhibit was staged, and this was from Messrs. J. LAING & SONS, Forest Hill, London, S.E., a firm who is particularly happy in such work. The group in this instance was an interesting and beautiful one, and was composed of a choice lot of foliage plants in superb condition. A few *Orchids*, *Begonias* (winter-flowering), *Cleiveas*, &c., were judiciously used to brighten the exhibit.

*Honorary Exhibits*.—The most extensive of these was from Messrs. W. CUTBUSH & SONS, Highgate Nurseries, London, N., who staged about 100 *Hyacinths* in pots, half as many *Tulips*, and a table well filled with forced spring-flowering plants and other species.

Messrs. J. JAMES & SON, Woodside, Farnham Royal, exhibited a small group of their famous *Cinerarias*; and *Cinerarias* were also shown by Mr. JNO. R. BOX, The Nurseries, Croydon.

Mr. THEODORE JANNOCH made an exhibit of *Lilies* of the Valley in his usual tasteful manner; and Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, N., had a collection of *Hyacinths*, &c., in pots.

A magnificent group of *Camellias* in pots, and a collection of bloom; also, was shown by Messrs. WM. PAUL & SON, Waltham Cross, Herts.

### ROYAL BOTANIC.

MARCH 18.—The first show of the year by the Royal Botanic Society was held in Regent's Park on Wednesday last, under the worst possible conditions of weather. The long corridor, in which the spring shows are usually held, was quite filled with exhibits, and there were more in the large conservatory. The display was consequently a good one, and the exhibits bright and of interest, but thanks for this were due to members of the trade, who contributed very largely. On the other hand, the few Scheduled classes were the subjects of but little competition, and in a measure, therefore, they were dull.

In the competitive classes, 1st prizes were taken by Mr. JAS. DOUGLAS, gr. to Mrs. WHITTOURNE, Great Gearies, Ilford, for twelve pots of *Crocuses*, twelve pots of *Tulips*, twelve pots of *Narcissus* (*polyanthus*), twelve *Hyacinths*, six *Danxia gracilis* in flower, and also shared an equal 1st prize with Mr. Hy. Perkins, gr. to the Hon. W. F. SMYTH, M.P., Greenlands,

Henley-on-Thames, for twelve plants of *Hippeastrum* in flower. Mr. R. Scott, gr. to Miss FOSTER, The Holmes, Regent's Park, was 2nd in all of these, omitting the *Deutzias* and *Hippeastrums*.

Mr. SCOTT had also a 1st prize for six greenhouse *Azaleas* in flower, showing nice well-flowered plants. Although there was but little competition in the above classes, the quality of the subjects staged was very worthy of commendation.

Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, received 1st prize for a small group of hardy herbaceous plants; and Mr. M. Webster, gr. to G. J. PRESTON, Esq., Keley Park, Beckenham, was 1st for six Chinese *Primulas*, being followed by Mr. ODELL, Violet Farm, Hillingdon. The quality of the plants in this class was average.

In the *Cyclamen* competition matters were not so tame. The 1st prize was well won by the ST. GEORGE'S NURSERY Co., Hanwell, who exhibited in their customary admirable manner; the 2nd prize was awarded to Mr. PESTRIDGE, Boston Park Road Nursery, Brentford; and an extra prize was taken by Mr. A. G. BOWLES, Church Road Nursery, Hanwell.

#### HONORARY EXHIBITS.

A display of *Hyacinths* in pots in considerable variety, also *Tulips* in pots, was made by Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, N. Messrs. WILLIAMS likewise exhibited a group of *Azalea mollis*, a collection of their excellent *Cleiveas* in flower, and a bright seedling *Hippeastrum* named A. J. Balfour.

Messrs. WM. CUTBUSH & SON, Highgate, London, and Barnet, Herts, exhibited an extensive collection of plants, which occupied quite half of one side of the corridor. This was made up of a large number of well-grown *Hyacinths* in pots; an almost equally numerous collection of *Tulips*, a very pretty group of hardy plants, some varieties of *Souvenir de la Malmaison* *Carnations* in pots, and a group of plants in general use for spring forcing purposes; also a few excellently-grown *Boronia*s and other hard-wooded species.

A very pretty group of miscellaneous plants was made by Messrs. J. FEED & SONS, West Norwood, in which they included some pretty decorative foliage plants, and in addition a few well-flowered *Heaths* and *Azaleas*, *Boronia*s, *Lilacs*, *Cleiveas*, and *Orchids*.

The best lot of *Cyclamens* among the honorary exhibits was a collection from the ST. GEORGE'S NURSERY Co., Hanwell, in which the coloured and white flowering varieties were alike commendable. Another collection was shown by the CHURCH ROAD NURSERY Co., Hanwell, and a third from Mr. THOS. PESTRIDGE, Boston Park Road Nursery, Brentford, and a fourth from Mr. ODELL.

Messrs. S. CARTER & Co., High Holborn, made a considerable exhibit of *Cinerarias*, of a good strain, and Messrs. J. JAMES & SON, Woodside, Farnham Royal, had also a group of first-class *Cinerarias*. Messrs. CARTER in addition showed a few plants of the *Primula* *Boquet*, in which the enlargement of the calyx before noticed has been fixed.

*Daffodil* blooms and many hardy plants in flower were exhibited by Messrs. BARR & SON, King Street, Covent Garden.

T. H. BURDOUGH, Esq., showed a fine lot of flowers of varieties of *Anemone hortensis*; also blooms of *A. apennin* and *A. a. var. blanda*.

Messrs. WM. PAUL & SONS, Waltham Cross, Herts, again made a beautiful display of *Camellia* plants in flower, and exhibited a large number of cut blossoms of same; also a few pots of *Roses* in bloom.

Mr. GEO. MOUNT, Exotic and Rose Nurseries, Canterbury, staged a pretty collection of *Roses*, many of them show with long stems and healthy foliage.

From Mr. Wells, gr. to T. B. RICHARDS, Esq., Woodford, came a group of large *Gloxinia* plants in flower.

Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, S.E., staged a group of miscellaneous plants, including *Azaleas*, *Caladiums*, *Cleiveas*, *Acacias*, *Orchids*, *Ficus Canooca*, *Pteris tremula elegans*, and other species. Messrs. LAING staged a collection of *Apples* also.

Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, made a very extensive display of *Daffodils* in pots, also cut flowers of same, and in addition a number of *Anemone* blooms, and various other hardy species.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, exhibited a small group wholly composed of new or interesting plants. This included a few seedling *Hippeastrums*, two greenhouse *Rhododendrons*, *Purity* (white), and *Yellow Perfection*, both handsome varieties; *Davallia tenuifolia* *Burkai* and *Polypodium Schneideri*, two graceful habited drooping *Ferns*, and a few new hybrid *Orchids*; also a nice plant in flower of *Dendrobium nobile nobilium*. Messrs. VEITCH contributed likewise a group of the blue-flowered *Primroses*.

Mr. C. Last, gr. to H. O. O'HAGAN, Esq., Riverholme, Hampton Court, showed a large plant of *Dracyna latifolia*, a plant with thick, fleshy-green leaves of considerable length.

## THE BULB GARDEN.

### THE LILIES OF THE EAST.

MR. J. G. BAKER, of the Royal Gardens, Kew, has written me as follows regarding the latest introduction of this special description:—"The only new Asiatic Lily recently introduced into cultivation is *Lilium Szchenseae*, a bright red large-flowered *Magdalen*, with narrow leaves, allied to *L. Maximowiczii*. There are about ten *Lilies* in China (species, I mean)

not yet introduced." I hope that the Lily to which Mr. Baker has referred may prove as attractive in aspect and as vigorous in character as its immediate Chinese predecessor, *Lilium Henryi*, at present coming up with great strength in my garden. It is one of those rare varieties of the Eastern Lily which seems to improve and grow stronger every year. There are not many that could be thus described; but among those which I can recommend by reason of their possession of this important qualification, are *L. speciosum* Kraetzner, *L. auratum* platyphyllum and *L. monadelphum* Szovitzianum. It would also be an unpardonable omission did I not mention *Lilium candidum*, which (it may not be generally known), received this name from the great Italian poet Virgil; while Propertius called it, with even greater poetic expressiveness, *Lilium argenteum*. I find it both enduring, and exceedingly prolific; it is also the most decorative Lily in my garden, each stately spike seldom generating less than seventeen spotless and highly-fragrant flowers. I think this noble Lily should be planted more extensively in aristocratic gardens—where, I greatly fear, it is seldom to be found. *Lilium longiflorum* in its various forms, of which the most interesting is *Takeima*, is even more productive than the *Madonna Lily*; but I do not find that it is equally vigorous; and it has an inevitable tendency to degenerate in size and vegetative capability, owing to the excessive multiplication of its bulbs. I, therefore, periodically reduce its numerous offspring, and give them a considerably wider circulation; when grown in the open air it proves much too attractive to swarms of noxious insects, which in a very short period undermine its beauty, by destroying its complexion. *David R. Williamson.*

THE WEATHER.

[The term "accumulated temperatura" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.					
	ACCUMULATED.				No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.				
	Above (+) or below (-) the Mean for the week ending March 14.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.					Below 42° difference from Mean since December 29, 1895.	More (+) or less (-) than Mean for the Week.		
0	avar	6	33	+ 51	- 291	2	55	14	30	13		
1	0	avar	11	37	+ 27	- 143	3	40	3	7	17	21
2	2	16	25	+ 23	- 137	2	31	2	9	20		
3	3	33	16	+ 25	- 159	1	37	2	3	18		
4	4	33	12	+ 50	- 178	1	34	3	3	16	9	
5	5	33	2	+ 36	- 161	1	31	2	9	15	19	
6	1	16	26	+ 58	- 144	2	49	9	2	24	14	
7	2	24	11	+ 79	- 170	4	42	6	3	10	16	
8	6	42	0	+ 74	- 140	0	38	5	3	13	20	
9	2	27	11	+ 100	- 163	0	45	7	4	13	16	
10	5	48	0	+ 120	- 145	1	40	6	7	10	18	
*	6	60	0	+ 120	- 85	1	42	4	0	21	50	

The districts indicated by number in the first column are the following—  
 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending March 14, is furnished from the Meteorological Office:—

"The weather during this period was very cloudy or dull in all but the most northern districts. Rain was of frequent occurrence, although the amounts were generally small,

Towards the end of the week, however, considerable falls of rain, sleet, or snow were experienced at some of our north-easterly stations.

"The temperature was subject to considerable changes, but except in 'Scotland, N. and E.,' was in excess of the mean. In 'England, S.W.,' and the 'Channel Islands,' the excess was as much as 6°, and in 'England, S.,' and 'Ireland, S.,' it was 5°. The highest of the maxima were recorded on the 8th or 9th, when they ranged from 61° in the 'Midland Counties,' and 60° in 'England, E. and S.,' to 53° in 'Scotland, N. The lowest of the minima were registered either on the 13th or 14th, when the thermometer fell to 20° in 'Scotland, E.,' and 22° in 'Scotland, N.,' and to between 26° and 32° in most other districts; in 'Ireland, S.,' however, the lowest reading was only 34°, and in the 'Channel Islands,' 44°.

"The rainfall did not differ very materially from the normal, but was somewhat in excess in most parts of England, and either equal to or a little less than the normal over Ireland and Scotland.

"The bright sunshine exceeded the mean in 'Scotland, N.,' but in all other places there was a deficiency, that in most districts being very decided."

MARKETS.

COVENT GARDEN, MARCH 19.

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Arunis, p. 12 blooms	2 0-4 0	Orchids:—	
Azalea, 12 sprays...	0 6-0 9	Cattleya, 12 blms.	6 0 12 0
Bouvardias, per bun.	0 6-1 0	Odonotoglossum	
Carnations, 12 blms.	1 0-3 0	crispum, 12 blms.	3 0-6 0
Daffodils, double,		Pelargoniums, scar-	
doz. bunches...	3 0-6 0	let, per 12 bunch	4 0-6 0
— single, 12 bunch	4 0-12 0	— per 1s sprays...	0 9-1 0
Eucharis, per dozen	3 0-5 0	Pyrethrums, 12 bun.	2 0-4 0
Gardenias, per doz.	4 0-8 0	Roses, Tea, per doz.	1 0-3 0
Hycinthus (Roman)		— coloured, p. doz.	2 0-4 6
12 sprays...	0 4-0 8	— pink, French, doz.	3 0-4 0
— per doz. spikes	2 0-4 0	— yellow (March-	
Lapageria, 12 blms.	0 6-1 6	chal), per doz.	4 0-9 0
Lilac, French, p. bu.	3 0-5 0	— red, per dozen	3 0-5 0
Lilium Harrisii, bu.	4 0-6 0	— Safiano,	
Lily of the Valley,		French, per doz.	2 0-3 0
per doz. sprays...	0 6-1 0	Stephanotis, 12 spa.	6 0-9 0
Maidenhair Fern,		Tuberose, 12 blms.	0 9-1 6
per 12 bunches...	4 0-8 0	Tulips, various, doz.	0 6-1 0
Marguerites, per 12		Violets, 12 bunches	1 0-1 6
bunches...	3 0-6 0	— Parma, French,	
Mignonette, 12 bun.	4 0-6 0	per bunch...	2 0-3 0
Narcissus, White,		— Czár, do.	2 0-2 6
French, 12 bun.	1 6-2 6	— Mimosa or Aca-	
— Various, per		cia, do.	1 0-2 0
12 bunches...	0 9-1 6		

ORCHID-BLOOM IN VARIETY.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples from Nova		Pine-apples, St. Mi-	
Scotias, per		chael, each...	2 6-4 6
barrel...	14 0-22 0	Strawberries, morn-	
Cobs, per 100 lb.	25 0-30 0	ing gathered	
Grapes (Cape), lb.	0 10-1 0	per lb.	10 0-12 0
— Gros Colmar,		— packed in bxs.	
1st quality, lb.	3 0-3 6	per lb.	6 0-8 0
2nd quality, lb.	2 6-3 0	— seconds, per lb.	4 0...

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Aran lilies, per doz.	4 0-9 0	Foliage plants, doz.	12 0-24 0
Aspidistra, per doz.	12 0-30 0	Genista, per doz.	8 0-12 0
— specimen, each	5 0-15 0	Hycynthos, per doz.	8 0-12 0
Azalea, per plant...	2 0-3 6	Lilium Harrisii, per	
Cineraria, per dozen	6 0-9 0	dozen pots...	18 0-36 0
Cyclamens, per doz.	9 0-15 0	Marguerites, p. doz.	6 0-12 0
Daffodils, per 12 pots	6 0-9 0	Mignonette, p. doz.	6 0-9 0
Dracæna, each...	1 0-7 6	Palms, various, ea.	2 0-10 0
— various, p. doz.	12 0-24 0	— specimen, ea.	10 6-84 0
Ericas, various, doz.	9 0-24 0	Primula sinensis,	
Evergreen Shrubs,		per dozen...	4 0-6 0
in variety, doz...	6 0-24 0	Tulips, doz. pots...	6 0-8 0
Ferns, small, doz...	1 0-3 0	Spiræas, per doz.	8 0-12 0
Ferns, various, doz.	5 0-12 0		

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Asparagus, 1st size,		Peas, Channel Is-	
per bundle	6 0-8 0	lands, per lb.	2 0...
— 2nd size, do...	2 6-3 0	Potatoes, Channel	
— (sprue), do...	0 8-0 9	Islands, per lb.	0 4-0 5
Beans, Channel Is-		Radishes, Channel	
lands, per lb.	0 10-1 0	Islands, doz. bun.	0 10-1 0
— Madeira, p. bas.		Sea-kale, per punnet	0 9-1 3
(8 to 10 lb.)...	3 0-3 6	Tomatoes, English,	
Cauliflowers, p. crates		per lb.	1 6...
(6 doz.)...	6 0-7 0	— Canary Is-	
Cucumbers, per doz.	4 0-5 0	lands, per case,	
Mint, per bunch...	0 4-0 6	12 to 14 lb.	5 0 5 6
Mushrooms, per lb.	0 6-0 8	— Canary, boxes,	
Onions, Eng. cwt.	3 0-4 0	4 to 4½ lb.	1 3-1 9

OLD POTATOES.

Trade is still very dull, and the prospects for a had finish seem to become daily worse.

NEW POTATOES.

Arrivals are gradually increasing in quantities. Best samples are selling freely, at 18s. to 22s.; ordinary, from 12s. to 14s. Small parcels from Malts, 12s. to 18s.

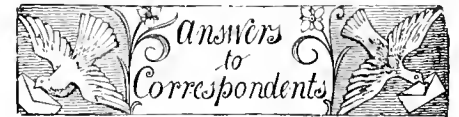
Reports from Jersey (Outdoor Crop):— Mild weather is favouring rapid growth, and some of the earlier spots will be fit to earth-up this week." J. B. Thomas.

SEEDS.

LONDON: March 18.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that business in field seeds is still confined to narrow limits. Quotations generally are unchanged, and continue at a very low level. Meantime the supplies all round are this season very abundant, and of excellent quality. Spring and winter Tares realise former rates. For Bird-seeds the sale is slow. Blue Peas and Haricot Beans are neglected. Rape seed is firm. Mustard continues quiet.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending March 14, and for the corresponding period last year:— 1896: Wheat, 25s. 5d.; Barley, 21s. 3d.; Oats, 13s. 10d. 1895: Wheat 19s. 9d.; Barley, 21s. 7d.; Oats, 13s. 8d.



ADDRESS: Herr Gussma, Klagenfurt, Austria.— J. Burrows, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

BAROMETRE READING IN NORTH OF SCOTLAND: W. B. The printed figures, 27.64, agree with those in our correspondent's MS.

BASKETS AND BOXES. If Mr. W. Davis will send his full address, we will place him in communication with a commission agent who will furnish him with manufacturers' names who supply baskets, chips, &c., for marketing Strawberries.

BULBS: T. W. The bulbs are swarming with mites and other insects.

CAMELIAS: J. S. The stalk of a Camellia is very small in proportion to the mass of petals it has to carry. In consequence, the juices from the stem are not conveyed in sufficient quantities, and the buds fall off. The indication is that there are too many flowers, and the tree is ridding itself of the superfluous buds.

CATLEYA ROOTS WITH SMALL YELLOW GRUBS IN THEM: Anxious. The appearances seem quite sufficient to confirm your suspicions. R. McL.

CULTIVATION OF FRUITS UNDER GLASS, TOMATOS, ROSES, &c.: R. J. G. Firstly, we cannot assume the responsibility of advising you to settle in any particular town in the North, although we may do so to the extent of choosing a town, the neighbourhood of which is not too smoky or otherwise insalubrious for carrying on gardening pursuits. You ought not to get amongst the congeries of big towns, of which Leeds and Bradford are the more populous, choosing rather the northern parts of the counties of Nottingham and Lincoln, and some part of those near a railway station, on, or in connection with the main line. Span-roofed houses having low side walls, and a width of 14 or 16 feet, are suitable for Vine-cane growing, and these should have brick-beds for holding tanner's bark on either hand, or for being otherwise heated. A larger house than this is perhaps cheaper, and if it were 18 or 20 feet wide, there would be space to have a 6 or 8-foot wide bed in the middle, as well as side-beds. Vine shoots could be obtained in January by advertising your requirements.

CYCLAMEN: S. F. & Co. A very good strain; flowers of large size, good substance, and bright colour, but the petals are hardly wide enough.

DENDROBIUMS GOING OFF: Vitis. Kindly send specimens of flower-spikes so lost, together with a pseudo-bulb or two.

DRAWING SERPENTINE LINES: Constant Reader. If you are unable to draw these by the aid of the compasses and rule, you can purchase a variety of curves in woden models at the dealers in drawing materials. They are thin pieces of wood, with a variety of curves on the outside as well as within.

ECHINIS: F. R. B. Yes, plenty.

FUNGUS ON TOMATO PLANTS: A. B. Too immature to bame.

GARDEN LABELS: R. A. No sort of writing-ink will remain legible for any length of time on parchment or linen labels used out-of-doors. We should advise you to use some kind of oil-paint of a bright colour instead.

GORSE AND BROOM SEED PER ACRE: A. Y. Z., Seven Sisters Road: 20 to 24 lb. per acre.



**IXORA ROOTS DISEASED:** *F. G. G.* The roots sent are infested with a minute worm, *Heterodera radicola*, belonging to the natural order of the Nematoids. A great many species of plants are affected by these worms, including *Coffea*, *Gardenia*, *Cucumis*, *Lactuca sativa*, &c. See an article in *Gardeners' Chronicle*, p. 488, April 9, 1887. There is no known cure for the evil, and you should clear out the plants and burn them, and char the soil.

**LASCH:** *A. L.* A bad case of Larch-bliester, which has occupied so much of our space of late years. The history and progress have been repeatedly commented on, but unfortunately no cure has been devised on the large scale.

**MARKET ACACIAS:** *G. B.* *Acacia dealbata*, *A. cyanophylla*, *A. Farnesiana*.

**MUSHROOM SPAWN:** *J. M.* Without testing the growing powers of the spawn, we are unable to state positively that it is either good or bad. You furnish no particulars as to its age, the degree of heat it has been exposed to, or whether the place in which it was kept was moist or dry.

**NAMES OF FRENCH JOURNALS IN WHICH A GARDENER MIGHT ADVERTISE:** *Le Jardin* and *Revue Horticole* in Paris, *Gazette* in Nice, *Le Courier* in Versailles.

**NAMES OF FRUIT:** *A. Parry.* Blenheim Orange Pippin.

**NAMES OF PLANTS:** *W. S.* *Cornus-mas*.—*W. B.* *Acacia*.—*Ochrid.* 1, *Phillyrea media*; 2, Evergreen Oak; 3, Falbalm Oak; 4, Evergreen Oak.—*G. M.* Such enquiries should be sent to the editor, not to the publisher. 1, *Cypripedium thycoides*, E. United States; 2, *Juniperus sinensis*; 3, *Polygala chamaëxylon*, Switzerland; 4, *Cornus-mas*, Cornelian Cherry, Central Europe. Thank you for sending good specimens, properly packed and labelled, a rare occurrence.—*J. C., Selkirk.* 1, is a very fine and distinctly spotted form of *Odontoglossum crispum*; and 2, one of the best *O. luteopurpureum* we have seen.—*T. F. Young* is simply *Coleogyne cristata*.—*J. R. Young* is but a good ordinary form of *Odontoglossum Roseii* majae.—*C. W. Plenrothallis longissima*.—*W. B.* *Acacia cyanophylla*.

**NOTICE TO LEAVE EMPLOYMENT:** *F. E. G.* It would be more consonant with gardening customs to accept and give a month's notice—everything, of course, being as it should be.

**ODONTOGLOSSUM CRISPUM:** *R. C. W.* Your flower is an exceptionally good one, and the variety is a valuable one.

**PEACH LEAVES:** *H. B. P.* The silver-leaf disease, due to the attack of a fungus.

**PHLEGNOPSIS SPOT:** Your *Phlegnopsis* are affected with what is known as "spot," and for which no remedy has as yet been discovered.

**ROSES IN A VINERY, &c.:** *Vitis.* In the earlier stages of both Rose and Vine the two will do very well together, but when the temperature of the vinery reaches 60° and higher by night, and the foliage begins to grow large, a vinery ceases to be a good place in which to keep Roses, and the plants ought to come into a cooler, lighter, airier house. Against thrips use Richard's XL-All Vaporiser.

**ROYAL GARDENERS' ORPHAN FUND**—The mother and nominators of the orphan, Seymour Small, desire to thank the subscribers, whose votes placed him on the fund at the recent election.

**"STONES" BROKEN UP FOR MANURE ON THE FIELDS:** *H. W., Marburg.* Coprolites (phosphate of lime) or chalk-Kreide may be meant by your informant. The former are usually treated with sulphuric acid before being used as manure, and the latter is merely exposed to air, when it quickly becomes pulverised, especially after being exposed to frost.

**TEN KINDS OF VEGETABLES FOR EXHIBITION IN JULY:** *Alpha.* Cabbage, Enfield Market; Carrot, Early Nantes or Scarlet Model; Cauliflower, Walcheren or Early London; Onion, from autumn-sown seed, Giant Rocca, a variety of Tripoli or the Queen; Turnip, Selected Early Snowball or Early Milan; Potato, Supreme, Windsor Castle, or Ashleaf Improved; Spinach, Victoria Round-leaved; Pea Gradus, Main Crop, or Stratagem; Broad Bean, Seville Longpod; French Bean, Negro Longpod or Ne Plus Ultra; Beetroot, Egyptian, dark red, turnip-rooted, Leek, Ayton Castle Giant, or London Flag; but the seed must have been sown in heat last month. Of the above twelve distinct sorts of vegetables,

ten may be selected according to fancy, remembering that Spinaoch does not carry much weight in an exhibit of this kind, and that it is early for good Leeks.

**TIGER NUTS:** *T. F., Grappenhall.* The tubers you send are the fleshy root-stocks of *Cyperus esculentus*, a species widely distributed in the warmer parts of the world. It would answer your purpose very well.

**TOMATO PLANTS ROTTING-OFF:** *R. V. H.* The loss of the plants is probably due to lack of lime in the soil, and you should apply superphosphate of lime, and also a weak solution of sulphate of iron to the borders. If wireworm is not very abundant in the soil, the superphosphate may cause most of these creatures to depart; but if numerous, you ought to use fresh soil not infested with them. Above all things do not plant the seedling Tomatos deep in the soil, many plants being lost in the early stages from this cause. When the stem acquires firmness no harm is done by deep planting, in reason.

**VINE FOLIAGE:** *H. K.* The appearances are quite consistent with "scalding," which is most likely the result of your not paying close attention to the ventilation of the vinery in the morning hours.—*C. W. Leyland.* Scalding, probably, by a sudden burst of sunshine striking the foliage when the house was insufficiently ventilated.

**VIOLETS:** *B. A., Warwick.* We can find no trace of organic disease in the Violet roots or foliage. There is a low state of vitality which seems to indicate want of nutrition. The stems are woody, from retarded growth, and all the indications are those of bad surroundings. Why not try removal to a more congenial soil, and better aspect? The growth requires to be stimulated by improved culture. *M. C. C.*

**WINDOW GARDENING JUDGING:** *G. W.* There should be a small entrance-fee required from each competitor; and there should be two main classes, indoor and outdoor window displays; and these again subdivided into pot and box-grown plants, the choice of subjects grown to be left open. There might be a class for specified plants, as *Fuchsias*, zonal, Cape, sweet-scented and Ivy-leaved *Pelargoniums*; *Petunias*, *Musk*, *Ferns* native and exotic; *Cactuses* and *Sedums* in variety, *Ophiopogon Jaburan*, *Begonias*, especially the summer-flowering tuberous-rooted; *B. discolor* and the *Rex* varieties; *Ornithogalum umbellatum*, and other species; *Moneywort*, *Rochea falcata*, *Saxifraga sarmentosa*, &c. If the judging takes place in the spring, the cultivation of Dutch bulbs, *Narcissus*, *Anemone hortensis*, *Triteleias*, *Ixia*, *Scillas*, &c., might be encouraged. If late in the summer, the *Chimney Campanulas*, in blue and white-flowered varieties, should not be forgotten, this plant being one of the best for either town or country windows. Well-grown *Mignonette*, in outside boxes or pots, is another desirable subject. The judging should take place on one day, and the jury consist of three capable persons. For most things it will be advisable to have at the least four prizes; and these need not consist of money, unless the recipient desires to have his prize in that form, but they might consist of any of the following items:—Flower and vegetable seeds of plants of known excellence; of plants, fruit-bushes, or wall-fruit trees (maidens), garden tools, knives, nails and shreds, claw-hammer, a hand-light, flower-pots, &c.

**COMMUNICATIONS RECEIVED.**—*G. J. Ingram.*—*F. Cornish.*—*W. B. H.*—*M. D.*—*J. H. B.*—*Count de K.*—*G. P.*—*H. H.*—*E. M. H.*—*J. W.*—*W. P.*—*H. H. D'O.*—*W. S. P.*—*E. G. B.*—*J. R. B.*—*A. de C.*—*J. F.*—*A. J. M.*—*W. N. & Co.*—*Press Association.*—*W. G. S.*—*A. S.*—*J. B. D.*—*California.*—*G. F. S.*—*E. G. H.*—*California.*—*D. W.*—*B. W.*—*W. F. Jamaica.*—*Lady H.*—*J. O'B.*—*W. D.*—*Attwood & Co.*—*B. S. Williams.*—*J. R.*—*T. A.*—*R. Taylor.*—*G. Bowles.*—*G. H.*—*W. E. G.*—*H. W.*—*W. B.*—*J. C.*—*D. T. F.*—*W. Fraser.*—*E. C.*—*W. W.*—*G. Harris*, many thanks.—*W. G.*—*T. A.*—*J. R. J.*—*R. D.*—*A. D.*—*R. L. H.*—*J. McIntyre.*—*J. H.*—*G. W. C.*

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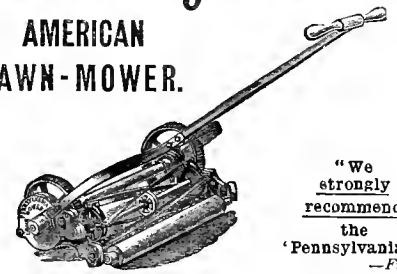
IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

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Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, and ALL CLASSES of GARDENERS and GARDEN-LOVERS at home, that it has a specially large FOREIGN and COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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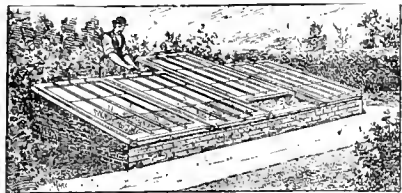
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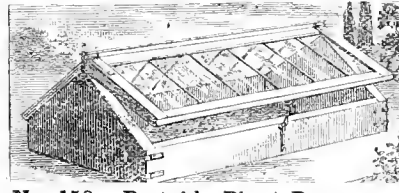
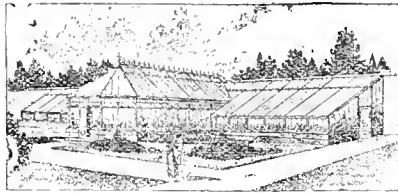


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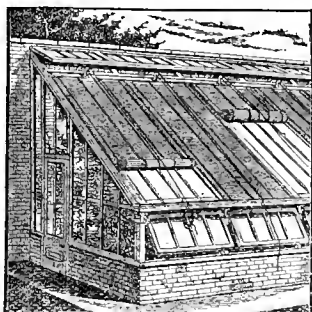
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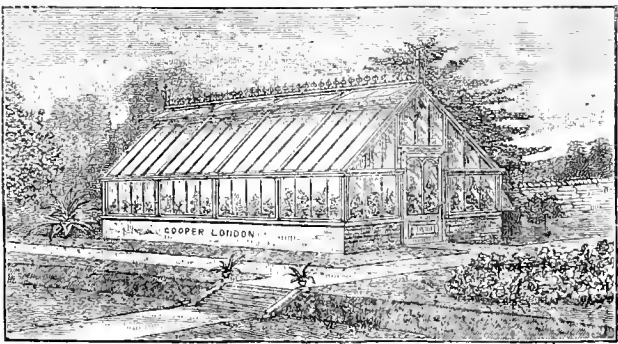
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GARDENING APPOINTMENTS.

Mr. E. WELLING, late of the Fruit Department, Blenheim Palace, has been appointed Gardener to Earl SONDES, Lees Court, Faversham, Kent.

Mr. A. SHEPPARD, formerly Head Gardener, Forest Hall, Ongar, Essex, as Head Gardener to J. T. FRIEND, Esq., Northdown House, Margate.

Mr. WILLIAM SHARP, for fourteen years Gardener to DONALD CAMERON, Esq., of Lochiel, at Achnacary, Fort William, as Gardener to W. T. LAYCOCK, Esq., Oakbrook, Rammoor, Sheffield.

Mr. EDWARD BARNES, for the last two and a half years in the Gardens, at Allybryn House, Llanelli, South Wales, as Head Gardener to ERNEST TRUBSHAW, Esq., at the same place.

Mr. GEORGE COWLEY, for four years Gardener to Mr. VAUGHAN DAVIES, M.P., Tan-y-Bwlch, Aberystwyth, as Head Gardener to JAMES BROGDEN, Esq., Iscoed, Ferryside, Carmarthenshire.

CATALOGUES RECEIVED.

TOOGOOD AND SONS, Southampton—Farm Seeds. MAX DEEGEN, Köstritz, Thuringia—Roses, Dahlias, &c. VILMOBIN-ANDRIEUX & Co., 4, Quai de la Mégisserie, Paris—Plants, Fruits, and Seeds of same. CHAS. TURNER, Royal Nurseries, Slough—Soft-wooded Stove and greenhouse Plants, Carnations, Picotees, &c. J. E. BARNES, 9, Exchange Street, Norwich, England—Seeds and Garden Requisites.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 12, 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard. WALKER AND CO., Poole, Dorset.

EPPS'S A1 PEAT

(SELECTED specially for ORCHIDS),

Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied). LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities. EPPS & CO., F.R.H.S., Peat Depot, Ringwood.

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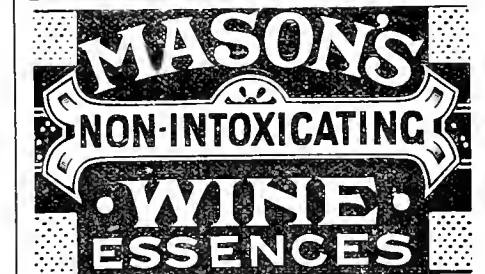
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HORTICULTURAL COAL & 'COBBLES'

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Sample Bottle post-free for 9 Stamps.

A LADY writes: "The 6d. bottle of Ginger Wine Essence made several bottles of most delicious wine, far better than what we have paid 2s. a bottle for. It is most suitable for children's parties."

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MASON'S EXTRACT OF HERBS, for making delicious Non-intoxicating Beer. A 6d. bottle makes 8 gallons. Sample bottle, 9 stamps; or a sample of both, post-free, for 15 stamps.

AGENTS WANTED.

**PARTNER**, to join Advertiser in well-established NURSERY and FLORIST BUSINESS.—Must be a Christian and abstainer. Capital required, £250.—Address E. B. 2, Bowen Villas, Wembley, Harrow.

**WANTED, OUTSIDE GARDENER** (first of three)—Married; no Inside work except fire. One able to do Jobbing Plumber's and Joiner's work essential (own tools). Extra wage would be given to one holding Horticultural Certificate. Excellent roomed Cottage given to Gardener who would not object to lodge one or two stablemen. Apply, with full particulars and wage required, to E. STOCKS MASSEY, Bamford Hall, near Rochdale, Lancashire.

**WANTED, NURSERY GARDENER**, to manage Houses and sell produce. Must be capable and honest. Apply to G. KNIGHT, Westgate, Sleaford, giving references, and stating qualifications and wages required.

**WANTED, a good GARDENER**, who understands Cows and Poultry. Young married man preferred.—Apply to Mr. ERNEST EVANS, Hertford, Herts.

**WANTED a GARDENER**, age about 30, for Dowager Lady, Midlands; proficient in early and late Forcing, Herbaceous Plants, &c.; also Second, four kept. Apply first to D. P., Woodsome Gardens, Huddersfield.

**WANTED, GROWER and PROPAGATOR** for Nursery, capable Man, with good references, for Ivies, Clematis, Roses, Conifers, &c. Must be able to price well. Address—  
F. D., 41, Wellington Street, Strand, W.C.

**WANTED, an energetic MAN**, as GROWER of Tomatoes, Chrysanthemums, Cucumbers, &c.—Apply, stating wages, to WALSHAW AND SON, The Nurseries, Scarborough

**WANTED, MUSHROOM-GROWER and SPAWN MAKER**, a thoroughly experienced MAN as above, only one with exceptional references as to character and ability need apply; state wages required, with copies of testimonials, to—H. HAYWARD, Shirley, Southampton.

**WANTED, AT ONCE, a young MAN**, as PROPAGATOR. Good practical experience in Roses and Clematis, and general Nursery Stock.—Apply, stating age, references, and wages required, to EDWIN MURRELL, Portland Nurseries, Shrewsbury.

**WANTED, a MAN to Grow Strawberries**, Cucumbers, Tomatoes, Chrysanthemums, &c.; to take sole charge of range of houses. None but one who thoroughly understands the work need apply.—FLATHER, West Kent Nurseries, Bexley Heath.

**WANTED, single MAN**, as PLANT GROWER under Foreman, principally Chrysanthemums, for Cutting.—State wages and full particulars, with copies of testimonials, to G. PHIPPEY, Nurseryman, Reading.

**WANTED, a FOREMAN**, used to the work, to take charge of men employed on Pleasure Grounds, and laying out new Gardens and Golf-links.—Wages required, copies of testimonials, age, and full particulars, to ALFRED LUDGE, Elveden Gardens, Thetford, Norfolk.

**WANTED, a FOREMAN**, for a small Nursery, well up in Raising for Market; mostly Inside-work. Married man without family preferred. Wife capable of cooking and managing for small household.—REYNOLDS, Beaminster, Dorset.

**WANTED, thorough energetic MAN**, as SECOND, Inside and Out, where produce is Grown for Market. Good knowledge of Herbaceous Plants and abstainer preferred. Capable of taking charge in absence of Head. Wages 23s. and overtime. None under 26 need apply.—For particulars, apply with copies of testimonials, to Mr. A. J. BROWN, Garden Department, School of Handicraft, Chertsey.

**WANTED, a young MAN**, used to Budding and Grafting, with some knowledge of Herbaceous Plants.—Apply to HEWITT AND CO, The Nurseries, Solihull.

**WANTED, in the Western Counties**, an industrious, steady, and obliging MAN, with a general knowledge of Inside and Outside Nursery Work. One accustomed to Market Work preferred. Wages to commence at 16s. per week. Permanency to a suitable man.—HORTUS, 41, Wellington Street, Strand, W.C.

**WANTED, TWO young MEN**, Must have a good knowledge of Carnations, Bouvardias, Roses, Azaleas, and all soft-wooded plants grown for market. State age, with reference from last employer, also wages required.—Apply to LEWIS AND WILLIAMS, Ember Nursery, Thames Ditton.

**WANTED, TWO young MEN**, with experience in General Market Nursery work. Apply, stating full particulars to—C. E. & F. W. LILLEY, St. Peter's in the Wood, Guernsey.

**WANTED, competent MEN for Jobbing** Gardening. Constant work to those suitable.—HARWOOD BROS., Balham Nursery, Balham.

**WANTED, a young MAN for Jobbing Work**. Abstainer preferred.—Apply to G. WATCHORN, 2, Highbury Park, N.

**WANTED, good respectable JOBBING HANDS**—Apply to WILLS AND SEGAR, Onslow Crescent, South Kensington.

**WANTED, TWO or THREE respectable MEN**, for Jobbing. Used to Scythe and Machine. Young men from the country preferred.—A. G. RODWELL, Boudsbury Nursery, London, N.W.

**WANTED, a young MAN** having a knowledge of Potting, Watering, and Staking. Wages, 18s. per week to commence with.—Apply to J. H. WITTY, Superintendent, Nunhead Cemetery, London, S.E.

**WANTED, young MAN**, for Flower and Kitchen Garden, and to assist with duties; twelve houses. Age 24; 18s. per week.—J. MAY, Red House, Leatherhead, Surrey

**WANTED, strong active young MAN**, as UNDER GARDENER.—Good knowledge Inside and Out; 17s. per week.—Address, C. PAYNE, The Gardens, Neasden House, Neasden, N.W.

**WANTED, two young MEN**, Inside and Out. Wages, 17s. per week, and both.—Apply to W. WARD, Aston Hall, Sutton Coldfield.

**WANTED, an energetic young MAN**, well up in the routine of Outdoor Nursery Work, especially Budding, Training, Planting, &c. Wages, 18s. per week.—Full particulars to EDWIN HILLIER, The Nurseries, Winchester.

**WANTED, young MAN**, for the Houses, well versed in Fruits and Plants; also House Decorations. Wages, 18s. a week, with Bothy. Early rise if suitable man.—F. CLARK, Orchard Leigh Gardens, Frome.

**WANTED, active MAN for Tomatoes, Cucumbers, &c.** References from London Market Nurseries only. State age, and wages expected to—E. PARKER, Laurel Lodge, Hanworth, Middlesex.

**WANTED, a JOURNEYMAN**, for the Houses, Catholic preferred.—Apply, with copies of testimonials, to E. BURBURY, Castle Gardens, Arundel.

**WANTED, in a Market Nursery**, a JOURNEYMAN for the Fern Houses; only those from a similar situation need apply. Wages, 21s. per week.—H. HAYWARD, Shirley, Southampton.

**WANTED, an experienced young MAN**, for the Houses, and to give help Outside when required. Wages 18s., no bothy.—J. TOOGOOD, The Gardens, Alwalton Hall, Peterborough.

**WANTED, Market Garden SALESMAN** for Covent Garden.—Apply, by letter, stating qualifications, and wages expected, to D. G., 41, Wellington Street Strand, W.C.

**WANTED, a respectable young MAN**, as PACKER, and to assist in General Nursery Work.—State age, experience, and wages required, to W. COOPER, LTD., Feltham, Middlesex.

**WANTED AT ONCE, as IMPROVER** under Glass in Nursery, a young Man (18 to 20); active and willing; slight knowledge required. Apply, personally preferred, to—T. B., 17, Tyrrell Road, East Dulwich, S E.

**WANTED, a young LADY**, for seaside town, experienced in Florist's Business, Making-up Bouquets, Wreaths, &c.—Address, with references, and salary required, FLORA, Guardian Office, Northwich, Cheshire.

**WANT PLACES.**  
**TO GARDENERS AND OTHERS**  
**SEEKING SITUATIONS.**

*The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.*

*Advertisers are cautioned against having letters addressed to initials at Post-offices, as all letters so addressed are opened by the authorities and returned to the sender.*

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—  
F. SANDER AND CO., St. Albans.

**Gardeners, Farm-Bailiffs, Foresters, &c.**  
**DICKSONS, Royal Nurseries, Chester**, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application.  
"Telegraphic and Postal Address—"DICKSONS, CHESTER."

**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**B. S. WILLIAMS AND SON** beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

**GARDENER (HEAD)**.—Age 38, married; understands Stove and Greenhouse, Forcing Fruits, Flowers, &c., Peach and other Wall Fruit, Kitchen and Flower Gardens. Twenty-eight years' practical experience. Well recommended. Personally Abstainer.—F. LANE, Newdigate Place, Newdigate, Dorset.

**GARDENER (HEAD)**.—Age 28; thoroughly practical in all branches. Leaving through place being sold. Five years' excellent character; few previous; abstainer.—LAMPARD, Mosses Cottage, Broome Hall, Dorset.

**GARDENER (HEAD)**.—A GENTLEMAN strongly recommends his late Head Gardener. Age 40. Choice Fruit, Flowers, and Decorations. Well up in Comers. Woods and estate if required.—G. NOTTAGE, Messrs. Williams & Sons, The Nurseries, Holloway, N.

**GARDENER (HEAD)**.—Experienced in the different branches of Gardening. Eight years in present situation.—GARDENER, The Hook, Potter's Bar.

**GARDENER (HEAD)**.—Age 30, married, no family; understands Vines, Peaches, Me'ons, and General Forcing; all Outside Gardening. Good references.—P. WILKERSON, 2, Magdalen Road, Great Clacton, Essex.

**GARDENER (HEAD)**.—Age 28; fourteen years' practical experience in good establishments. Well up in all branches. Good testimonials as to character and abilities from present and previous employers.—T. G. KEMP, Tunbridge Gardens, Bromley, Kent.

**GARDENER (HEAD)**; age 37, no family.—A Gentleman with confidence recommends his Head Gardener for seven years. Life experience in good establishments. Excels in Fruit, Orchids, Roses, Chrysanthemums, and a capable Manager.—B., 3, Gardeners Cottages, Swain's Lane, Highgate.

**GARDENER (HEAD)**, to any Lady or Gentleman requiring the services of a thorough practical all-round Man. Good character.—M. B., 137, Droop Street, Queens Park, W.

**GARDENER (HEAD)**.—Age 30, married; fifteen years' practical experience in Cultivation of Fruit, Flowers, Vegetables; also Orchids. Abstainer. Four years in present situation as Foreman.—GARDENER, Bidborough, Tunbridge Wells.

**GARDENER (HEAD)**.—Mr. G. MOODY, Nurseryman, Louth, Lincs., can highly recommend to any Lady or Gentleman a thorough practical, good all-round man.

**GARDENER (HEAD WORKING)**, where three or more are kept.—WM. GARMAN, Manager, Frythesden Gardens, Great Berkhamsted, highly recommends his Foreman, CHARLES HOWARD, age 30, married, one child, to any Lady or Gentleman requiring the services of a practical Gardener. Two years in present place. Experienced in all branches.

**GARDENER (HEAD WORKING)**.—Thoroughly experienced in all branches, in good establishments. THOMAS PORTER is at liberty to engage with any Lady or Gentleman requiring the services of a good, all-round practical Man. Age 34, married, no family.—Address, Umbersley Road, Worcester.

**GARDENER (HEAD WORKING)**, Scotch.—Age 38; married; abstainer. Life experience in good establishments; thoroughly practical Inside and Out. Good manager. Stock if required. Excellent references.—U. P., 11, Leythys Road, Acton, W.

**GARDENER (HEAD WORKING)**.—Age 31. JAMES TAYLOR, Esq., Rendcombe Park, Cirencester, will be pleased to recommend W. RICHARDSON, who has been Foreman in these gardens for over four years. Sixteen years' experience in good establishments.—W. RICHARDSON, Rendcombe Park Gardens, Cirencester.

**GARDENER (HEAD WORKING)**.—Age 30. Three years in present situation. Well recommended by present and previous employers.—C. B., St. Leonards, West Malling, Kent.

**GARDENER (HEAD WORKING)**.—Age 30. Mr. GRAY, Head Gardener, Leybourne Grange, Maidstone, desires to recommend his Foreman to any Lady or Gentleman requiring the services of a competent man.

**GARDENER (HEAD WORKING)**.—Age 33, married; nineteen years' good practical experience with Fruit, Flowers, Vegetables, Table and House Decorations. Highly recommended.—GARDENER, 55, New Road, Barnet.

**GARDENER (HEAD WORKING, or good SECOND)**.—Age 28; thorough practical experience in all branches. Knowledge of Alpine and Herbaceous Plants. Excellent references.—GEO. E. COLLINS, 11, South Street, Bromley, Kent.

**GARDENER (HEAD WORKING)**.—Age 32, married. J. BROADFOOT, Shotover Gardens, Wheatley, Oxon, can with every confidence recommend his Foreman, GEORGE TUCK, to any Lady or Gentleman requiring the services of an experienced and trustworthy man.

**To Gentlemen.**

**GARDENER (HEAD WORKING, or good SINGLE-HANDED)**.—Age 45; two children (girls); thoroughly experienced in all branches.—W., 2, Rosalin Villas, Durant's Road, Ponders End.



**GARDENER (HEAD WORKING).**—Age 30; thoroughly practical in all branches; highly recommended by late and present employers.—W. AUSTIN, Mr G. Hall, Rushton, Kettering, Northants.

**GARDENER (HEAD WORKING);** age 29.—Mr WILLIAMS will be pleased to recommend WILLIAM HUGHAN, as above. First-class references from Brampton Bryan, Galloway House, Eaton Hall, and Bleheim Palace.—W. HUGHAN, Bleheim Gardens, Woodstock.

**GARDENER (HEAD WORKING, or SINGLE-HANDED).**—A GENTLEMAN can thoroughly recommend his late Gardener as above. Twelve years' good personal character.—W., Reading Rooms, Englefield Green, Surrey.

**GARDENER (HEAD WORKING).**—Age 28; thoroughly experienced in all branches, both Inside and Out. Excellent references from present and previous employers.—A. STEVENS, Catton Park, Norwich.

**GARDENER (HEAD WORKING).**—Age 30, married, two children; thorough practical knowledge in all branches; can be highly recommended.—G. GIBSON, East Sutton Park, near Staplehurst, Kent.

**GARDENER (HEAD WORKING, or good SINGLE HANDED).**—Age 31; no encumbrance; thoroughly experienced.—W. G., Rose Farm, Hayton, Bromfield, Salop.

**GARDENER (HEAD WORKING, or good SINGLE HANDED).**—Age 31, married; life experience in good establishments; thoroughly practical; good character.—F. GARRETT, 1, Sherwood Villas, Station Road, Petersfield.

**GARDENER (HEAD WORKING).**—Age 31, two children, youngest seven years; disengaged. Eighteen years' experience in all branches. Five years' character.—E. FISHERDEN, 7, Pellipar Road, Woolwich.

**GARDENER (HEAD WORKING);** age 35, married, no family.—A Gentleman wishes to highly recommend an experienced man, leaving through giving up.—W. PAYNE, The Lodge, Bournhurst, Horley.

**GARDENER (HEAD WORKING).**—Age 28, single; thoroughly experienced in Vines, Cucumbers, Tomatos, Flower and Kitchen Garden. Seven years' excellent character, three years' previous.—E. F., West Street, Ewell, Surrey.

**GARDENER (HEAD WORKING).**—Age 32; thoroughly experienced in all branches, including Orchids, gained in first-class establishments. Fifteen years' excellent character.—J. BROOKS, Hallow, Worcester.

**GARDENER (HEAD WORKING).**—Age 28; requires situation as above. Well versed in all branches. Can be highly recommended by last and previous employers.—W. L., Norton Court, Sittingbourne, Kent.

**GARDENER (HEAD WORKING).**—Age 35, married; life experience in all branches; excellent references from present and previous employers.—U., 5, Pond Square, Highgate.

**GARDENER (HEAD WORKING).**—Practical experience in all branches. Age 45, married, no family; excellent character. Strongly recommended, as most trustworthy, by RICHARD DEAN, Kanelagh Road, Faling, in whose service the Advertiser was for four and a half years. J. LOVELAND, Staines Road, Bedford, Middlesex.

**GARDENER (HEAD WORKING, where four or more are kept).**—A Gentleman can thoroughly recommend the above. Capable and experienced in all branches. Three and a half years here as Head Gardener. Age 31, married, one child.—H. J. DINES, Gardener, Spring Grove, Bewley, Worcestershire.

**GARDENER (HEAD WORKING),** age 28.—Thorough practical knowledge of Gardening in all its branches. Can be well recommended.—A. TUTTON, Market Hill, West Cowes, Isle of Wight.

**GARDENER (HEAD WORKING);** has had considerable experience in all branches of good establishments. First-class cultivator. Thoroughly up in Decorations, Orchids, Forcing, &c. Won a number of Prizes. Cards can be seen. Very highly recommended.—R. S., Grove Villa, Beulah Road, Thornton Heath.

**GARDENER (HEAD WORKING, or good SINGLE HANDED).**—Age 46, one boy, age 10. Sixteen years' good references. Can be highly recommended. Leaving through a death.—J. PAYNE, Charts Edge, Westerham, Kent.

**GARDENER (HEAD WORKING).**—Age 35, married, one child; experience with Fruit Growing Inside and Out, Orchids, Stove, Greenhouse, and Conservatory Plants. Personal recommendation from last employer as a good all-round Gardener. Disengaged now. Particulars and testimonials.—GARDENER, 17, Lordship Road, Stoke Newington, N.

**GARDENER (HEAD WORKING).**—Age 30, married, no family; thoroughly experienced with Orchids, Fruit, Flower, and Kitchen Garden; highest testimonials.—BARSON, 33, Cedar Road, Walham Green, S.W.

**GARDENER (HEAD WORKING);** age 30.—Mr. W. H. SHARPE, The Gardens, Highwood, Roehampton, S.W., will be pleased to recommend his General Foreman, G. STRICKLAND, to any Lady or Gentleman requiring a good practical man as above.

**GARDENER (HEAD, or SINGLE-HANDED).**—Understands Vines, Tomatos, Melons, Cucumbers, Flower and Kitchen Gardens. Excellent references.—G. BONE, Islington Lodge, King's Lynn.

**GARDENER (SINGLE-HANDED).**—Age 24; two years' experience. Good all round. Excellent character. Four years in present situation.—J. KENNETT, West Lodge, Eversley Park, Winchmore Hill, Middlesex.

**GARDENER (SINGLE-HANDED), or otherwise.**—Age 36, married, no family. A good all-round Man. Wife assist in House. Good character and recommendations; nine years previous, and eight months present. Bass in choir.—CHAS. KOWLER, Hunton Rectory, Maidstone.

**GARDENER (SINGLE-HANDED, or where help is given).** Good all-round man. Life experience. Six and a half years in last situation. Age 47. Good character.—E. LONG, 6, West End, Melksham, Wilts.

**GARDENER (SINGLE-HANDED), or otherwise.**—Age 48, married, no family. Can manage Bees; no objection to Cows or Poultry. Good reference from present and previous employer.—GARDENER, Goldings, nr. Horsham, Sussex.

**GARDENER (SINGLE-HANDED).**—Age 34, married; life experience in all branches; good references.—T. S., 4, Alma Terrace, Longfellow Road, Worcester Park, Surrey.

**GARDENER (SINGLE-HANDED, or otherwise).**—Age 34; life experience in large establishments, Outside, and under Glass. Good character.—H. MARTIN, Coltingham, Newark.

**GARDENER (SINGLE-HANDED, or where help is given).** Age 26; married when suited. Four years in present situation.—H. CORES, West Liss, Petersfield, Hants.

**GARDENER (SINGLE-HANDED), or Kitchen Garden and Pleasure-grounds.**—Age 26, single; twelve years' experience Inside and Out; good references. Gentleman wishes to recommend his Gardener as above. State wages.—E. B., Bellak Cottages, Queen Street, Chertsey, Surrey.

**GARDENER (SINGLE-HANDED, or SECOND).**—Age 25; three years' six months present situation as SECOND. Life experience Inside and Out. Excellent character.—W. CORNER, The Gardens, the Hyde, Handcross, Crawley, Sussex.

**GARDENER (SINGLE-HANDED, or SECOND).**—Age 25, single; experienced young Man. Good references.—W. SANDERS, Devon Cottage, Kenton, Devon.

**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 26, married. Total Abstainer. Mr. A. J. BROWN, School of Handicraft, Chertsey, can recommend with confidence as above. Please state wages.

**GARDENER (SINGLE-HANDED).**—Age 30; understands Vines, Peaches, Stove and Greenhouse Plants, Kitchen and Pleasure Gardening, Cows, and Poultry. Can be highly recommended.—W. W., Manor House Gardens, Effingham, Leatherhead.

**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 31, single; excellent character from present and previous situations.—J. BEADLE, Pound Villa, Banstead, Surrey.

**GARDENER.**—Young man (age 22), seeks situation in a private establishment, Inside and Out. Good character.—C. TANNER, Horns Hill, Nursling, Southampton.

**GARDENER.**—THOS. ROBINSON, Gardener to W. LAWRENCE, Esq., Elsfield Gardens, Hillingbourne, Kent, can with confidence recommend his Foreman, A. RUSTON (age 25) to any Lady or Gentleman requiring a good and trustworthy man. Good practical knowledge of all round Gardening.

**GARDENER (SECOND), in good establishment.**—Age 24; ten years' experience in Plant and Fruit Houses. Highly recommended by last employer, Head Gardener at Welkore Hall, Lincoln, and other good gardens.—FREDERICK ANDREWS, Chesterton, near Bicester, Oxon.

**GARDENER (SECOND), or JOURNEYMAN (FIRST).**—Age 23; seven years' experience; good references.—J. B., Myrtle Villa, Park Street, Maidenhead, Berks.

**GARDENER (SECOND), where four or more are kept.**—Age 21; nine years' experience, two years in present place.—C. CLARK, The Gardens, Elcot Park, Hungerford, Berks.

**GARDENER (SECOND, or otherwise).**—Age 24; abstainer. Nine years' experience, Inside and Out.—For particulars, A. SPEAKMAN, 32, Richmond Road, South Tottenham.

**GARDENER (SECOND);** age 24.—Mr. FISHER can highly recommend J. Richardson as above. Well up in all branches of Gentleman's Garden. Four years' excellent character from present place. Married when suited.—J. RICHARDSON, Slate Cottage, Boreham, Chelmsford.

**GARDENER (SECOND), where two are kept.**—Age 27; used to Pleasure-grounds and Kitchen Garden. Help Inside if required. Three years' good character. Well recommended.—C. CHALLEN, Sandrocks Cottage, Haywards Heath Sussex.

**A BONUS** will be given to anyone securing a situation as SECOND, in a good establishment.—Age 23, highly recommended.—WM. JOHNSON, Shipton, Market Weighton.

**GARDENER (SECOND), where four or five are kept.**—Age 26, single; three years' Inside and Out, eight years previous. Kitchen Garden, Pleasure Grounds.—C. THORNTON, Albury, Guilford, Surrey.

**GARDENER (UNDER).**—Age 19, Inside and Out. Had good experience Outside. Good references.—G. W. B., 64, Perry Hill, S.E.

**GARDENER (UNDER).**—A LADY wishes to recommend a Youth, age 17, as above.—Mrs. HAYWARD, Marks Barn House, Crewkerne.

**GARDENER (UNDER), or look after Small Garden and Pony.**—Age 20; four and a half years' reference. Abstainer.—J. LINES, 4, Richmond Road, Staines, Middlesex.

**GARDENER (UNDER).**—Age 20; understands the Kitchen and Flower-garden; good references; wages 18s.—S. CLARKE, Bradley, Ashbourne, Derbyshire.

**GARDENER (UNDR).**—Age 23; good character. Used to Inside and Outside work.—J. ROLLINGS, Thinghill Court Cottages, Withington, Hereford.

**GARDENER (UNDER), chiefly Outside.**—GEORGE PARKER, Gardener at Alderley Grange, Wotton-under-Edge, wishes to recommend a strong, active young man, as above.—Address as above.

**GARDENER (UNDER).**—Age 20; three years present situation. Good character. Leaving to improve.—F. MOORE, 11, Nelson Road, Harrow, Middlesex.

**GARDENER (UNDER), Inside and Out.**—Age 20; five years' experience in Flower and Kitchen Garden. Can be well recommended.—SMITH, Withington, Salop.

**GARDENER (UNDER).**—Age 22; Inside and Out; two years in present place, four years previous; excellent character; both preferred.—K. BATEMAN, 4, Horns Hill, Westerham, Kent.

**GARDENER (UNDER).**—J. T. FLETCHER, Lynhales Gardens, Kingston, Herefordshire, recommends a strong young fellow, age 20, as Under Gardener, Inside and Out. Bothy or otherwise.

**GARDENER (UNDER).**—Age 20; five years' experience, Inside and Out. Good character, personal and written. Total abstainer. Near London preferred.—DIGGINS, 21, Church Road, Tottenham.

**GARDENER (UNDER, for Outdoor and In).**—Age 25.—I have much pleasure in recommending F. SOUTHAL as above, to any Gardener in want of a useful man. He is industrious, obliging, and anxious to get on. Has been over three years in present place.—D. MCLENAGHAN, Longworth Gardens, near Hereford.

**GARDENER, or GROOM-GARDENER.**—Young man (age 24), seeks situation as above. Three years' good reference from previous employer.—E. DUDLEY, Station Road, Quanton, Aylesbury.

**GROOM GARDENER.**—Age 26; experienced in all branches of the Garden; good references.—H. HATCHER, 4, Walton Terrace, South Lambeth Rd., S.W.

**GROWER.**—Age 27. Cucumbers special; also Vines and Tomatos. Good London and provincial experience. North preferred.—X. Y. Z., 41, Wellington Street, Strand, W.C.

**GROWER (GENERAL), in Nursery.**—Age 23; ten years' experience. Good reference.—F. D., 10, High Street, Swanley Junction, Kent.

**GROWER.**—Age 27, single; life experience in growing Ferns, Stove, Soft-wooded, and General Pot Plants, Tomatos, &c. Good reference.—F. W., Vine Cottage, Bridge Road, East Molesey, Surrey.

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**JOURNEYMAN, in the Houses.**—Age 23; four years' excellent character; bothy preferred.—ROBERT BRUNT, Canwell Gardens, Tamworth.

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**JOURNEYMAN (SECOND), in the Houses.**—Age 22; six years' experience; four years in present situation; can be highly recommended by Mr. OWEN, Geys House Gardens, Holyport, Maidenhead, Berks.

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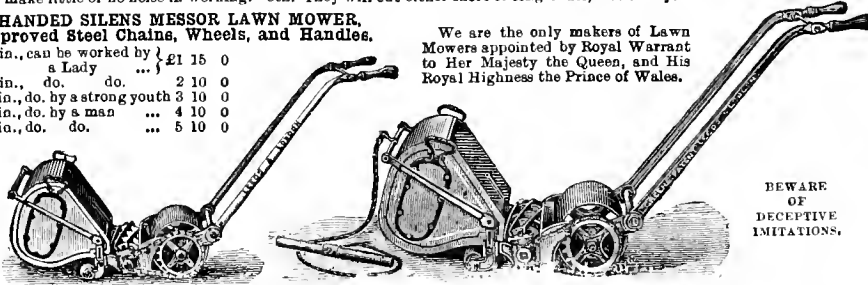
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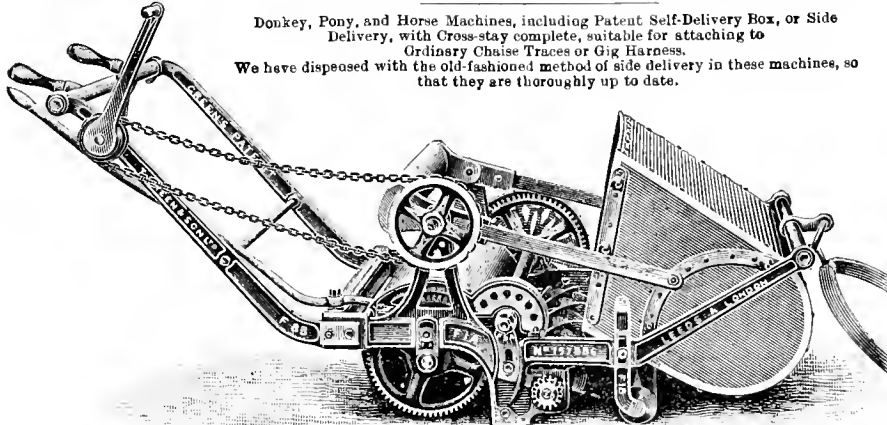
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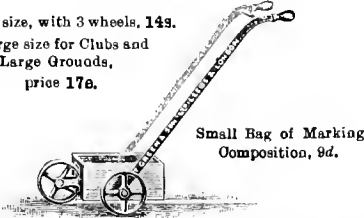
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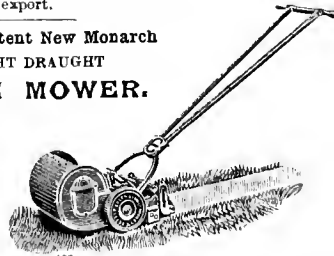
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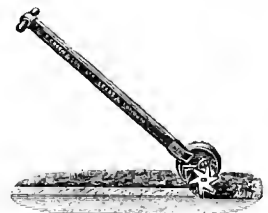
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# The GARDENERS' CHRONICLE

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## NOTICE TO ADVERTISERS.

FRIDAY NEXT, April 3, being GOOD FRIDAY, the "GARDENERS' CHRONICLE" will be published on THURSDAY, April 2.

ADVERTISEMENTS for NEXT WEEK must therefore reach the Office not LATER than WEDNESDAY MORNING, April 1.

## CONTENTS.

American Larches ... 399	Larch disease ... 398
Apple, Goodwood Pippin ... 398	Mowing-machines, electric and steam ... 400
Baron testimonial, the Benevolent Institution, the Wolverhampton branch of the Gardeners' Royal ... 396	Nurserymen, and General Hailstorm Insurance Corporation, Limited Nursery Note ... 470
Book notices ... 393	Williams, B. S. & Son Oakwood, Wylam on Tyne, Orchids at ... 390
On the spraying of plants ... 398	Orchid notes and gleanings ... 390
Rosarian records, by an ex-exhibitor ... 398	Plants, new or noteworthy—
Botanical Magazine wrappers, some old ... 389	Cacti ... 390
Botanical school of Trinity College, Dublin ... 396	Lippia iodantha ... 390
Cyperus distans ... 394	Perezia soucheifolia ... 390
Diplois pyrivora ... 400	Roses, pruning ... 399
Freeias, some fine, and others ... 392	Societies—
Devon and Exeter Gardeners' ... 473	Edinburgh Botanical ... 402
Effects of ... 393	Royal Horticultural ... 400
Fruit-buds, protecting from birds ... 399	Spraying ... 396
Grafting, inside ... 393	Steam lawn-mowers ... 399
Herbaceous border, forming a ... 399	Variorum ... 403
Interdependence of plants and animals ... 392	Violet Princess of Wales Week's Work, the—
Fruits under Glass ... 395	Hardy Fruit Garden ... 394
Kitchen Garden, the ... 394	Orchid Houses, the ... 395
Mandevilla suaveolens out-of-doors ... 399	Plants under Glass ... 394

## ILLUSTRATIONS.

Apple, Goodwood Pippin ... 399
Freeia alba and F. refracta ... 391
Freeia Leichtlini major and F. odorata lilacina ... 397
Fritillaria pndica ... 403
Steam lawn-mowers ... 401

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On view morning of Sale, and Catalogues had.

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1000 Choice-named German Standard, Half-standard, Dwarf and Climbing ROSES, from a well-known Grower, including many of the best and leading varieties; also, English-grown Dwarf ROSES.

Carnations, Pinks, Picotees, Choice Iris, Dahlias in variety, PYRETHRUMS, BEGONIAS, GLOXINIAs, and other Plants and Bulbs.

Pyramid, Standard, and Dwarf-trained Fruit Trees, including NECTARINES, APRICOTS, PEACHES, CHERRIES, APPLES, PEARS, PLUMS, to name, &c.

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Very distinct green leaved masses;

ODONTOGLOSSUM CRISPUM,

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Entries Close April 10th. For Schedules apply to Cross House Chambers—J. J. GILLESPIE, Jun.

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SCHEDULES SHORTLY READY.  
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**50,000 EUONYMUS**, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.  
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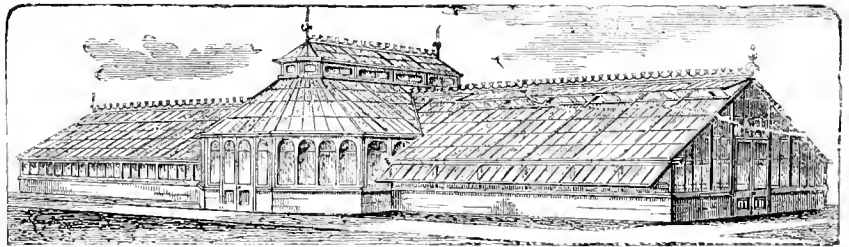
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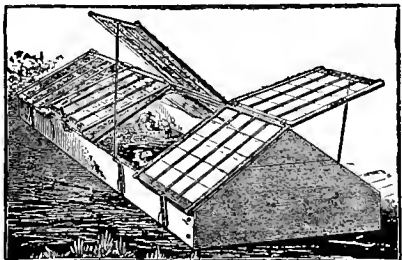
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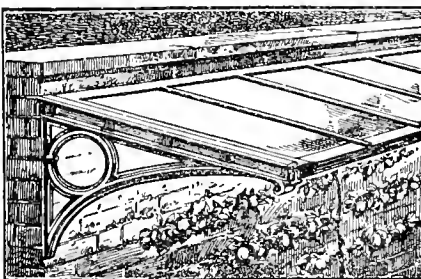
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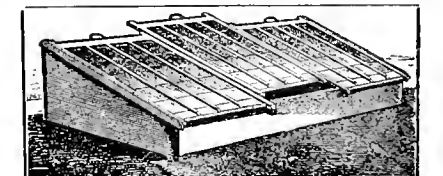
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Price Lists may be obtained from most Ironmongers and Seedsmen, or from



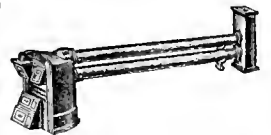
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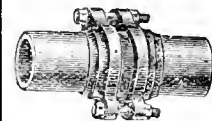
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In stone bottles, the original size, 1s., 2s. 6d., 5s. In drums, 12lb., 13s. 6d.; 28lb., 25s.; 56lb., 50s.

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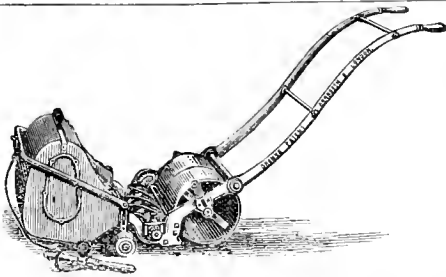
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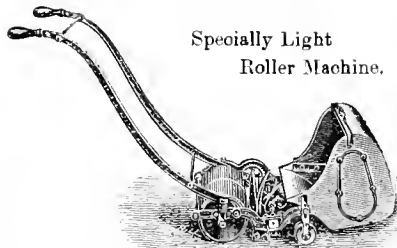
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THE ONLY ONES FITTED WITH PATENT AXLE SPRINGS.



STANDARD MACHINE (GEAR or CHAIN), WITH SPRINGS.

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Specially Light Roller Machine.

"CALEDONIA" MOWER, WITH SPRINGS.

The Axle Springs relieve all strain, and make a wonderful difference in working.

**TESTIMONIALS.**

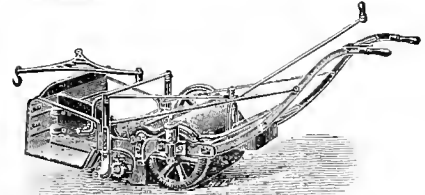
Hurlingham Club, Fulham, June 13, 1895. I have used your Lawn Mowers for over twenty years, and find them the best. The addition of Springs is a very great improvement. (Signed) WM. SUTHERLAND, Head Gardener.

Ranelagh Club, Barnes, S.W., Oct. 13, 1895. On behalf of the Committee, I have pleasure in stating that your Mowing Machines fitted with Patent Steel Springs have been used for six months on our Golf Links and Polo-Grounds, and have given the greatest satisfaction. The Springs, in our opinion, are a great improvement in Lawn Mowers.—Yours faithfully, (Signed) HENRY E. RIDLEY, Assistant-Secretary.

58, Dawson Street, Dublin, Nov. 1, 1894. Referring to the Horse Machines supplied last season, Mr. J. Robertson, Land Steward to the Right Hon. Earl Fitzwilliam, writes us as follows:—I have great pleasure in stating that the Horse Lawn Mower has done its work exceedingly well. The Patent Springs fitted to the main axle are a great advantage, especially when the ground is uneven, as they prevent jolting and vibration of the machine.—Yours truly, (Signed) W. DRUMMOND AND SONS.

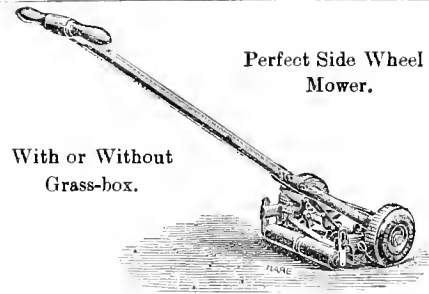
(Per BEN REID AND CO., of ABERDEEN.) The "CALEDONIA" Lawn Mower made by Shanks, Arbroath, is one of the best I have ever tried. I got a 14-inch size, and it is undoubtedly the lightest and sweetest-working Mower in my collection. (Signed) JOHN M. TROUP, Gardener to H.M. the Queen, Balmoral.

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HORSE & PONY MACHINE, WITH SPRINGS.

ROLLERS for HAND or HORSE, SUITABLE for PARKS, GOLF COURSES, GARDENS, &c.



Perfect Side Wheel Mower.

With or Without Grass-box.

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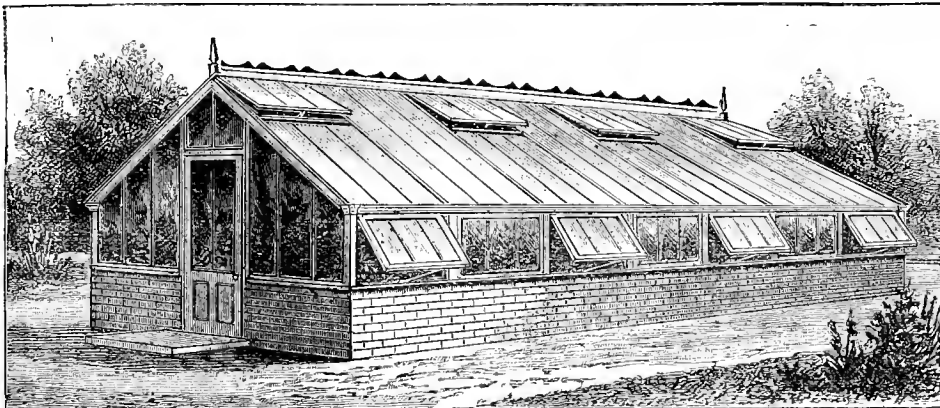
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CUCUMBER and TOMATO HOUSES,  
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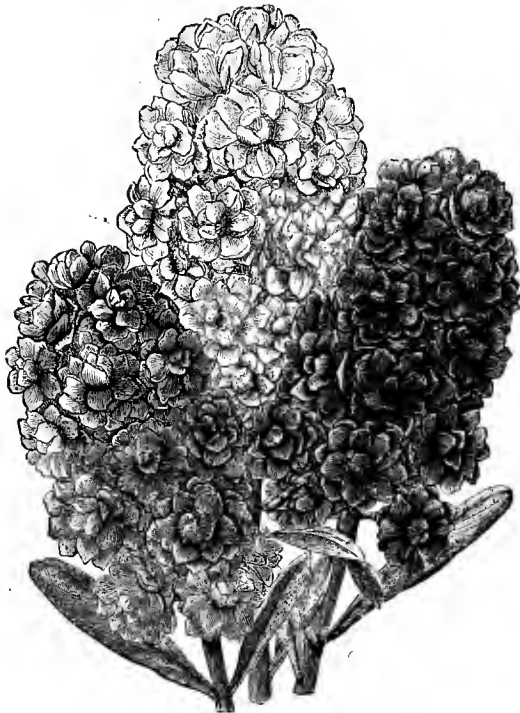
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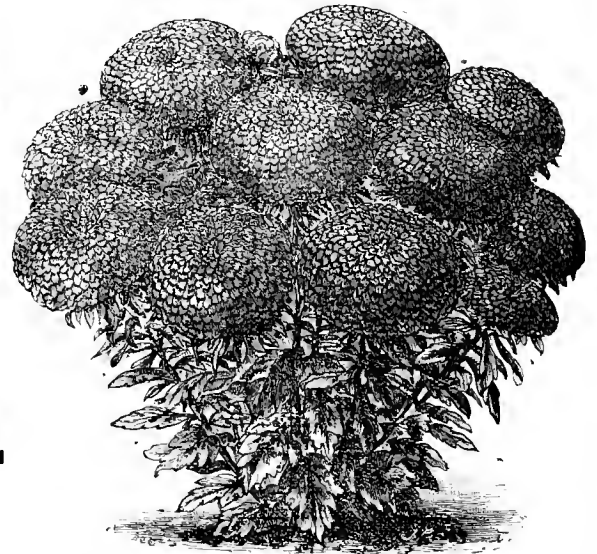
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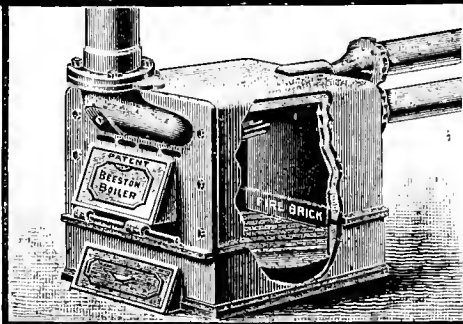
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**Veitch's Bedding Aster.**—Grows 10 to 12 inches in height: crimson, delicate rose, rosy carmine, dark blue light blue, and pure white, each per packet, 1s. Collection of the above six beautiful colours, 5s.  
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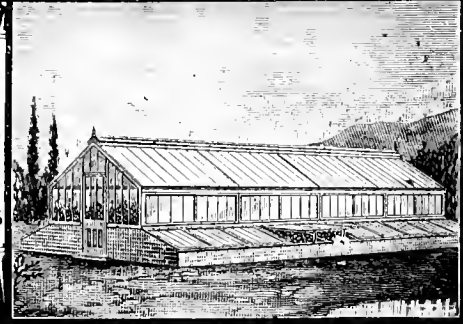
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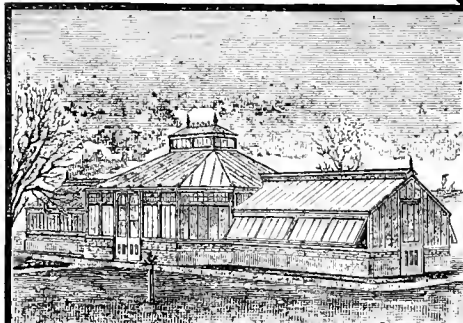
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 ESTABLISHED 1841  
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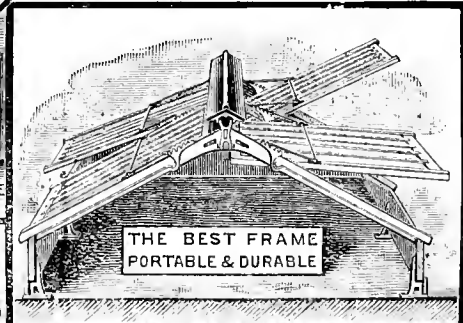
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Have still to offer, of first quality, and at  
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**ROSES**

Of all kinds, including extra size, for immediate  
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**FRUIT TREES**

Of all kinds, clean, healthy, and true to name.

**CEDAR OF LEBANON,**  
Handsome trees, well removed, 3 to 5 feet.

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Named sorts, Green and Variegated, 3 to 12 feet.

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3 to 5 feet.

A valuable evergreen for towns, also for planting  
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**LAURELS,**

4 to 6 ft. high, by 5 ft. wide; splendid specimens.  
Also a fine lot of STANDARD Hardy Laurels.

**PINUS AUSTRIACA,**  
4 to 12 feet, well removed.

**SCARLET HORSE-CHESTNUTS,**  
10 to 18 feet; splendid trees, safe to move.

**PAULS' SCARLET THORNS,**  
And many other sorts, 8 to 12 feet.

**PURPLE BEECH,**  
16 to 18 feet; splendid trees.

**TRUE SILVER BIRCH,**  
Bark white as snow; 12 to 20 feet.

**RHODODENDRONS,**  
Named sorts and others; 1 to 5 feet.

**CAMELLIAS,**  
1 to 10 feet; in fine health and bloom.

**CLEMATIS,**  
Fifty Finest Varieties. Strong Plants.

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Consists of Aster, Mignonette, Nasturtium, Sweet Pea,  
Ten Week Stock, and other beautiful varieties.

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Consists of Aster, Bal am, Phlox, Portulaca, Zinnia,  
and other beautiful varieties.

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Consists of Aster, Calceolaria, Cineraria, Petunia, Phlox,  
Portulaca, Primula, and other beautiful varieties.

**OTHER COLLECTIONS from 2s. 6d.**

All Flower Seeds sent Post Free.

**SUTTON'S SEEDS**  
GENUINE ONLY FROM SUTTON & SONS, READING.

**FRIDAY, APRIL 10, 1896.**

**CATTLEYA SANDERIANA VARIETY.**

The TRISMEGISTUS—or THRICE GREATEST.

Flowers up to 10 inches across; and 9 on a spike!!

See Collector's letter, a photograph of which  
appears in Catalogue of Sale.

A SUPERB IMPORTATION.

PLANTS IN MAGNIFICENT CONDITION.

And every one is offered without any reserve.

**CATTLEYA AUREA.**

GRANDEST FORM YET DISCOVERED.

From the same region as C Sanderiana, and found  
growing intermixed with it.—*Vide* Collector's Letter.

**300 SEEDLING PLANTS,**

PROBABLY NATURAL HYBRIDS,

between the above two superb kinds, and grandest of  
all Cattleyas, discovered up to date

WE SHALL OFFER WITHOUT THE LEAST RESERVE  
the whole of this wonderful consignment of varieties  
of Cattleyas. The entire importation, consisting in all  
of about 1790 plants, which in every probability con-  
tain finer Cattleyas than any hitherto flowered in  
Europe, not excepting even Hardyana, Countess of  
Derby, Oweniana, Rothschildiana, Hamar Bass's  
variety, The Duc de Massa's variety, Measuresia,  
Sanderæ, le Roi des Belges, Statteriana, Young's  
variety, etc.

Other grand Orchids will also be included in this  
Sale.

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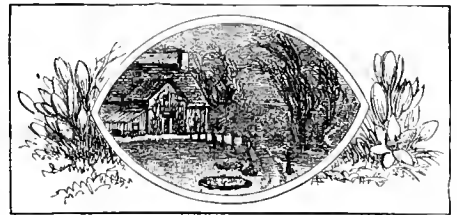
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THE

**Gardeners' Chronicle.**

SATURDAY, MARCH 28, 1896.

SOME OLD "BOTANICAL MAGA-  
ZINE" WRAPPERS.

READERS interested in the history of bota-  
nical and horticultural literature may,  
perhaps, remember my condensed account of  
*Curtis's Botanical Magazine*, which appeared in  
the *Gardeners' Chronicle* in 1887, when the pub-  
lication in question had reached the hundredth  
year of its uninterrupted existence. As I then  
stated, the history of the *Botanical Magazine* was  
the history of flower gardening in this country  
during this long period, and I incidentally  
mentioned some interesting facts gleaned from  
two or three old covers of monthly parts that  
came under my notice. It is probable that  
many of these old wrappers, as they are techni-  
cally termed, still exist, but at the same time  
there is no doubt that they are comparatively rare,  
because most persons had their copies bound,  
and few persons realised the importance of pre-  
serving the wrappers on account of the adver-  
tisements, announcements, and even occasional  
corrections that appeared on them, and nowhere  
else in the work. Now-a-days, in a well-  
ordered library, all wrappers containing infor-  
mation not repeated in the work itself are  
preserved, although at the time of issue this  
matter may be of the most trifling interest.  
But this by the way. Kew is indebted to Mr.  
F. W. Burbidge, the Curator of Trinity College  
Botanic Garden, Dublin, for a set of the wrap-  
pers, and appended advertisements of various  
kinds, of volumes 30, 31, 32, 40, and 43, of the  
*Botanical Magazine*. These volumes appeared  
between 1809 and 1816, at a period when garden  
botany and pictorial publications connected  
therewith were in a highly flourishing condi-  
tion; and some of the facts relating thereto to  
be found on these old covers may be of sufficient  
interest to repeat here. What strikes one very  
forcibly is the number and high price of the  
numerous illustrated works then offered for  
sale. Prominent among these are Thornton's  
works, some of which I described in the *Gar-  
deners' Chronicle* for July and August, 1894. I  
pointed out there that it was difficult to ascer-  
tain what was issued by Thornton under a given  
title, and at what price, as I had seen no two  
copies exactly alike in what they contained.  
An advertisement in the *Botanical Magazine* for  
1809 affords some interesting information on  
these points. "The Temple of Flora," "A  
New Illustration of the Sexual System of  
Carolus von Linnæus," and "The Philosophy of  
Botany," are offered at twenty pounds each,  
and an issue in monthly parts, at a guinea  
a part, is also announced. The admirably-  
executed portraits of botanists mentioned in my  
article referred to, are described as forming  
part of the *New Illustration*. The advertise-



ment also confirms my suspicion that the author issued plates and letter-press in various combinations and under different titles. For example, the title given in the *Gardeners' Chronicle*, July 28, 1894, p. 90, is quite different from any one of the three in the advertisement, and the superb volume to which it belongs is manifestly a combination of *The Temple of Flora* and *A New Illustration*.

In the same year (1809) Philip Miller's *Figures of Beautiful, Useful, and Uncommon Plants* is announced, without any reference to the original edition (1755—1760). It was to be published in sixty parts, at 7s. 6d. a part, whether it actually came out I have not ascertained; but it is not mentioned in any of the bibliographies to which I have access.

Professor Martyn's edition of Miller's *Gardeners' Dictionary* is offered in the same place for 14 guineas; so that these two works would cost no less than £37 4s. Woodville's *Medical Botany* is priced at £8 5s. Samuel Curtis's edition of Maddocks' *Florists' Directory*, a small octavo, with eight coloured plates, cost £1 1s., or on large paper £1 11s. 6d. Among other books announced at this date were Lee's *Introduction to Botany*, fourth edition, by James, son of the author of the original edition (1760), and founder of the Vineyard Nursery at Hammersmith; Colin Milne's excellent *Botanical Dictionary*, third edition; Curtis's *Lectures on Botany*, and the same author's *Practical Observations on British Grasses*, to which was appended *A Short Account of the Cause of Diseases in Corn*, by Sir Joseph Banks—the only botanical work he ever published, I believe. Robert Brown's *Prodromus Floræ Novæ Hollandiæ* reminds us of the prodigious strides in science made by our Australian colonies in recent years.

Haynes's *Interesting Discoveries in Horticulture*, a treatise on the propagation and cultivation of plants generally, cost three guineas and a-half, and could therefore not have been within reach of many gardeners. The prospectus of an illustration of the classes and orders of the Linnean system of Botany announces the publication in octavo of a work to cost £7 16s., without author's name. William Salisbury's work on orchards, and Walter Nicol's various publications on gardening, demand our attention. Johnson, in his *History of English Gardening*, describes the works of the latter as of the first authority, though, curiously enough, he does not mention that author's book, *The Forcing, Fruit, and Kitchen Gardener*, perhaps the most important of all. Kew possesses a copy of the third edition (1802), which was once the property of Mr. James Lee of Hammersmith.

But the *Botanical Magazine* of those times was used as an advertising medium for a variety of things, besides botanical and horticultural literature. Samuel Curtis advertised his very extensive stock of Roses; Chandler & Buckingham, of Vauxhall, their Camellias, including "Kew Blush," and Auriculas. Even quacks figure, such as Hubert, with his "roseato powder" to make women beautiful; James Sowerby's advertisement of his "New Elucidation of Colours, Original, Prismatic, and Material," price one guinea, has something of the same ring about it. He professes to show "the means of producing the former as from the sun, the common light, the moon, &c., without the aid of a dark closet, in any given proportion, to measure and mix them with the same effect as material colours, in all their superior brilliancy, equalling the most superb rainbow, with coloured plates, &c." It

seems, too, that he gave practical demonstrations, but was tiring of it, for the advertisement ends with the following intimation: "Those persons desirous of attending the lecture on the subject, which exhibits the colours on a large scale by means of a wedge, 60 feet in length, equal to many rainbows, must send in their names early, as Mr. Sowerby has not leisure to repeat it often, and intends to dispose of the apparatus."

The foregoing extracts form only a very small part of the contemporary associations. Mr. Scott's *Marmion* and *Lay of the Last Minstrel*, splendidly embellished; a beautiful edition of Dr. Watts' *Divine Songs for Children*; three favourite poems, *Henry and Emma*, *The School-mistress*, and the *Dying Negro*; and *A Panorama of Wit*—are a sample of the variety of literary productions offered to the public. W. Botting Hemsley.

## NEW OR NOTEWORTHY PLANTS.

### LIPPIA IODANTHIA

Is the name of a Verbenaceous shrub discovered in the environs of Cuernavaca (Mexico) by Pringle. A woodcut illustration is given in *Garden and Forest*, March 11, p. 105. It is described "as a shrub 5 to 10 feet in height; its small yellow flowers are borne in purple bracted heads, nearly an inch in diameter, and these profusely cover the branches of the plant, making it a lovely object through many weeks of the autumn." According to the figure, the stalked leaves are opposite, lanceolate, serrulate, wrinkled, and the flower-heads are produced at the ends of slender axillary peduncles, exceeding the leaves in length.

### PEREZIA SONCHIFOLIA, Baker.\*

This is a curious and pretty annual or biennial Composite, introduced from Uruguay by M. Ed. André. The root-leaves are long and narrow, sharply lobed and cut, the upper ones sessile or amplexicaul. The white flower-heads measure about  $\frac{3}{4}$  or 1 inch across, and are arranged in loose terminal panicles. Ligulate florets white, overlapping one another, and giving the appearance of a double flower. M. André says the plant may be grown either as an annual by sowing in heat in spring, and pricking-out later on, or as a biennial by sowing in the open air in autumn, in which case the protection of a frame is necessary.

### NEW CACTI.

In the *Bulletin of the Muséum d'Histoire Naturelle*, n. 8, M. D. Bois mentions certain new or noteworthy Cacti introduced from Lower California, viz.:—

*Cereus Camouglit*.—A dwarf shrubby species, with diffuse branches bristly with spines; the fruit is said to have an agreeable flavour.

*Cereus Digneti*.—A species with tuberous roots, from which rises a single slender branching stem, resembling a dead stick, the young shoots being green. The flowers are white, and open at night; fruit red.

*Echinocactus Peninsulæ*.—An "enormous" species, 7 or 8 feet in height, stem ovoid or club-shaped, traversed by twelve to twenty ribs; spines red, with a yellow point; flowers reddish externally, yellow within.

*Opuntia Alcaches*.—The stems are cylindrical, much branched; spines slender; flowers greenish-yellow; fruit sub-globose, spiny, deeply umbilicate.

*Opuntia Cholla*.—Also a South Californian species, with cylindrical much-branched stem; spines radiating; flowers rose-coloured; petals lanceolate. Fuller details are given in the February number of the *Journal of the Société Nationale d'Horticulture de France*, p. 226.

\* *Perezia sonchifolia*, Baker, in *Flora Brasiliensis*; André, in *Revue Horticole*, March 16, 1896, p. 134, c. ic. color.

## ORCHID NOTES AND GLEANINGS.

### ONCIDIUM SARCODES.

MR. ERNEST A. TUCKER, Vernor Lodge, Preston, Brighton, sends a sketch and particulars of a fine *Oncidium sarcodes*, which is noteworthy. Mr. Tucker says: I have a plant of *Oncidium sarcodes* now in flower in my Orchid-house, with 176 flowers fully developed and open. The main stem of the flower-spike is about 8 feet long, and has numerous branching spikes varying from 1 to 3 feet in length. I shall be glad to know if this is an unusually large inflorescence. [It is. Ed.] The flowers of my plant are very bright yellow, not much blotched with chestnut brown.

### ORCHIDS AT OAKWOOD, WYLLAM, NORTHUMBERLAND.

To be able to say that quite 90 per cent. of the plants forming the collection are from seeds, cross-fertilised, and raised on the place, is an experience unique in the history of Orchid culture. It is a fact that the Orchid establishment of Norman C. Cookson, Esq., more than bears out the assertion, incredible though it may seem to those who have not watched the development of Mr. Cookson's interesting and scientifically-worked hobby, the raising of hybrids and crosses of Orchids which shall not only be different from anything in cultivation at the present day, but also distinct gains to gardens; or who have not seen the result of his labours and those of his careful gardener, Mr. Wm. Murray, when these have been exhibited at the Royal Horticultural Society's meetings, where they seldom fail to secure high honours.

In passing through the neat block of Orchid-houses, which are span-roofed with the exception of the *Odontoglossum*-house—a lean-to, several salient matters command attention, and chief amongst these is the clean, healthy condition of the plants, both parents and offspring, in all stages of growth; the coolness of the temperature maintained, and the well-ventilated condition of the houses; the rapid strides which the seedlings make from the first tiny pseudo-bulb to the mature-flowering growth, and the extraordinary floriferousness of the plants. Much of the success in maturing good seeds, raising the plants, and afterwards flowering them quickly, is attributed to the careful ventilation and heating of the houses.

In the matter of heating, the houses are furnished with plenty of 4-inch piping, which secures the desired temperature without driving, even in very cold weather; and it may be said that hot-water pipes are never allowed to get hot—only warm. In some of the houses an overhead hot-water pipe (which Mr. Cookson and most other Orchid-growers consider a pernicious innovation unless very carefully managed) is run just under the eaves of the roof, and some good is got from it by allowing the heated water to circulate in it late at night when the weather is very cold and frosty, turning it off early in the morning. This arrangement of pipes is not used for the purpose of raising the temperature, but to prevent the condensation of moisture and the consequent drip when the weather is very cold outside.

In all the houses the staging consists of close, flat tables covered with broken coke (not gas coke), which is excellent for the purpose, as it takes up a large quantity of water, and is a good evaporator. Above these is open wooden trellis-work staging, on which the plants are placed. The smallest seedlings are put in suitable small pots, which are secured fifteen or twenty together in shallow pans. Hard upon 14,000 home-raised seedling Orchids are to be found at Oakwood, and about them and their habits many interesting particulars can be gleaned, some of which confirm and others confute popular notions. For example, it is a common thing to hear that Orchids are killed or much debilitated by seeding and yet Mr. Cookson's experience is that if properly looked after, the parent plants need suffer but little even in the case of subjects reputedly difficult to manage—and not at all, so far as the general run of Orchids is concerned. In support of this he

shows many instances—two of the more remarkable being the plant of *Dendrobium McCarthiae*, which he has had for fifteen years and repeatedly seeded; and one of *Phaius tuberculosus*, of the first importation, which has borne fruit several times, the last occasion being in January, 1895, and yet the plant is in good health, flowering again, and again destined to bear seed. These hybrid *Phaius* are considered to be among the most satisfactory of hybrid Orchids, and a great show is now formed by those which are in flower. The original plant of *P. × Cooksoni* has nine fine spikes of flowers; and a companion plant is in use in the drawing-room, where it will last a longer time than in the Orchid-house, and be rather benefited than otherwise by the change—at least, that is the experience at Oakwood. In the new hybrid between a fine form of that noble and distinct plant known in gardens as *Phaius Sanderianus* and *P. tuberculosus*, and of which there is a thriving batch, the highest point of excellence will

original *D. × chlorostele*. The favourite class of the *D. × Cassiope* type here are charming flowers, and the newer hybrids far surpass the original in size and beauty, but still retain its floriferous character. Two of the best of this class are *D. × Doris* and *D. × Cassiope virginale*. The hybrids having an affinity to *D. × Ainsworthii* also make a splendid show, and are all the more attractive owing to the endeavour made to get away from the uniformly pale rose-tinted flowers of the old type, into varieties with richly-coloured or with pure white flowers. One of the most beautiful of the whites is *D. × Leechianum album*, a large flower, pure white, with a clear purple base to the lip; and of the coloured *D. × Dulce*, Oakwood variety, a fine thing, with pure rose-pink tinted flowers, and dark base to the labellum. A very interesting incident in cross-fertilising Orchids is seen in the very fine display of blooms on a large batch of home-raised *D. nobile* obtained by crossing *D. nobile nobilium*, and the tri-

very free to grow and flower, the plant having borne over fifty of its fine richly-coloured blooms at a time. Among crosses flowering for the first time, the most distinct and remarkable is *D. × Murrayi var. D. nobile* ♂ and *D. albo-sanguineum* ♀. It has a very large and perfectly formed wax-like, white flower, the base of the lip of a rich purple colour, and its apex soft primrose. It is altogether unlike any hybrid previously flowered, its stout pseudo-bulbs showing more of *D. albo-sanguineum* than the flowers.

In the next range in the first division are some specimens of *Phalaenopsis* and some rare *Cypripediums*, among which are two plants of *C. callosum Sanderæ*, the colourless callosum, which is in its class as *C. Lawrenceanum Hyeannum* is to its species. These it is intended to raise true, and already the attempt on *C. Lawrenceanum Hyeannum* is being proved, the first to flower being just about to expand, and is evidently true. In the next division are the small seedlings of new crosses in *Dendrobiums*, in



FIG. 51.—FREESIA REFRACTA (TRUE). (SEE P. 392.)



FIG. 52.—FREESIA ALBA. (SEE P. 392.)

probably be attained until some fine new importation induces some cross breeder to traverse the field once more.

In a garden where the raising of new varieties is the chief concern, one might expect to see a number of plants seeding, but perhaps not more than ten or a dozen met the eye; and here, too, we find Mr. Cookson's experience differs from that of other raisers who obtain an extraordinary large number of fructified ovaries, and but a very few seeds capable of germinating. This gentleman considers that nine-tenths of his seed-pods give satisfactory results, and the explanation of this is, that nothing is done at random—that he and his gardener work intelligently, and watch the nurselings constantly.

The show of flowers at present at Oakwood is chiefly made by the home-raised *Dendrobiums*, which make a brilliant display in the first division of the span-range devoted to them. Among them are many varieties of the hybrid here raised between *D. Linawianum* and *D. Wardianum*, the largest and richest in colour, and with a labellum closely approaching that of *D. Wardianum*, being known as *D. × Owenianum*; while the paler and least showy crosses are identical with the

labelloid *D. n. Cooksoni*. In the progeny, all of which bear very fine flowers, no two are alike. A few are identical with *D. n. Cooksoni*; and there is among them another charming novelty, *D. nobile Arnoldianum*, which is in the same way, but with lower sepals normal in form, but marked with dark purple on the lower halves. A few are richly coloured like *D. nobile nobilium*; one is a fine white, near to *D. n. Schroderianum*; and all the forms and all the shades of colour are represented. If a single pod of home-raised seeds gives such variety, need we wonder at the variation in imported plants, which forms a great factor in preserving the interest in Orchids.

*D. × Sybil* (*Linawianum* ♀, *higibbum*), of which there are several in flower, is one of the brightest and most distinct of hybrid *Dendrobies*. *D. × Bryan* (*Inteolum* ♀, *Wardianum*), a charming thing, with large soft yellow flowers, barely showing evidence of the colours of *D. Wardianum*; *D. × Astrea* (*Inteolum* ♀, *crassinode*), a very singular and pretty yellow flower, with slate-coloured tips to the segments; and *D. × Venus* (*Falconeri* ♀, *nobile*), one of the most gorgeous of known *Dendrobies*, and here in its home

which *D. Brymerianum*, *D. McCarthiae*, and others likely to produce distinct things, are much employed.

The next is a *Cypripedium*-house, in which many crosses will shortly be proved, and what is perhaps of more consequence than some of them will be a small batch of true *C. insigne Sanderæ*, and some other rare varieties which are coming on from seeds. A fine form, too, of *Dendrobium atroviolaceum* is in bloom, which is set aside for stud purposes. At the entrance to the house containing the almost innumerable little plants of hybrid *Cattleyas*, *Lælias*, and *Lælio Cattleyas*—perhaps the most surprising and interesting feature in the Oakwood collection, which, like the rest of the Orchids here, are kept tolerably cool, is a batch of sturdy vigorous plants of *Phaius Humboldtii*, almost bursting their pots with roots, and which afford a capital instance of the value of observation. Knowing that the plant came from Madagascar, it was at first put into a hot, moist house, but this kind of treatment proved unsatisfactory, and it was removed to a comparatively cool house, where it soon gained in vigour, and now grows and flowers very freely.

Among the nurselings, the Indian yellow *Lælio-Cattleya × Doris* is in flower, and others which have

not yet been seen in flower are about to bloom; but, as their enthusiastic owner says, "It needs not flowers to keep alive the absorbing interest and pleasure of those under whose hands these things have grown from the time they were first seen by the aid of a lens, although it is a red-letter day when any one of them flowers for the first time."

In the lean-to Odontoglossum-house, seven rows of 4-inch piping keep up a genial temperature, and the plants thrive admirably. In raising these plants there is not the good rewards as in the other genera, although Mr. Cookson has some hybrid Odontoglossums coming on, and notably two or three stout plants, the result of crossing *O. crispum* Cooksoni and *O. Halli leucoglossum*. The great success with the Odontoglossums here is by propagation of rare varieties by division. As an instance of this may be cited the fact that the plant of the fine *O. crispum* Cooksoni has now been multiplied into seven; and *O. c. Sandere*, *O. × excellens* "Princess Christian," and other priceless varieties have also been increased in number. Here also are some fine hybrid *Masdevallias*; a beautiful new cross between *M. Veitchii grandiflora* and *M. Harryana cœrulescens*, having a large brilliant orange-scarlet flower, with rays of mauve coloured papillæ. At the door is a simple arrangement for keeping the place cool in hot weather, viz., a curtain over which water slowly trickles from a cleverly-constructed overhead tank.

Many clever contrivances, the invention of Mr. Cookson, who is a skilful engineer, no doubt contribute to the well-being of his Orchids, the tender seedlings among which are likely to vanish at the least reverse. One of the most salutary of these is his method of keeping down insects, by spraying with tobacco-water treated by boiling with lime, and then precipitated with carbonate of ammonia. This preparation leaves not a trace of dirt or deposit of any kind, but effectually destroys all insect life. The spraying is done in the afternoon on a falling temperature, and so finely is it distributed, that the atmosphere of the house resembles a dense fog.

Another useful appliance for propagating *Dendrobis*, &c., is a wirework couch, partly filled with sphagnum moss, and fixed in a healthy part of the house under the staging and above the pipes. Here portions of pseudo-bulbs of things desirable to propagate are placed, and with invariably good results. But turn where we may, we see evidence of skill and forethought — of just those qualities which here bring pleasure and satisfactory results, and the lack of which is often the cause of failure at all points, even in gardens where more money is laid out. The Orchids at Oakwood have to share with hardy herbaceous and alpine plants, hardy bulbs, Carnations, &c., the favour of their owner, and a splendid display of these plants is to be found in the large garden which surrounds his house.

### SOME FINE FREESIAS, AND OTHERS.

ALTHOUGH I have grown these beautiful and most fragrant spring-blooming bulbs ever since their introduction into cultivation by Herr Max Leichtlin, of Baden Baden, now many years ago, never before have I had such a profuse and beautifully abundant crop of flowers on my plants as this spring. I do not attribute this fine bloom to any special method of culture, but rather to the fact that my bulbs though treated in a precisely similar manner in the autumn of 1894 and spring of 1895, hardly flowered at all last spring, but were apparently taking a season's rest, and have now thrown into this flowering the concentrated vigour of two seasons' growth and nourishment. As on a previous occasion when this took place, I found that the bulbs had increased both in size and number on being potted in the autumn, though they had made hardly any foliage and scarcely any bloom. Some of the finest and most distinct of my flowers are depicted in the accompanying woodcuts, the variety Fig. 54, p. 397, is what I grow under the name of *F. Leichtlini major*, and was, I believe, sent out some years ago by Messrs Sutton, of Reading. This has quite superseded the ordinary and much smaller *F. Leichtlini*. Fig. 55, p. 397, is a much

newer and very beautiful and free-blooming form, received some three years ago from Messrs. Dammann & Co., of Naples, under the name of *F. odorata lilacina*; it is an extremely upright piped flower, with a distinct lilac shading suffusing the lower portions of the tube and petals. I received from the same firm with the last-named variety, one named *F. tricolor*, which though distinct in form is, I think, inappropriately named, as there is nothing about its colouring to deserve the name, and which might be more correctly described as *Alba prima*, as the flowers are a pale primrose colour, with the upright standing form of *F. alba*. Fig. 52 is what is generally but incorrectly known as *F. refracta alba*, as it has no title whatever to the name *refracta*, which belongs to a totally distinct and little known species to be described hereafter. The correct name of this species is therefore *F. alba*. Fig. 51 is the exceedingly curious and scarce, but by no means beautiful, *F. refracta tricolor*, which was figured long ago by P. J. Redouté in his splendidly illustrated work, entitled *Les Liliacées*, on the 419th plate of the seventh volume, under the name of *Gladiolus refractus*. Its flowers are much smaller in size than the others, and are of a greenish ground colour, with orange markings on the lip. It will be seen from the woodcut how curiously twisted the flowers are on the spike. I am indebted for bulbs of this curious and rare species to my friend Prof. Michael Foster, F.R.S., of Cambridge, who kindly gave me a few bulbs of it when I visited his most interesting garden in the summer of 1887, which, though grown carefully each year ever since, have never bloomed till now. The foliage of this species is much narrower and of a much deeper shade of green than any other *Freesia*. In form and size of flower the last named sort comes nearest to the only other distinct *Freesia* known to me, *F. aurea*, which I received many years ago from Messrs. Henderson, the once well-known nurserymen of St. John's Wood. Its flowers are of a deep golden self, and are quite scentless, and it is a shy and uncertain bloomer, not coming into flower till all other sorts are over. *W. E. Gambleton, Belgrove, Queenstown.*

### INTERDEPENDENCE OF PLANTS AND ANIMALS.

WE take the following from Mr. Rodway's delightful and valuable book *In the Guiana Forest*.—One day in passing along a creek, we had an experience which set us a-thinking. We were collecting Orchids, and up in a tree overhanging the water was lodged a great clump of *Oncidium altissimum*, its long graceful flower-stems loaded with yellow butterfly-like blossoms hanging over in every direction. It was a magnificent plant, fully 4 feet thick, with panicles rising to a height of 12 feet. It is needless to say that we wanted it for our collection, and that we sent one of our boatmen to fetch it down as carefully as possible. This, however, was easier said than done, for, first, it was attached to the tree; then it was threaded, as it were, with a number of bush-ropes; and finally, more or less entangled in a crowd of branches. Taking a cutlass, the negro climbed up to its level and began to chop at the obstruction, but almost immediately came down with a run, rubbing his hands and face, and picking a swarm of ants from his clothes. Looking up we could see that the attack on the plant had brought out its garrison, which blackened every leaf and flower-stem, and made the negro descend in such hot haste. We will not go into details as to how we procured the plant at last, but only mention that the ants kept us at bay for fully half an hour before we could throw it into the stream. Then came the work of getting rid of the virulent insects by pushing the whole mass under water with a long bamboo, and keeping our bateau up stream to prevent their coming on board. As the roots became soaked, the creek became covered with black patches, and it was quite a work to keep them from running along the Bamboo.

Presently, however, several larger forms were seen swimming in the water, and these turned out to be

cockroaches, which also went floating down with the ants. But we had not yet dislodged all the occupants, for soon a large centipede was seen struggling in the crowd, and, as may be supposed, we did not hurry to take in the plant until sure that this was the only one of its kind harboured by the *Oncidium*.

One of the party suggested that this was 'a happy family,' but we could hardly agree with him if he meant that they dwelt at peace with each other. To us it brought up the great problem of the dependence of plants upon the natural elements, of animals on plants, and these again on other animals. By means of the soil, water, air, and light, the forest tree rose beside the creek, and up it had grown the elegant *Bignonia*, whose flowers were hanging so gracefully far overhead, and whose stems stretched like cords from base to summit. On a fork of the tree, and among the bush-ropes, the Orchid had found a congenial habitat, where it grew and flourished for years, developing a great mass of roots to be occupied by the immense horde of ants. The plant might perhaps have lived without such tenants, but it is most probable that its flourishing condition was mainly due to these little creatures. For they were there with consent, and in return for house accommodation, undertook to keep off the enemies of the Orchid, of which the cockroach was one of the most inveterate. Why, then, were these pests allowed to be present? We can only suppose that the attraction of the plant drew them, and that they had not yet been captured. For it is not to be supposed that even this omnivorous insect will be deterred from attempting to get a delicious meal simply because its enemies are in the fore. Again, was not that one of the reasons why the ants were so ready to take up their abode among the Orchid roots? Where its food was to be found the cockroach would certainly come, and the ant as certainly find its prey. And what shall we say of the centipede? Like the ant, it loves a fat cockroach, and was present in hopes of finding one.

We might carry this example of interdependence still further, although the other developments did not come so immediately under our notice. The tree was an etabally (*Vochysia*), and far above us exhibited a glow of yellow from its being literally covered with golden blossoms, over which were flitting hundreds of sulphur-coloured butterflies, hard at work sipping nectar, and at the same time carrying on the grand work of fertilisation. The tree is a conspicuous object from a long distance; the butterflies are attracted to it in hopes of procuring food, in sipping the nectar they fertilise the flower, and thus enable the etabally to procreate its species. Then it might easily happen, although we cannot say that it did in this particular case, that the first stage in the life of the insect was passed on the same tree. The butterfly sips the nectar, and then deposits its eggs on the under surface of the leaves, from whence come a host of larvae to spread devastation all around, perhaps leaving the tree almost bare. But this is little more than a rough pruning, which causes it to flower all the more freely, and produce a greater supply of nectar for the perfect insect.

Advancing another step we see that the seed produced through the medium of the butterfly attracts birds and monkeys in the day, with bats above and rodents beneath at night, those above playig have among the branches, quarrelling and fighting with each other for the fruit, and dropping them by thousands to feed the nocturnal prowlers. Fioding the tree so convenient the birds pair, build their nests and bring up their young upon it. Now for another aspect: the host of caterpillars bring a crowd of insectivorous birds, which also make themselves at home in the midst of such a grand feast. These are accompanied by a host of flies which have scented their prey from afar, and now come to help carry on the work of preventing the larvae from going too far; and because the flies are there, the goatsucker comes hovering round at night. Unlike the birds, however, the flies do not kill outright, but, as it were, take possession of them for the benefit of their offspring. Piercing the skin of a larva they deposit their eggs underneath, so that when they hatch the young have

free range of their host, and eat up everything but what is then the membranous covering of a pupa.

Now we come to a further aspect of this interdependence. Hawks soar overhead, and hearing the loud chatter of parrots and other birds, now and again pounce down, and drive them to hide in the densest part of the canopy of foliage. But even here they are met with a new misfortune, for snakes have climbed from below to get their share of the good things, and are ready to pounce upon them as they flutter away from the hawk. Down below, in the lower branches or on the ground, the jaguar, puma, or ocelot, lies in wait, and he also lives because that cloud of yellow butterflies gambolled about the flowers a few months ago.

Besides all these the seeds and fruit of forest trees go to feed the shoals of fish which make their way from the great rivers, and swim about everywhere during the flood. On account of their presence, the great jabiru, or giant stork, frequents the inundated tracts, and vies with the alligator and the Indian for a share of the finny spoil.

We might go on further, and tell of the weevils which bore into the fruit as it lies on the ground, of the cockroaches and great beetle larvae with their parasites, and of the ants and scorpions which hunt these, and of the thousand animalcule which also obtain their share of what Nature has lavished so freely. All these get their fill, and yet there are always more seeds left than can find room to grow.

(To be continued.)

### VIOLET PRINCESS OF WALES.

THIS is a Violet of French origin, with very large flowers for a Violet, strongly fragrant, a vigorous tufted habit, and ample leafage. Messrs. H. Cannell & Sons, Home of Flowers, Swauley, and Mr. Owen Thomas, Her Majesty's gardener, Frogmore, showed this variety at a meeting of the Royal Horticultural Society, at Westminster, last year, receiving an Award of Merit for it. The flowers (fig. 53), which have petals above the ordinary size, and of much substance, are of a pleasing shade of blue, and on account of the length and strength of the peduncle, it will be a great acquisition to florists and bouquet makers. Our specimens were supplied by Messrs. Cannell.

### INSIDE GRAFTING.

(Continued from p. 295.)

RESUMING the article on above useful method of propagation, it may be said that it may, within a wide limitation, be practised all the year round, but the time of maximum success will be when the subject under treatment is approaching its growing period, with the sap in a condition to build up what is called growth. This season the cultivator hastens by artificial heat, but it stands to reason that immediately after this is completed, it would be hurtful to again excite the plant to further effort. It is, therefore, safer to limit the practice to the winter and early spring months, taking the first period for subjects that shed their leaves in the autumn, while the early part of the year and spring is held in reserve for evergreens and Conifers, by which term I indicate all the Pine and Fir tribe, as well as Cedars, Cypressess and Yews. The finely-coloured and golden forms of Cupressus, Juniperus, and the so-called Retinosporas now so much used in the best gardens for winter bedding, may be rapidly and easily increased thus, so I feel that many gardeners may like to learn the best methods.

Rhododendrons, evergreen Kalmias, Skinmias, Clethras, and Andromedas require a somewhat different treatment to Aucubas; they and the Arbutus had better be increased by side grafting. Taking the grandest of all flowering evergreens first, the Rhododendron is a most facile subject, the stock used is that known as *R. ponticum*; but if the gardener will search around his old Rhododendron beds, he will doubtless find numerous seedlings growing between and around his old plants, and these lifted with a small ball of earth in the autumn, and hard potted in a mixture of peat and a little sand, will be found to make very good stocks.

It is better, however, to grow these for one year plunged as directed for the Manetti stock, as the better established they are the more assured is success, but it is rarely necessary to turn them in the bed, as like all the Heath tribe (*Ericaceae*), they make fine fibrous roots, which seldom get away from the pot into the plunging material, unless it be into the surface-soil, which is of little moment. Bringing a few stocks into the propagating-pit when the buds "plump up," one can begin to use them. Select your stock, corresponding in size to the graft you wish to put on, cut out from this half through a piece 1 inch or more long on the mature wood, but close up to the growing shoot, and then cut your scion with one or two buds accurately to fit this, binding it in tightly with budding-cotton or raffia. Smear over the union with clay-mixture or grafting-wax, and plunge the grafted stocks into gentle heat, keeping them close under the inside lights, shading from

*vice versa*, which seems to corroborate this view. More will be said concerning this highly ornamental tribe under the head of "Layering and Inarching in the Open." It has been said, and there may be some truth in it, that evergreens grafted or budded on deciduous stocks, shed their leaves, but this is not proved. Here is a problem for those of an experimental turn. Experience.

(To be continued.)

### THE EFFECTS OF FROST ON PLANTS.

FROSTS are generally classified in three groups. We have (1) Early frost, which occurs in autumn before the growth of plants has been completed; (2) Winter frost, during the period of vegetative inactivity; (3) Late frost, which occurs in spring or early summer, after plants have resumed growth. The early and late frosts, coming as they do at a time when plants are unprepared to resist them, cause most damage, and for the most part it is frost in spring or summer, rather than frost in autumn, that the forester has to fear.

The way in which a young succulent shoot or leaf is affected by frost may be briefly described. Like all vegetable tissues, a shoot or leaf is made up of small microscopic chambers called cells, and these consist of a thin membrane which encloses protoplasm—the essential constituent of a living organism—and cell-sap, which is a watery solution of various sugars, salts, &c. In certain parts of shoots and leaves, the cells are not in contact with each other on all sides, like close-fitting bricks, but are only in contact at certain points, like eggs in a basket, or marbles in a jar. The open spaces between the cells are known as intercellular spaces, and in a normal state of the plant they only contain air. When the temperature of such a plant-tissue falls ever so little below 32° F., the cells are induced to part with some of the water which they contain; and this water, passing through the cell walls, becomes converted into ice in the intercellular spaces. The solution of cell-sap in the cells themselves is not frozen because, being a solution, it does not freeze at 32° F., but only at a somewhat lower temperature. As the temperature falls further and further below the freezing-point, more and more water is abstracted from the cells and converted into ice; and, of course, the more water is withdrawn from the cell-sap, the stronger does the remaining solution become, and the lower falls its freezing-point. This abstraction of water from the cells results in an important change occurring in the cells; for whereas at first they were quite full of protoplasm and cell-sap, and their walls distended like an inflated balloon, the distension is relieved by the loss of water, and the cells shrink somewhat and assume the condition of a balloon that has partially collapsed. In their distended state the cells are said to be turgid; in their shrunken condition they are said to be plasmolysed. Now, whereas a young succulent leaf or shoot with all its cells turgid is able to hold itself erect, it will become limp and drooping when the turgidity is replaced by plasmolysis. It is owing to this cause that the young leaves and shoots of plants drop or become prostrated under the influence of frost.

So long as the frost continues, the condition of shrunken cells and ice in the intercellular spaces will be maintained; but what will occur when the temperature rises above the freezing-point will depend very much upon whether the thaw is slow or rapid. It is a well-known fact, that the effect of early or late frost on plants depends not so much on the actual intensity of the frost as upon the character of the morning that succeeds the frosty night. Should the morning be dull and cloudy—that is to say, should the rise in temperature be very gradual—little or no harm may result; whereas should the sun rise bright in a cloudless sky, the worst effects are to be feared. We shall best appreciate the results if we look at the two cases separately. When a frozen plant is thawed very gradually, the ice in the spaces between the cells is very slowly reconverted into water, the



FIG. 53.—VIOLET PRINCESS OF WALES.

direct sun, and occasionally syriaging them. Leave them thus for a month, when the union should be perfect; ascertain that this is so and loosen the tie. In a day or two the plants may be gradually hardened off, brought out into the house, but kept shaded for a time. Use the syringe freely, when a strong growth will ensue, and when this is mature, the young plants may be brought out into a cold house, and in the summer bedded out into the open, or re-potted into larger pots, to be used as pot-plants for forcing or conservatory decoration. The greenhouse Rhododendrons, as they are termed, being mostly hybrids of the Himalayan and Japanese, with other species, can all be grafted on *R. ponticum* or the seedling hybrid stock. The hardy Azalea, too, will do on this stock; indeed, some botanists consider the Azalea and Rhododendron to belong to one and the same genus, probably *R. azaleoides* being the connecting link. We know in practice that some Azaleas will graft on Rhododendron stocks, and



reconversion, in fact, being effected at a rate which enables the shrunken cells to re-absorb their lost moisture and to return to their originally turgid condition. In such a case, frozen plants may not suffer at all, and the frosty night may pass without leaving any appreciable effect.

Very different, however, may be the case where a frozen plant is rapidly thawed. As before, the ice is reconverted into water; but if the change takes place quickly, the cells are unable to re-absorb the moisture, which has thus the opportunity of escaping through the myriads of minute apertures that occur on the surface of leaves and young shoots, and of being lost to the plant. In this case the shrunken cells do not again become turgid, and therefore the affected leaf or shoot, instead of resuming its normal condition, droops limp and lifeless until the plant pushes it off, and it falls to the ground.

In the majority of cases, therefore, plants affected by late frosts die indirectly of drought. If, however, the frost should be very severe, the protoplasm may be affected in such a way as to be completely disorganised, in which case the rate of thawing can make but little, if any, difference to the plant. As a general rule, however, the protoplasm of our hardy plants does not suffer in this way under the influence of spring and autumn frost; that is to say, it is the rate of thawing, rather than the actual degree of cold, which determines the ultimate result. *Dr. Somerville, in "Transactions of the English Arboricultural Society," vol. iii., 1895-96.*

### ORCHID NOTES FROM KEW.

**EULOPHIELLA ELIZABETHÆ.**—This species continues to thrive at Kew, where two plants of it are now in flower, one with two, the other a single spike, the latter bearing forty flowers. It has made good growth in a hot moist position in a tropical pit under the same treatment as has always proved successful at Kew for *Diacrium bicornutum*. Madagascan Orchids are not generally well behaved under cultivation, and the *Eulophiella*, when it first arrived, with its halo of malarial swamps, tree lians, &c., did not look hopeful. It has, however, proved satisfactory so far, and bids fair to remain at Kew for some years. The plants are grown here in baskets suspended near the roof in a steamy atmosphere. They are planted in sphagnum-moss, and receive a liberal allowance of water at the root whilst growing. They make very stout rhizomes and long plaited leathery leaves, but the pseudo-bulbs made here are much smaller than those on the plants when imported.

#### MORMODES HOOKERI.

A plant of this rare and handsome species is now in flower at Kew. It has fusiform pseudo-bulbs 3 to 4 inches long, and a short erect scape, the flowers on which are 2 inches across, the sepals and petals ovate, lanceolate, and coloured reddish-brown; the lip broadly obovate, narrowed to a stalk-like base, the blade rounded with recurved margins, and covered with short velvety hairs, its colour being deep velvety brown-crimson. The column is short, and has the usual twist. The species is a native of Central America. It was first introduced by Warszewicz from Panama, and flowered in the garden of Mr. Llewelyn at Penllergare in 1851, when a figure of it was published in the *Botanical Magazine* under the name of *M. atropurpurea*. Lindley afterwards referred it to *M. barbatum*, but it was renamed as above by Lemaire. The plant now in flower at Kew was received from Mr. R. Pfau, of Costa Rica, two years ago.

#### CYRTOPODIUM ANDERSONI.

A large specimen of this Orchid is now in flower in the Victoria-house at Kew. It has about a dozen pseudo-bulbs, 1 yard or more in length, and 2 inches in diameter at the broadest part. The scapes, which spring from the bases of the new growths, are 5 feet in height, and they bear numerous bright yellow flowers, each about 2 inches in diameter. It is a noble Orchid, not suited for any but a large house, and it requires plenty of heat and moisture. It is sometimes known by the name of *C. cardiochilum*.

According to Veitch this was one of the first tropical Orchids introduced into this country. It is a native of several islands in the West Indies, and also of Brazil, that is, if *C. cardiochilum* is to be included under this species. A plant of the latter form was introduced to Kew from Rio about fifteen years ago, and grew for ten years in the Victoria-house, where it made pseudo-bulbs nearly 5 feet in length, and produced tall branched scapes of flowers. The specimen under notice was presented to Kew by Messrs. F. Sander & Co. W. W.

## CULTURAL MEMORANDA.

### CYPERUS DISTANS.

This is a very useful plant, found in gardens under the synonyms *C. Fletcheri*, *Carex sylvatica*, and others. It has long, bright-green foliage, and umbels of grassy flowers mounted on tall stalks, a very desirable plant for making groups or filling vases and other purposes. It has the recommendation of hardiness, and therefore suitability for use in unheated apartments, standing in a healthy condition in such places for a longer time than any plant I know of. Being a marsh plant, it can scarcely be over-watered if the drainage is not clogged. When grown in small pots, it is a useful plant to employ in the decoration of the dinner-table. It is easily increased by division, potting the rooted pieces in sandy peat and loam, and placing them in a close pit till established; afterwards the temperature of a greenhouse will suit it. *Cyperus alternifolius* and its variegated variety are useful for house-decoration, but they are tender, and soon become unsightly if exposed to a low temperature. B. W.

## THE WEEK'S WORK.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Bollington Hall, Burton-on-Trent.*

**FIG TREES** should now be freely exposed, and all winter protection removed, it being unlikely that we shall experience after this date any severe frosts that will cause them damage. If Fig-trees are properly stopped and disbudded during the growing period, very little winter-pruning is required. Such as is needful should be done as soon after the fall of the leaf as possible, the wounds at that time healing quickly; whereas, if left until the spring, the sap has become active, and the branches thus pruned, are very prone to die back. Therefore, at the present time, do no more than cut out the gross and unripened wood, and any of the old fruiting-shoots for which there is not ample space. The fruits, if shaded by a mass of leaves, do not ripen so well as those having the advantage of light and air. If it is intended to increase the stock of trees, some cuttings of well-ripened wood of the previous season's growth, having a heel of the old wood attached, should be taken off before the sap rises. These should be inserted singly into small pots filled with a mixture of cocoa-fibre refuse and sand, removing all the buds from the portion of the stem to be inserted in the soil. Plunge the pots in a propagating-frame, where the bottom-heat can be maintained at 75°, with an atmospheric heat of 65°. They will soon form roots, and may be potted on as required, giving them a temperature of 65° to 75° with a rise of 10° by sun-heat. A little bottom-heat for the plants after the first shift will be beneficial.

**FRUIT BLOSSOM.**—Pyramid trees of Apples, Pears, and Plums, are, with very few exceptions, abundantly covered with fruit buds, and the two latter are about to burst into blossom. Any of the smaller trees, especially of the finer varieties, may with advantage be given some sort of protection. Pea-sticks, if well furnished with small twigs, will in themselves greatly assist in warding off spring frosts, and they will also in some degree break the force of cold easterly winds. If a piece of thin tiffany, or old muslin curtains, could be lightly drawn round the trees, on an evening when appearances denote a sharper frost than usual, the crop will be made more secure. Such makeshift protections may present an untidy appearance for a few weeks, but if by such means a full crop of choice fruit is secured, the compensation is not inconsiderable.

### PLANTS UNDER GLASS.

By J. SO. MCINTYRE, *Gardener, Woodside, Darlington.*

**THE PLANT STOVE.**—The majority of the plants having been put in proper order for the season of growth, the shading of the house, which ought in all cases to be capable of being rolled up, must be put in order, the tender growths of the plants rendering its use very necessary during bright sunshine, but only at such times.

**THE FERNERY.**—The Ferns will in nearly all cases have started into growth, and increased attention will be called for in affording water to them. The water for use in a fernery should be rain-water by preference, or, failing that, river or pond-water. If hard water must be used, the water-tanks should be filled some time previously to the water being used for watering or syringing, the exposure to the air tending to "soften" it somewhat. In watering ferneries where rock-work is largely used and the Ferns are planted out, and especially ferneries newly formed and planted, the plants before becoming established are sometimes afforded too much water, with the usual result of a spongy soil and stunted growth. In established ferneries, where usually the Ferns have large quantities of roots, heavy waterings are demanded when the plants are growing.

**ADIANTUM FARLEYENSE.**—The method I adopt with this variety is a simple one, yet it is very successful. It is grown in the form of half-specimens, and also in small thumb-pots, the latter being well adapted for dinner-table and other indoor decorations. To have these small plants in fine condition, the larger plants are divided into single crowns while in a quite young state, and potted firmly. Mistakes are sometimes made in potting *A. Farleyense* entirely in peaty soil; but the best compost, and one in which it thrives, is good strong fibry loam two parts, and one part peat, with river-sand in sufficient quantity to keep the soil porous. The drainage should be ample. Other conditions are a warm-house and plenty of moisture whilst the plants are growing, the avoidance of thick shading, as the more the plants are exposed to sunlight in reason the deeper the green colour of the fronds.

**HYACINTHS.**—If these bulbs are being grown for exhibition, a great difficulty is experienced in mild springs in retarding the flowering, as is the case this year. If a greenhouse with a northern aspect is at command, the plants may be placed therein, care being taken to exclude bees, which, if admitted, soon disfigure the flowers, particularly white varieties, and tiffany should be placed over the ventilators to exclude them.

**POT ROSES** may have applications of some kind of fertiliser, continuing its use during the flowering season; and just before removing the plants to the show-house, see that they are freed from aphides. The weaker Tea Roses will probably require some slight amount of support from light-green painted sticks, and this should have attention some time before the plants come into flower. H. P.'s, when sturdily grown, require no supports.

**DAPHNE ODORATA.**—The plants should now be repotted or top-dressed, as may be necessary, using fibry loam of good quality and sharp sand. Place them in gentle heat to start them into growth.

**BORONIAS.**—These plants, now in full bloom, are beautiful objects in the conservatory, and serviceable also in indoor decoration; *B. megastigma*, a very fragrant species, being a charming plant for placing in vases in apartments. All *Boronias* when in flower do best in a cool house. The plants, as soon as the flowering is over, should be cut back, so as to force them to make compact heads. In potting *Boronias*, which in the case of young stock should be performed before the flowering, fibry peat of the best quality and coarse silver-sand should be used, pulling it to pieces but not sifting it, and doing the potting by the aid of a rammer.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Droymsire, Miltidenead.*

**TOMATOS**—Where strong plants are required for planting against fruit walls and on borders, seed should be sown during the coming week. It being a very desirable matter that the seedlings from the start to planting-out time should receive no check, or be stunted by want of pot-room, it is useless to sow very early. Such early plants run the risk of remaining some time in a pot-bound condition whilst waiting for suitable and safe weather for planting out, which rarely occurs, even in southern counties.

until late in the month of May. Seeds may be sown thickly in pots or shallow boxes, and barely covered with finely-sifted soil. The pots, &c., should be stood in a house or pit having a temperature of about 55°, not higher, it being desirable that the seedlings from the first shall be grown as sturdily as possible. As soon as germination of the seed has taken place, keep the pots close to the glass, and pot off singly into small 60's when the plants are large enough to be readily handled, and from these pots they should be transferred to 5 or 6-inch ones, which by planting-time will be filled with roots. Thorough success in Tomato culture depends very much upon the character of the weather—with such a summer as last year almost any variety will succeed; but for outdoor planting it is prudent to choose only such varieties to plant in quantity as ripen their fruits early, of which Sutton's Earliest of All is one of the first to ripen; Parly Ruby, an American variety, of good quality; Frogmore Selected, which fruited admirably last year, but was much less solid and fleshy than some others; and Turner's Prolific, which grown alongside the latter, was of excellent quality. Among yellow varieties, Golden Nugget and Sunbeam are two of the best.

**VEGETABLE MARROWS**—Provided some such protection as hand-lights or garden-frames are available for covering the plants raised early, seeds may be sown forthwith, and by preference singly, in 4-inch pots three parts filled with soil; otherwise nine or ten seeds may be sown in a 6-inch pot, the seedlings to be transferred singly to other pots as soon as they get large enough to handle. The seed-pots should be placed in gentle heat, and when the seedlings are large enough to be potted off, they should be grown on for a week or two in a temperature of about 50°, and well exposed to sunlight. If the seeds are sown singly in pots, no repotting is necessary, but they should be earthed-up when 4 inches high, leaving, of course, space for affording water. Before the plants are put out into hills or beds, some amount of hardening-off is necessary, which is best done in a garden-frame. It is always a safe proceeding to protect the newly-planted Marrows with hand-lights for a few weeks, in case of frost. A large flat bed of leaves or of garden-refuse, 2 feet or more in depth, erected in some out-of-the-way corner, affords a good means of growing Vegetable Marrows; and on this bed should be placed about two wheelbarrow-loads of loam for each pair of plants, making it moderately firm before planting. Pen-y-byd, and the Long White, are two excellent varieties for general use.

**VARIOUS**.—Special attention should be given to early-sown Peas, those raised under glass and planted out on a south border being forwarded a little by affording shelter to the rows in the event of cold weather, for which purpose a line of garden wats may be hung up by their sides to wooden stakes driven into the soil along the front and ends of the border. Where Spruce Fir branches form the protection, these should be thinned out, or removed altogether from the sides of the rows, to prevent weakening of the plants. If birds devour the tops of the Pea plants, slightly strew the latter with soot whilst damp, being, however, careful not to use soot from the boiler flues if coke is the fuel chiefly burned. Any Parsnips, Leeks, Salsafy, or Carrots that may have been left on the land where they grew should be lifted, and laid-in on a north border; or (excepting the Leeks) stored in damp soil or sand in a cold shed. A sowing of Couve Tronchuda, various Kales, and Savoys—providing the latter are required early—should now be made in drills 9 inches apart on a border which can be conveniently netted over to protect the seeds from the birds. If in demand, a pot or two of Chili Capsicums may be sown, placing the seed-pots in heat. Rain having fallen in many parts of the country, the preparation of the ground for seed-sowing is rather difficult, and now every chance must be seized, when the surface is workable, to stir it, especially when beaten down by heavy rains, and thus enable it to dry quickly when the sun shines.

**CARROTS AND BEET**—Assuming the sowing of the main crop of Carrots should be left for some time in April, it will be advisable to sow a few rows of some early kind, such as Sutton's Gem, or Early Nantes, on a sunny quarter as a succession to those sown in frames; and where these appliances are not available, Carrots may be forwarded if sown now on a hot-bed made up as previously advised, making use of boards and mats to improvise a sort of frame, and keeping it covered until the seed germinates. Should the stock of Beetroots be insufficient to meet the

demand till the main crop, to be sown later, becomes ready for use, a few rows of the quick-growing Egyptian Turnip-rooted variety should be sown forthwith in drills 1 inch deep and 15 inches apart. The long Beets are usually much preferred, and there is no difficulty in keeping them quite fresh and good until late in the summer, if pitted in a northerly aspect, shaded by overhanging trees.

**POTATOS**—Weather permitting, another break of Potatoes may be planted, choosing a very sheltered position, planting Ringleader, and Veitch's Ashleaf Kidneys; and if the sets have been standing on end in boxes, they will be furnished with sturdy shoots, and in good condition for planting. The sets should be set in drills drawn to a depth of 5 to 6 inches, and 2 feet apart; and a sprinkling of dry wood-ashes scattered over the ground and in the drills will aid in producing clean tubers, and render the soil easy to work.

### THE ORCHID HOUSES.

By W. H. WHITE, *Burford, Dorset.*

**CALANTHES**.—Orchids which flower in the winter are much admired, and perhaps none more so than the deciduous species of *Calanthe*. When the plant is well grown, the flower-spikes being large, are very appropriate and valuable for decorative purposes, and arrange well with plants of Ferns, Cyperus, Palms, and others, and when cut they last for several weeks in a cool place. Where a number of varieties can be grown, a succession of flowers may be kept up from the month of November till April. *C. vestita* and its varieties, *C. Sedeni*, *C. bella*, *C. Victoria Regina*, *C. Harrisii*, *C. rubro-oculata*, *C. luteo-oculata*, *C. Burfordiensis*, and the distinct hybrid *C. porphyrea*, are the first to open their flowers, and when these are getting past their best, the varieties of *C. Regnierii*, *C. Sanderiana*, *C. Stevensi*, *C. Turneri*, *C. T. nivalis*, commence to open. The varieties first mentioned have begun to grow, and should be potted when the new growths are a few inches in height, or just before new roots push out. The compost in which *Calanthes* should be potted ought to be more retentive of water than that used for most species of Orchids, and may consist of one-half fibry loam, from which the finer particles have been mostly shaken out, one-fourth dry cow-dung, and one-fourth finely chopped sphagnum-moss, small crocks, and coarse, clean, silver sand, the whole being well mixed together. The compost after preparation should lie a few days in a warm place before being used, otherwise a check may be given the plants. The whole of the old soil should be shaken from the pseudo-bulb, the dead roots shortened to about 1 inch, and every vestige of white or brown scale insects, which commonly infest them, cleared off. The flower-pots should be of various sizes to suit the plants or the accommodation at hand; where this is limited, place five good pseudo-bulbs in a sufficiently large pot, otherwise they may be potted singly, which has advantages in several ways. My practice is to pot the strongest singly in 5-inch pots, and the smaller ones in pots of a lesser size. The pots must be rather more than half-filled with clean drainage materials, over which a thin loamy turf, grassy side downwards, should be placed. When the pots are being filled up, the soil should be shaken down with a moderate degree of firmness to about an inch of the rim; then the pseudo-bulbs should be placed on the surface and made firm with more soil, so that the remnants of the roots and bottom of the new growths are covered, which will leave about half an inch of space for holding the top-dressing of loam, which the plant should have when established and it is about one-half through the season of growth, a time when young roots will usually appear on the surface. For the first few weeks after re-potting, the plants should not receive much root-moisture, which is a point in their culture the beginner should pay particular attention to, for if the compost becomes unduly moist the tips of the young breaks are liable to turn black and the health of the plants to be impaired. My practice is to place them in a light airy position in the East Indian-house, and afford no water at the roots, but merely to moisten the pots with water through a syringe till the growths show signs of progress, and then to occasionally slightly sprinkle the soil with a fine rose watering-can. When the plants get firmly rooted the growths will be in full vigour, and abundance of water may be afforded alternately with weak liquid-manure. The stock of any variety or species of *Calanthe* may be increased by taking off the old back bulbs at the re-potting, and inserting them thickly in flower-pots filled with sphagnum-

moss; and just before the appearance of new roots dividing and repotting them as advised for the older examples. No amateur need fail in growing and flowering *Calanthes*, even if he have no house devoted to Orchids, an ordinary stove answering all requirements.

**EULOPHIA GUINEENSIS**.—The plants of this rare species, the rich flowers of which appear in the summer and last a long time in perfection, may now be potted and treated in every particular like *Calanthes*, excepting that when growing they should have rather more shade.

**BLETIA HYACINTHINA** is a deciduous plant, requiring cool treatment, which is now showing signs of growth taking place, and ought no longer to be kept at rest. If repotting be necessary, the pseudo-bulbs may go into *Calanthe* compost, and the plants, when growing, be exposed to the light in the coolest available house, and afforded water copiously till flowering is past, when it must be gradually withheld and the plants stood in the full sunshine to mature. Other species of *Bletia*, when in growth, require also a light position in the intermediate-house.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**THE PINERY**.—The fruits which pushed up about the new year, and are now swelling apace, need have no increase in the night temperature, and 70°, or if very mild 5° higher, is a suitable warmth. If ripe fruits are required with as little delay as possible, rather push on the plants by day than by night, especially making the most of sunshine. Commence to give air to the fruiting-house, when a warmth of 80° is reached, and close it early at 85° or 90°, with plenty of aerial moisture. The bottom-heat may range between 85° to 90°, and more water will now be required at the roots, the soil being kept always moist, whilst avoiding excess in this matter. If the soil round the collar of the plant is sunken, afford a top-dressing of rich turfy loam. Weak guano-water may often be afforded when root-moisture is needed. Suckers should be reduced to one or two on a plant. On bright afternoons the plants and bed may be lightly syringed with tepid-water, being careful not to wet the crowns, as if these are moistened they will grow to a large size, which is an unsightly feature. Fruit now beginning to change to the colour of maturity, should be afforded a well-ventilated house, otherwise the flavour will be inferior; at the same time too much dryness at the root must be guarded against, as anything in the nature of forcing on ripeness at this season in this manner is at the expense of juiciness. Every attention should be paid to the young stock which was repotted early in the present month and in February, which will be in full growth, requiring more air than hitherto, and water sufficiently often afforded so as to keep them growing without check. These plants should be examined on alternate days, and the surface of the soil of recently-potted plants slightly turned over by the hand, when if it be found that though dry on the surface the soil below is moist, and a syringe of water afforded at closing time will suffice to moisten the surface, the plunging materials being moistened likewise—this method being much preferable to indiscriminate overhead syringing. It may be necessary to shade the house slightly during bursts of bright sunshine succeeding a period of rainy or overcast weather, otherwise the leaves will be severely browned and growth checked. The shading may be discontinued as soon as the plants become inured to the sun-line. If the bottom-heat should rise higher than 90°, move the pots from side to side, which will leave a slight space at the sides and prevent injury to the roots as well as let the great heat escape. This precaution is especially necessary where tanner's bark or other fermenting materials are used; a night temperature of 65° will suffice for these plants for the present, as keeping them sturdy and strong is better than long weak leaves.

**CUCUMBER**.—As young plants come into bearing the old plants and beds should be cleared away, the pits, glass, &c., thoroughly cleaned and got ready for successive crops of Melons or of Cucumbers. The temperature at night may be increased to 70°, and the soil kept steadily moist as well as the air. In the daytime the warmth should reach 85° to 90° with sunheat, but lower figures should rule in dull weather. Remove growths not needed for extension, doing this twice a week so as not to remove much foliage at any one time. Warm and weak liquid-manure should be afforded to plants in full bearing, and occasionally top-dressings of rich loam as the roots appear at the sides of the hills.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

## MEETING.

THURSDAY, APRIL 2.—Linnean Society meet.

## SALES.

MONDAY, MARCH 30 { Roses, Greenhouse Plants, Begonias, Gladioli, &c., at Protheroe & Morris' Rooms.  
Hardy Perennials, Carnations, New Violets, Begonias, &c., at Protheroe & Morris' Rooms.

TUESDAY, MARCH 31 { Imported Orchids, from Messrs. W. L. Lewis & Co., at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 1 { Japanese Lilies, Palms, Begonias, Tuberoses, Palm Seeds, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT OLSHWICK.—45°5'.

Spraying. THE practice of spraying for the prevention and cure of the evils consequent upon parasitic fungi

and injurious insects, has taken a much larger development in the United States than with us. Whether our transatlantic friends suffer more than we do from these attacks, or whether our reticence is due to our inherent slowness to adopt new measures, is a point we need not stop to discuss. The fact remains, that "spraying" is very largely adopted by them; and relatively, very little by us. This delay on our parts may be advantageous if it ensure a less empirical system than that now in use. Until the life-history and attendant circumstances of the several pests are thoroughly known, much waste of energy and material is likely to occur. Again, it may be pointed out that in one instance, at least, the teachings of science have been misleading. In the case of the Potato disease, for instance, it was argued that as the fungus passed great part of its life within the tissues of the plant, and beyond the reach of any external applications, that therefore such applications were not likely to be of any service. The value of timely applications of the Bordeaux Mixture has, however, been amply proved. A large amount of prevention and mitigation, if not actual cure, is secured by its means, and these are no light matters.

It seems as if in the future we shall gradually adopt more and more of the procedures which our American friends find so useful. We therefore desire to call attention to a valuable little book, *On the Spraying of Plants*, by Mr. E. G. LODEMAN, Instructor in Horticulture in the Cornell University, with a Preface by Mr. GALLOWAY, chief of the division of Vegetable Pathology, of the United States Agricultural Department. This little book, which may be had of MACMILLAN & Co., deals with the history of the matter, its progress in various

countries, and gives details concerning the various pests affecting agricultural and horticultural crops, and the best modes of dealing with them. Ample details are also given as to the machines to be used, the constitution and preparation of the several substances used; in fact, the book is a veritable encyclopedia on the subject on which it treats. We append an extract relating to our practices here, merely adding that the author hardly does us justice in the matter of the application of sulphur for Vine-mildew—a practice that originated here; and he entirely overlooks the systematic practice of Hop-washing which has long been in use in the Kentish Hop gardens. We may incidentally note that one of the latest discoveries of the late Professor RILEY was that relating to the migration of the aphid from the Damson to the Hop—an indication that the two plants should not be grown near together.

"The English have been slow to adopt new remedies for plant diseases. While French growers were struggling to overcome the downy mildew of the Grape, and the rot of Potatoes, British gardeners were practically helpless in dealing with them. Even after success had rewarded their southern neighbours, the new methods were but slowly adopted in England. The horticultural journals of that country, on the contrary, were quick to see the value of the work that was being done, and the French recommendations were repeatedly published. The first account appears to have been given in the *Gardeners' Chronicle* (November 7, 1885, p. 594). This was a translation of a report made by PRILLIEUX, Inspector-General of Agricultural Education, to the Minister of Agriculture of France, regarding the value of a mixture of copper sulphate and lime against the mildew of the Vine. The account contains a brief history of the work done in the Médoc, and also mentions the names of the men who were most prominently connected with it.

The sulphide of potassium was at one time very highly recommended in England. It was first successfully applied by EDMUND TONKS (*Gardeners' Chronicle*, Feb. 28, 1885, p. 276). He used one-half ounce in a pint of water, and it proved to be very effective in controlling the mildew of Roses. This soon became one of the best known remedies in England, and may have been influential in delaying the adoption of French practices.

A note published in 1887 (*Gardeners' Chronicle*, August 6, p. 166) says that 'the sulphate of copper is being used largely in America and France against mildew on Vines. It is even suggested as a remedy for Potato mildew, but as this grows in the interior of the plant, it is difficult to see that it can effect much good. Amongst several methods of applying the copper solution, the simplest is to dissolve one pound of the pure sulphate in twenty-five gallons of water. Spray the Vines with a force-pump with a nozzle of fine aperture. An addition of one pint ammonia to the above solution adds to the effect. By ammonia, we presume a solution of the carbonate is intended.'

The progress made in France was carefully watched by some of the English journals. The results of the more important experiments were published, and English gardeners were not wanting in information regarding the value of the copper compounds. A few of the more important articles may here be mentioned. The *Gardeners' Chronicle* was especially active in this respect, and in 1883 (September 1, p. 244) it gave an account of the method of making the Bordeaux Mixture as recommended by PRILLIEUX. Three weeks later (September 22, p. 332) it speaks of the experiments of PRILLIEUX regarding the treatment of Potatoes for the blight. These experiments were very successful, and if the methods had been adopted in England, great losses would have been prevented. During January of the following year there appeared (*Gardeners' Chronicle*, January 12, 1889, p. 20) a translation of an article in the *Revue Horticole* regarding the proper manufacture

and use of the sulphate of copper and lime mixture. Several such translations were made during 1890, but these were apparently not heeded till 1891 (*Gardeners' Chronicle*, Aug. 1, p. 137), when the Royal Agricultural Society of England conducted some experiments for the prevention of blight upon Potatoes. These experiments were probably the first of any importance which were undertaken in England, yet they were not begun until four years after the value of the copper compounds had been known there. Messrs. SUTTON & SONS undertook a similar work. These first trials were not so successful as had been hoped, and undoubtedly prevented, to a certain extent, the more general adoption of the remedies.

The French authorities were almost exclusively quoted until 1891. By this time the work in America had assumed such proportions that much information of a very varied character was continually appearing. This was freely abstracted by the English journals, and during 1890 and 1891, doubts regarding the value of the copper compounds as fungicides were partly removed from the minds of English gardeners. But faith came slowly. The Highland and Agricultural Society made experiments which were discouraging in their results (see the *Garden*, 1892, Feb. 6, p. 133, based upon an article appearing in the *Morning Post*), and as a rule the first trials were not followed by such marked benefits as were reported from Continental Europe. As the methods of making the application improved, however, the growers became encouraged, and during the last two or three years Potatoes have been very generally treated with copper compounds for the blight by the more progressive growers. The successful issue of experiments made in the United States has, no doubt, materially assisted in bringing about this result.

The new insecticides have been adopted by English gardeners even more slowly than were the fungicides. Although the value of kerosene for the destruction of insect life has long been known there (*Gardeners' Chronicle*, July 15, 1882, p. 85, also known as paraffin in England), its use is still very limited. This, in all probability, is due to the fact that the remedies already at hand are so effective that little demand is felt for others—a condition of affairs upon which English gardeners are to be congratulated.

The arsenites, also, are very rarely applied, not only in England but throughout Europe. Their use is not so imperatively demanded as in America, and as there is a certain amount of danger in having them upon the premises, they have not been looked upon with favour. The use of arsenic for the destruction of insects is by no means a novelty in England. Mr. GORDON, the superintendent of the ornamental department of the London Horticultural Society, says that 'small brown ants are also very troublesome (to Orchid growers), but they may be destroyed by placing sugar and arsenic, ground to an impalpable powder, on bits of card near the places they frequent' (GEORGE GORDON in a paper, 'Notes on the Proper Treatment of Epiphytall Orchids,' *Jour. of the London Hort. Soc.*, iv., Nov. 19, 1848). A fear of poisoned fruit following the use of arsenic has also been expressed, and this, although perfectly groundless, has worked against the introduction of such remedies. But nevertheless, spraying has now become the rule and not the exception in some parts of England (*Jour. of the Royal Hort. Soc.*, 1895, Jan., p. 185). This applies particularly to 'the various fruit farms around Evesham and Pershore,' and may also be true of other localities. The benefits derived from the practice are being appreciated, and eventually all growers must see the necessity of its adoption."

LINNEAN SOCIETY.—On the occasion of the meeting which will be held on Thursday, April 2, 1896, at 8 P.M., papers will be read: I. "Monograph of the genus *Stemona*, Low," by C. H. WRIGHT; II. "On African Alga," by W. and G. S. WEST.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Wolverhampton and Staffordshire Auxiliary branch of the above institution have arranged to hold a meeting at Lichfield on March 31; and the Mayor

has kindly lent the Council Chamber for the occasion, and will himself preside at the meeting. Interesting addresses will be given by the chairman, secretary, and members of the committee upon the advantages and benefits of the institution to gardeners, seedsmen, nurserymen, and their foremen, also market gardeners. The auxiliary will hold a spring show in the Drill Hall, Wolverhampton, on Thursday in Easter week, when a meeting of the stewards will be held, at which, it is hoped, that the Earl of DARTMOUTH will preside, and the Countess of DARTMOUTH open the spring show. Other meetings are being held at Stafford and other

have been called up and received. The offices of the Corporation, situated at 1 and 2, King Street, Covent Garden, are in every way particularly suitable for the purpose. The Directors deem themselves fortunate in having secured the services of Mr. A. J. MONRO as general manager and secretary, a gentleman who has had many years' experience in this class of insurance business. The Directors are pleased to be able to announce that most of the leading nurserymen and market growers have become both shareholders and insurers. Though the Corporation has been at work eleven months only, sufficient business has been transacted to have fully justified its formation.

Forty-seven agents have been appointed, viz., forty-one in the United Kingdom, five in the Channel Islands, and one in the Seilly Isles. The agents are paid by commission only. The Directors would be glad to receive applications from gen-

erally, and will himself preside at the meeting. Interesting addresses will be given by the chairman, secretary, and members of the committee upon the advantages and benefits of the institution to gardeners, seedsmen, nurserymen, and their foremen, also market gardeners. The auxiliary will hold a spring show in the Drill Hall, Wolverhampton, on Thursday in Easter week, when a meeting of the stewards will be held, at which, it is hoped, that the Earl of DARTMOUTH will preside, and the Countess of DARTMOUTH open the spring show. Other meetings are being held at Stafford and other

also had glass broken by the same storm to the value of £32 4s. His policy had only been granted three months previously. Both establishments were visited by the Manager the same day that the storm occurred—the claims were at once assessed, and the respective amounts paid within one week. The result of this storm, together with the prompt and satisfactory arrangement of both claims, brought a considerable accession of business to the Corporation.

DIRECTORS.—All the directors have qualified by taking the requisite number of shares, some holding a number considerably in excess of what is necessary to qualify them for a seat at the Board. The Board of Directors meet not less than once in every three months, whilst a committee of six of the Board meet as often as may be necessary to carry on the business of the Corporation. There were five Board meetings



FIG. 54.—FREESIA LEICHTLINI MAJOR. (SEE P. 392.)



FIG. 55.—FREESIA ODORATA LILACINA. (SEE P. 392.)

towns, and several concerts in aid of the institution will be given. *G. A. Bishop, Chairman.*

**THE NURSERYMEN, MARKET GARDENERS', AND GENERAL HAILSTORM INSURANCE CORPORATION, LIMITED**—On Friday, March 20, the first general meeting of the shareholders took place at Simpsons', 101, Strand, W.C., when the following report on the business of the Corporation for the year ending February 24, 1896, together with the audited accounts, was submitted by the Directors:—

The Corporation was registered on February 23, 1895, as a limited liability company, with an authorized capital of £100,000. The first issue was 5000 shares of £5 each, 3830 of which have been applied for and allotted, and 10s. per share

men who would undertake agencies in those districts not yet represented. The Directors desire to draw attention to the special advantage of insuring with this Corporation, viz., that those insured can replace immediately their own glass broken by hail, the Corporation paying them at the rate per square foot at which the glass is insured. Another special advantage, and one of which several insurers are availing themselves, is that of being able to cover the value of the contents of their glasshouses by increased insurance of their glass—an advantage offered by no other insurance company. The Directors sincerely hope that all insurers will also become shareholders, that the profits of the Company may be, as far as possible, for the mutual benefit of all interested.

**CLAIMS.**—A severe hailstorm occurred at Harpenden, Herts., on August 22, 1895, a district hitherto peculiarly free from such. One nurseryman (Mr. S. PHILLIPS) who had taken out an insurance policy only two months previously, had 11,500 square feet of glass broken, whilst his crops were out to pieces. His claim amounted to £191 13s. 4d., he having paid a pre-

mium of £21 18s. 8d. only. Another insurer (Mr. J. PURROTT) also had glass broken by the same storm to the value of £32 4s. His policy had only been granted three months previously. Both establishments were visited by the Manager the same day that the storm occurred—the claims were at once assessed, and the respective amounts paid within one week. The result of this storm, together with the prompt and satisfactory arrangement of both claims, brought a considerable accession of business to the Corporation.

**REVENUE ACCOUNT.**—*Incomes.*—The income from premiums amounted to £681 1s. 9d., which, with dividends derived from invested capital, £20 16s., made the total income £701 17s. 9d.

*Expenditure.*—The total sum charged against revenue was £352 4s. 9d., made up of the following items:—

Claims paid for 21 oz. glass broken by hailstorm	£283 17 4
Commissions on insurances	72 15 5
Working expenses, including Secretary's salary	214 0 0
20 per cent. written off formation expenses	79 4 4
10 .. written off office furniture and fixtures	4 7 8



**BALANCE SHEET.—Capital and Liabilities.—Shareholders capital:—**

3830 shares of £5 each	...	...	...	£19,150	0	0
Called and paid up 10s. per share	...	...	...	1,915	0	0
Sundry creditors	...	...	...	5	5	0
Balance of revenue account	...	...	...	49	13	0

**Assets.**—Of the paid-up capital, after deducting balance of formation expenses and furniture, £2018 8s. 8d. is invested in  $\frac{3}{4}$  per cent. Consols, amounting at cost price to £2075 15s. 8d. The remainder is included in the cash at bankers. The balance of revenue account is in cash at the bank and in hand. In accordance with the advice of the auditors, the Directors do not recommend the payment this year of any dividend to shareholders, and they suggest that the balance of all moneys in hand be held in reserve to meet any claims on unexpired policies which may possibly arise during the present year. The Directors are fully satisfied with the result of the first year's business, and they believe that the Corporation has before it a prosperous and very useful career. Messrs. Harry J. Veitch, James Sweet, Thomas Rochford, Joseph Rochford, Peter E. Kay, and George Moore retire from the Board, in accordance with the Articles of Association, and being eligible, they offer themselves for re-election. The auditors, Messrs. Baker and Howard, members of the Institute of Chartered Accountants, retire, and being eligible, offer themselves for re-election.

By order of the Board, HARRY J. VEITCH, Chairman.

**THE BARRON TESTIMONIAL.**—A meeting of the members of the committee appointed to carry through this matter was held at the Hotel Windsor on Tuesday afternoon, 24th inst., under the chairmanship of Mr. HARRY VEITCH. The minutes of the last meeting having been read and adopted, the chairman put the following recommendations of the sub-committee to the meeting, that the testimonial should take the form of a cheque to be presented to Mr. BARRON, on Tuesday, April 21 next, at the Hotel Windsor, and that Dr. M. T. MASTERS be invited to make the presentation, which were adopted unanimously. The feeling of the meeting was that an informal lunch should be partaken at the Hotel on the occasion of the presentation.

**"ROBARIAN RECORDS BY AN EX-EXHIBITOR."**

—Under this title the Rev. ALAN CHEALES has published the substance of a lecture delivered before the members of the Reading Literary and Scientific Society. It is a gossip little treatise *de omnibus rebus [rosariis] et quibusdam aliis [exque rosaceis]*. Mr. CHEALES divides his subjects into three heads—the Rose of Poetry, the Rose of Progress, and the Rose of Practice, under which last section the author discusses the feeding of the Rose, the raising from seed, "briaring," or the collection of Briar stocks from the hedgerows; budding, Rose-showing, Roses in towns, rules of judging, and other matters connected with exhibiting. The lecture may be read in half an hour, and a very pleasant half-hour too. The publisher is Miss LANGLEY, London Street, Reading.

**NEWCASTLE-ON-TYNE FLOWER SHOW.**—It will be seen from our advertising columns that the Newcastle Spring Show will be held on Wednesday and Thursday, April 15 and 16, in the Town Hall and Corn Exchange. This is one of the finest spring shows in England. Shows will also be held under the same auspices on July 8, 9 and 10 (summer), and November 18 and 19 (Chrysanthemum).

**CHESTER HORTICULTURAL SHOW.**—The committee have decided to award the Silver Cup offered by a member of the Council of the Royal Horticultural Society, value 10 gs., to the winner of Class 1 (Group of Plants), in addition to the 1st prize of £25. At next year's show prizes will be offered for fruits and vegetables gathered in 1896, and preserved either by bottling (in glass bottles or jars) or by some process of drying (evaporation or otherwise).

**THE SURVEYORS' INSTITUTION.**—The next ordinary general meeting will be held on Monday, April 13, 1896, when the adjourned discussion on the paper read by Mr. A. A. HUDSON (Associate), at the meeting of February 17, entitled "The Conditions of Building Contracts," will be resumed. The chair to be taken at 8 o'clock. Notice is given that the Institution premises will be closed from Thursday evening the 2nd to Wednesday morning, the 5th of April.

**FLOWERS IN SEASON.**—Flowers of the fine Violet variety California, sent out by Messrs. PITCHER & MANDA, nurserymen in this country, but now settled at Short Hills, New Jersey, have reached us from Mr. Wadds, gardener at Birdsall, Yorkshire. The flowers of this variety are dark violet in two shades, large, and with a stout stalk 7 to 8 inches in length, the value of which will be obvious to florists and bouquetists. From Messrs. P. BARR & SON, King Street, Covent Garden, have been received a few flowers from his treasury of such things at Long Ditton, which serve admirably to mark the advance of vegetation in the open. These consist of *Chiono-doxa sardensis*, *C. gigantea*, a large flowered light-blue variety; and the well-known *C. Lucillia*. *Scilla tanica alba*, useful in small floral arrangements in the open air for its colour and dwarf stature; several varieties of *Narcissus*, including *N. corbularia citrina*, *N. cyclamineus*, and *N. Golden Spur*; the dark port wine-coloured *Fritillaria latifolia*, *Erica carnea*, and *Iris reticulata*.

**THE BOTANICAL SCHOOL OF TRINITY COLLEGE, DUBLIN.**—In the form of "Notes," Prof. PERCEVAL WRIGHT gives an interesting account of the genesis and gradual evolution of the herbarium in the notable school of learning in which he occupies the post of Professor of Botany.

In the course of the note we come across the statement that Dr. PATRICK BROWNE was at one time curator of the Oxford Botanic Garden. It may have been so, but we should like to see satisfactory testimony to the fact. In 1834, Dr. THOMAS COULTER, who had travelled in Central Mexico and California, was appointed Professor of Botany and curator of the herbarium. After him is named a Cypress, but it is not an easy matter to say which is the right species. Seeds taken from his herbarium grew many years after collection, and from them were raised trees in the Glasnevin Botanic Garden, one or more of which bear COULTER'S name, but so far as we know, they have not produced cones. COULTER laid the foundation of the herbarium. HARVEY, gentle yet energetic, amiable but firm, built the superstructure. By his subsequent travels in Australia, the herbarium was much enriched, and on his return HARVEY set to work with little or no assistance to examine and arrange the accumulations that had accrued. For more than a month, he writes, his days were spent in laying down the specimens of Composites to be glued. It is impossible not to lament that such mechanical labour was not entrusted to other hands than Dr. HARVEY'S. In the end, HARVEY died of consumption at Torquay. Dr. ALEXANDER DICKSON occupied the botanical chair for two years, to be followed in 1869 by the present professor. Things went on smoothly till in May, 1882, the edict went forth that the herbarium was to be removed to other quarters. By perverse mischance, the removal was effected by the workmen without supervision, and when Prof. WRIGHT appeared upon the scene, he found that the cases had been emptied, and the packets of plants placed pell-mell on the floor and in the corridors. The admixture of bundles was thorough. Years were required to repair the consequences of this misadventure, but it is satisfactory to know that the herbarium is now in good working order. The other papers in these "Notes" refer to stages in the division of the nucleus by Mr. DIXON, assistant to the professor of botany, and show that the provisions for research in the University are not limited to the herbarium and garden.

**CORNISH BROCCOLI.**—The *Western Morning News* of March 20, 1896, states that Tuesday, the 17th inst., was a record day in the West Cornish Broccoli traffic. There were then despatched 199 trucks of Broccoli from Penzance, Marazion, and St. Erth, in eight special trains. In many instances the Broccoli were loaded into the trucks loose instead of in crates.

**THE CROYDON CHRYSANTHEMUM SOCIETY** shows, by the ninth annual schedule, a considerable amount of vigour. In addition to the usual cash prizes and special prizes, there will be offered for

competition at the forthcoming exhibition on November 10 and 11, a Champion Challenge Cup of the value of 25 guineas. It is offered in the class for thirty-six cut blooms of Japanese, and will become the absolute property of any exhibitor who succeeds in winning it upon three occasions in five years. The Secretary is Mr. W. B. BECKETT, 272, Portland Road, South Norwood, S.E.

**THE SEVENOAKS HORTICULTURAL SOCIETY** will hold its next annual exhibition in Knole Park on Wednesday, August 12, 1896. This show has become a very popular one in Kent, and it meets with a good deal of local support.

**EALING GARDENERS' ASSOCIATION.**—A successful smoking concert was given in the Lyric Hall, Ealing, on the 18th inst., in aid of the Gardeners Orphan Fund. This is a popular form of entertainment that might be profitably taken up for the same purpose by other gardeners' associations.

**APPLE GOODWOOD PIPPIN.**

A VARIETY of Apple which has recently been brought to notice is the one represented by fig. 56, p. 399. Fruits were exhibited recently before the Royal Horticultural Society, by Mr. R. PARKER, gr. to the Duke of Richmond and Gordon, at Goodwood, Sussex. The variety has been known at that place under the name of Lincolnshire Reinette, but it is now thought to be an unknown kind, and the name cannot be traced in any published list so far as has been ascertained. The Fruit Committee unanimously agreed to recommend the variety an Award of Merit, and the name has since been altered to Goodwood Pippin. The fruit in many points resembles Blenheim Orange, but is distinct from that variety. It is generally rather larger than the specimen figured, round, moderately conical in shape, yellow, very slightly streaked with red on the shaded side, and possessing numerous minute russet spots, but the exposed side is very well and evenly coloured. The stalk is set in a narrow, rather deep, russet cavity; the eye is very shallow, and partially closed. It is evidently a very good keeper, and may be used for dessert or culinary purposes. The flavour, being certainly not better than Blenheim Orange, it is a fruit likely to be more popular as a kitchen fruit.

**HOME CORRESPONDENCE.**

**THE LARCH DISEASE.**—Mr. A. C. FORBES said in his first letter that there were about a dozen timber tree diseases as bad and prevalent as the Larch disease, whereas there is not one to compare to it, in this country at least, and when Mr. A. C. F. made the statement I really thought he did not know the disease well; for no forester who knew the extent to which the disease prevails, would have written what your correspondent wrote. He will now probably modify his opinions after reading his friend "A. D. W.'s" note. His explanations of his theories concerning the disease, in his last letter, show clearly enough that he is only surmising on the subject. It appears now, however, that we agree as to what the "Larch disease" is, only your correspondent's description of it is the "book" description, and not that of the man, who knows it familiarly by sight. The Larch disease as Mr. A. C. F. "knows it," is not "exactly similar" to the Ash disease, and it causes more than "what is usually known as a blister." On old trees the disease causes huge lumps nearly the size of the crown of a round-hat or bigger—big bulging lumps or running sores, which lumps, even on young trees extend to the small branches in numerous lumps—looking like knots in winter, when they can easily be seen. This is the disease said to be caused by the *Peziza*, and familiar to me long before I knew of the *Peziza*, with which, I fear, your correspondent is better acquainted than he is with the disease itself. Nor is the tree killed so soon as he seems to imagine. Its growth is arrested, and as a timber tree it becomes useless; but the diseased spot is not so much dead as diseased. Your correspondent's reasons for the disease that it has been planted in all sorts of situations is quite fallacious, for the same may be said, and more, of the

Scots Fir, the Spruce, and almost any timber tree, none of which are subject to a disease like the Larch disease. *J. S. W.*

**FORMING A HERBACEOUS BORDER.**—Under the above heading I regret to see such an excellent gardener as "H. W. W." (see p. 360) recommending the planting of bulbs with herbaceous plants, the bulbous plants being best planted in a border by themselves. The reasons for this are obvious, viz., bulbs do best when left undisturbed for a number of years, whilst herbaceous plants should be mainly replanted once in two or three years; moreover, when bulbs are in a dormant state, the workmen's feet or spade come in dangerous contact with them. Of course the bulb border, if unsightly when dormant, can be furnished or carpeted with a series of dwarf, shallow-rooted, hardy flowers—or a judicious selection of annuals or biennials may be accommodated; but I personally object to the tall-growing plants named in the list being planted with bulbs. Besides, "H. W. W.'s" list is not up to date, otherwise why leave out such gems as *Heuchera sanguinea*, the *Monardas*, the *Campanulas*, *Paeonies*, *Senecio*, *Statice*, *Scabious*,

**MANDEVILLA SUAVEOLENS OUT-OF-DOOR.**—Last August a fine plant of this greenhouse climber was in full bloom at Murley Grange in this village. It grows on a south wall between two large bay-windows, and must be an old plant, as there are three stems, each more than an inch thick near the ground, where one of these stems has aerial roots. The roof at about 20 feet from the ground, projects 2 feet from the face of the wall. The lower 13 feet of the wall is covered with a thick bush of Myrtle, behind which the *Mandevilla* grows. The upper 7 feet has long horizontal branches of a *Wistaria*, amongst which the plant I am describing climbs, its branches extending to fully 50 feet in length. It was a lovely sight when in bloom, particularly the middle part of it, from being associated with the violet flowers of *Buddleia Lindleyana*. Early this month the gardener noticed two long fruits of it amongst the top shoots of the Myrtle. They came from the terminal flowers of a cluster. The pods are 17 inches long, and are exactly 1 inch in circumference, dehiscent down one side, and containing little brown ripe seeds, some of which have just been sown. *W. Thomson, Bishops-tington, South Devon, March 23.*

that are left of the Black Larch are on dry soil, where they have grown very badly, and are very stunted, and spreading in their growth; but there are three or four trees of the Black Larch, which I raised from seed some forty years ago, and planted in wet sandy soil near a pond, which have grown into fine trees. I have never tried their timber. They are very different looking from the Red and common Larch; these last are not very easy to distinguish one from the other. *C. W. Strickland.*

**STEAM LAWN MOWERS.**—I have been much interested in late in the correspondence which has been passing between "Hortus" and Mr. T. H. Mawson, on the above subject, and I must confess that I was somewhat amused at the tone of the latter gentleman's letter. For my own part, I had come to regard it as a matter only of past history for a man to condemn the use of steam as a motive power. There was a time when landed gentry and country squires resisted, with every available effort, the introduction of railways on which locomotive steam-engines were to be used, and it is perhaps not very difficult to understand their reason for so doing; but why a man should exert himself to prevent the lightening of human labour is beyond my powers of comprehension. I cannot bring myself to see that the introduction of steam as the motive power for lawn-mowers in any way lowers the position of a gardener as a craftsman, because very little craft is required to steer a machine, whether it be moved by manual, animal, or steam-power. The advantages of steam-mowers, judging from the description given of them by Mr. Don on p. 271, must be obvious to every one, and besides the consideration of economy, which is a very important one, there are other reasons which justify the adoption of steam lawn-mowers. I have had a little experience with machines worked both by men and horses, and I venture to say with regard to the former, that Mr. Mawson or any other man who has to work a lawn-mower on a hot summer's day, would feel inclined to endorse the sentiment expressed by the Irishman who was undergoing his punishment on the treadmill, when he turned to the warder and said, "Sure, master, an' it would go a good deal easier wid steam." The claim of steam to priority to the horse-machine is none the less. Any one who has had any experience in the management of lawns will be well acquainted with their unsightly appearance after a spell of wet weather, when they have been mown with a machine drawn by a horse or pony. The depressions of the animal's hoofs left all over the lawn, verges trodden down and made irregular, and often injury to flower-beds, are anything but pleasing, to say nothing of the many little escapades which almost inevitably accompany the employment of animal power. Taking an unbiased view of the different motive powers, I have no hesitation in saying that where there are large lawns to be kept in order, the use of steam as the motive power is most advantageous, and I do not think we shall be doing any "irreparable injury to one of the purest enjoyments of this country," or that the prestige of gardeners will in any way be lowered by its adoption; and the sooner Mr. Mawson can rid himself of his conservative notions and his little prejudices, the sooner will he be able to still further increase his prestige by being able to devote more time to other and more important details in the gardeners' profession than that of handling a lawn-mower. *P. Wilkinson.*

**PRUNING ROSES.**—Roses are starting into growth much earlier this year owing to the remarkably mild winter. I venture to make a few remarks in season on dwarf H.P.'s. For pruning, a pair of *secateurs* and a knife are necessary, but use the knife as much as possible, only using the *secateurs* for dead wood, always taking care to make a clean cut with the knife afterwards; if this is not done, the result is that the water gets down into the stem and causes it to rot. But pruning is best done according to the judgment and skill of the operator, and too much pains cannot be taken with it, especially on young Roses which are newly planted. These should be cut back to three or four buds, with an eye to forming a foundation of strong growth; and established plants should be examined to ascertain if they are on their own roots or not. A good method of pruning is to cut away all wood which is two years old, leaving only last year's growth; in the case of a plant with from five to six well-ripened shoots cutting back two or three of those in the centre to about three buds, and lightly pruning the other shoots, that is, leaving about six buds on each, according to strength. In this way many desirable objects are achieved, viz., vigorous strong growth as the result of severely



FIG. 56.—APPLE GOODWOOD PIPPIN. (SEE P. 398.)

*Erigeron*, *Dictamnus*, *Pulmonaria*, *Achillea grandiflora*, the Pearl Carnation, *Aquilegia glandulosa* and *corulea*, *Eriogonum*, and a host of others which this friendly criticism is calculated to supply? [Our correspondent did not profess to give a complete list, nor was it desirable. Ed.] *W. Crump, Madresfield Court.*

**PROTECTING FRUIT FROM BIRDS.**—In your last issue you have an article under the above heading, signed T. Coomber, to which I can say "Amen." Seven years ago I made a cage 110 feet long, and 45 feet broad, and 9 feet high in centre, of 3-inch galvanised netting, supported by old gas and water-pipes obtained from a builder. There are walls on each of the two sides, but the ends are entirely of wire, and I have no framework of strong iron. It cost complete £20, and has not been repaired. It has a door at each end, like your correspondent's. The result has been wonderful. For instance, a Coe's Golden Drop Plum on the wall is bisected by the wire. The half outside had last year three or four Plums left to ripen, while inside some two dozen or more. The only frame-work necessary is some good stout wire here and there to brace it together. Birds are very numerous here, for while there are innumerable gardens without fruits whose owners feed the birds all the winter through, those containing fruit are few. *A. Hutchinson, Major-General, Bournemouth.*

**PETERSHAM MEADOWS.**—Referring to the paragraph on this subject at p. 365 of your paper of the 21st inst., I shall be glad if you will kindly notify that the Bill which was rejected would not have injured the view from Richmond Terrace, but, on the contrary, would have preserved it for ever. Unfortunately, Mr. John Burns paid a hurried visit to Richmond just before the Bill came on; and not being acquainted with the locality, or the position of the lands proposed to be enclosed, imagined that they were in sight of the terrace (which they are not), and told the House of Commons so; the mistake was a very unfortunate one. There is a letter in the *Times* of March 24 from General Webber, one of the Dysart Trustees, explaining the whole matter. *Charles Burt, Chairman of the Amenities Committee of Richmond Corporation.*

**AMERICAN LARCHES.**—I have told you nearly all that I know about the American Larches. There are old trees at Boynton of both the Red and Black American Larches, planted upon two or three different soils. In a wood, the soil of which is a loose rather wet sand, the Red Larch has grown as freely as the common Larch, and to nearly as large a size; but we do not consider the wood of the Red Larch quite equal to that of the common Larch—it is more liable to twist and warp. It is probably as durable. On drier soils the Red Larch is much less healthy and vigorous than the common Larch. The few old trees

cutting back the middle shoots instead of a lot of weak ones smothering up the middle of the plant, whilst those which were not cut so far back will furnish enough strong shoots to rely on for bloom, and they will not be so tall as the centre ones. It will be understood that weak-growing varieties should be more closely pruned, but allowance must be made in all cases for the strength and vigour of each particular plant, and the space it is required to fill; and in case of plants on which the buds have not broken into leaf below the point of severance, it is best to rub them off, so as to throw the sap into the lower buds. Whenever possible, the same man should prune the Roses who performed the work the previous year. After pruning the Roses, strew the beds with guano or Beeson's manure, and fork them over lightly and carefully, so as not to disturb the roots near the surface. Pruning is deemed by some persons to be a simple operation, and inexperienced men entrusted to do it, which is a mistake; for much pains should be taken with it if the plants are to be kept in a vigorous condition. Except in early parts of these islands, the present month is early enough to prune Roses. *T. Appleby, Sheffield.*

**DIPLOSIIS PYRIVORA, OR CECIGOMYIA NIGRA.**—Some time ago I asked through the columns of the *Gardeners' Chronicle* for information from anyone who had been troubled with this highly-destructive insect, and the best means of dealing with it. For some reason this information was not forthcoming. Since then I have had correspondence with the Board of Agriculture, Miss Ormerod, and others, but still I cannot get any further than the advice to gather and burn the infested Pears, and to top-dress the surface of the ground with lime, soot, &c. All this I have steadfastly done, but still the insects come annually as numerous as ever. This season I am spraying the trees daily with a liquid compound, made by boiling 7 lb. of soft-soap, 10 lb. of Quassia chips, and a little Paris Green, in 100 gallons of water, the whole being strained through a canvas bag before use, and hope to settle them, or make their quarters distasteful. We are surrounded by large Pear orchards, where insects breed undisturbed in myriads, and which are probably the source of infection. Fruit growers seem hitherto to have been deficient in knowledge about this insidious little midge, but it is to be hoped that in time methods of destruction will be discovered, for it is my opinion that the *Diplosis* is the worst of all insects that infest Pear trees. I enclose extract from Schmidberger, "The number of eggs these midges lay vary from one to thirty (I have counted over sixty myself in one tiny fruit), which hatch in a very short time, if warm in four days, from time of deposition. Before the blossom is expanded they descend to the core, here they continue till the inside is exhausted; they generally leave at a rainy time, coming out on to the exterior by cracks or borings, whence they spring to the ground. Ofttimes they remain in the Pear until the fruit falls. The period of the full development of the insect commences as early as January 9, and continues consecutively until April 18, or later. A midge has been seen with its long ovipositor inserted on the side of the blossom before it opened, but generally it lays its eggs on the middle of a single blossom by piercing the petals. The general colour is dark grey or black, average length 2.5 millimetres, ovipositor when extended longer than rest of body; pupa, average length, 3 mm.; head, thorax, legs, and wing cases, blackish; abdomen, yellow; larvæ, length, 4 mill., colour, pale yellow; surfaces polished and very faintly reticulated." It is to be hoped the above description will be sufficient for the identification, and assist to direct attention to the midge, and experiments to be made how best to combat its attacks. For my part, I shall keep a correct record of the spraying, and with the Editor's permission, record results later on, hoping others will do likewise. [Please do so. Ed.] *W. Crump, Madresfield Court.*

## NURSERY NOTES.

MESSRS. B. S. WILLIAMS & SON.

At the Upper Holloway establishment recently there has been a considerable display of flowering bulbs. Hyacinths have been particularly well represented, and at most of the spring shows Messrs. Williams have exhibited them in quantity. There are but few new varieties of Hyacinths to claim one's attention now-a-days, though we have had occasion to notice this season one named *Lady Clinton*, which bears single

flowers of a pretty blush tint, and is strong and bold in spike and habit. The collection at Holloway therefore is full of interest, albeit the varieties are not novel. The most desirable of the white-flowered ones represented there were *Mont Blanc*, *Baroness van Tuyl*, *Ja Grandesse*, and *Alba maxima*; *Grandeur à Merveille* is white also, but for the faintest blush, and is very good. In blues and purples there are many excellent kinds, but of the paler shades, the best one is *Czar Peter*, very like to *Lord Derby*, the individual flowers being larger, but with more substance, and the bloom is of a more delicate tint. On the other hand, *Lord Derby* usually produces a finer spike of flower; *Grand Maître* is a good bright blue-flowered one, and darker shades are afforded by *Sir H. Berkley*, the very well known *Chas. Dickens*, *King of the Blues*, and *King of the Blacks*. Hyacinths afford us many shades in rose, including *carmine*, *salmon*, and *pink*. *Von Schiller*, *Roi des Belges*, *Rubra maxima*, *Koh-i-noor*, *Gertrude*, *Macaulay*, and *Princess Helena*, represent some of the best in this section; then there are *Fabiola*, *salmon pink*; *Solfaterre*, *cerise*; *Marchioness of Lorne*, *salmon*; and *Obelisque*, which is almost citron-coloured. None of these are second-class varieties, and all were noticed in very good condition. Tulips had also made a good display, but were past their best at the time of our visit. In bloom were *Dussart*, *crimson*; *Standard Royal*, white with crimson stripe; *Prince of Austria*, orange-red; *Proserpine*, rose; *Van der Neer*, clear violet; *La Belle Alliance*, *Joost Van Vondel*, in two varieties, one rosy crimson, the other pure white; *Keizerskroon*, crimson scarlet; and the exquisitely pretty *Yellow Prince*. All of the foregoing are early single-flowered kinds; but good double-flowered sorts were present in *Murillo*, pale rose and white, and *Velvet Gem*, dark carmine, edged with pale yellow. In another house there was a very fine show of *Civeias* in flower. *C. miniata*, and numerous varieties, such as *General Gordon*, *Van Houtte*, *Meteor* (very good), *Splendens*, *aurantiaca*, *cruenta*, *Lindeni*, and *Ambroise Verschaffelte*. The last named is still one of the best, both it and *Aurantiaca* bore excellent trusses of good flowers.

In the *Hippeastrum*-house the plants are fast developing their flower-spikes, and in the course of a week or so should furnish an abundance of flowers.

In the *Orchid*-houses the plants exhibited a healthy appearance, and are in many cases showing unmistakable signs of blooming during the forthcoming weeks. In bloom at the moment were *Odontoglossum Edwardi*, which bore a very fine spike of flowers. *Zygopetalum crinitum* *ceruleum*, many varieties of *Dendrobium Wardianum*, likewise *D. nobile* and *D. n. nobilium*. There were *Cypripedium Harryanum*, and a few other varieties, also the very pretty pure white-flowered *Angreecum modestum*, &c. The plants are not likely to suffer from the flowers remaining too long on the plants, for since Messrs. Williams have commenced a high-class florist's business in *Piccadilly*, in addition to the considerable work of the same character that has always been done at *Holloway*, the *Orchid* blooms, like all others of a choice nature, are very much in request.

In the propagating-houses was a nice collection of young plants of a decorative character, these including a number of ornamental *Draecenas* of a saleable size, and a house full of young, well-grown *Crotons*. Palms were present in quantity; and such useful and graceful plants as the fine-leaved *Aralias*, *Caladiums*, *Acacias*, *Boronias*, &c., were in good-health condition. The general nursery stock, beside including most of the gems and novelties among house-plants, embraces an excellent assortment of the better known kinds, having ornamental foliage. There are numbers of climbing plants, too, of a good size, suitable for clothing the pillars, or walls, or roofs, of hot, intermediate, or cool-houses.

**A MISSING LINK.**—M. Dubois has discovered in tertiary strata in Java some fossil remains of an animal which, so far as appearances go, must have been intermediate between an anthropoid ape and a human being.

## MOWING-MACHINES, ETC., DRIVEN BY STEAM AND ELECTRICITY.

THE application of steam, raised by the combustion of oil or coal, has been frequently mooted in gardening papers, and only as recently as January 11, 18, and 25, and February 1, of the present year, the matter was revived in these pages by various writers, some opposing the idea of mechanical motors on æsthetic grounds, whilst others welcomed their advent as tending to lessen the gardeners' labours. The electrically-driven mower and roller, where an electric plant already exists, seems to us to offer the best form of machine, as no smoke is emitted, and no skilled workman is required to attend to it.

We give two illustrations of these machines (figs. 57 and 58). The electrical motor shown on p. 401 is of three-quarter-brake horse-power, and can be supplied to suit any existing electrical installation. This machine is made in various sizes. In the smallest machine the width of the rollers is 2½ feet, and the diameter 2 feet. The weight can be varied at pleasure, from 12 cwt. to 20 cwt.; and the rate at which it travels is 2 miles per hour. The other illustration shows a mower-roller driven by steam. The motor can be readily detached from the mower, and employed for rolling roads and walks, pumping, chaff-cutting, or any other purpose for which power is required. The inventor of the machines we figure is Mr. W. J. Stephenson-Peach, M.I.M.E., of Askew Hill, Burton-on-Trent, Professor of Engineering to Repton School and Cheltenham College.

## SOCIETIES.

### ROYAL HORTICULTURAL.

MARCH 21.—Though the exhibits at the meeting held on Tuesday last in the Drill Hall, James Street, Westminster, were fewer than on the preceding occasion, there were quite sufficient to constitute a good and interesting show. *Orchids* were numerous and good, and such plants as *Hippeastrums*, *Cyclamens*, *Cinerarias*, *Narcissus*, and miscellaneous hardy plants were exhibited in satisfactory quantities, and included a number of novelties. The exhibition of fruit amounted only to a very few specimens of seedling and other Apples, none of which were the recipients of awards. There was however a meritorious collection of Salads before the Fruit Committee.

### Floral Committee.

Present: W. MARSHALL, Esq., in the Chair, and Messrs. Jno. Fraser, Jno. Laing, H. B. May, H. Herbst, Chas. T. Drury, R. Dean, Henry Cannell, Jas. Hindson, J. F. McLeod, C. J. Salter, W. Bain, J. D. Pawle, C. E. Shea, H. J. Jones, Edwin Beckett, Thos. Peed, Jas. Walker, H. Turner, S. A. de Graaff, Geo. Paul, Geo. Gordon, Jno. Jennings, J. Fraser, and Chas. Jeffries.

W. STACEY, Esq., Drayton House, West Drayton (gr. Mr. John Wiggins) staged a collection of *Cyclamens*, which, coming from an amateur's garden, was deserving of very great commendation (Bronze Banksian Medal).

A collection of first class *Cyclamens* was shown also by the ST. GEORGE'S NURSERY CO., Hanwell (Silver Flora Medal).

Messrs. J. LAING & SONS, Forest Hill, London, S.E., had *Streptocarpus giganteus* in purple and pale blue varieties, also a fine large-leaved *Caladium* C. E. Dable.

Mr W. BULL, 536, King's Road, Chelsea, had a group of *Clivia miniata* varieties.

Messrs. R. WALLACE & CO., Colchester, exhibited four pots of the pretty creamy white *Erythronium Hartwegii*, a potful of the yellow *Iris Orchidioides*, and also yellow *Fritillaria Pudica* (see fig. 59), which, though known for a long time in gardens, has been but little grown (First-class Certificate).

Messrs. PAUL & SON, The "Old" Nurseries, Chesham, exhibited a group of *Hippeastrums* in flower. Also very well berried plants of *Acuba japonica splendens*, and . . . *viridis* name. Some hardy plants in pots, including *Hepaticas* in variety, Mixed *Polyanthuses*, *Phloxes*, &c., were also from Messrs. PAUL (Bronze Banksian Medal).

Hardy plants in flower were shown by Mr. THOS. S. WARD, Hyde Farm Nurseries, Tottenham, & Messrs. BAKER & SON, King Street, Covent Garden. In the former collection, among a very representative number of species, the following were especially noticeable: *Orobis verus albus*, with pure white flowers the pretty yellow *Adonis vernalis*, *Muscari botryoides album*, *Anemone pulsatilla*, *A. apennina*, *A. nemorosa* sba, many pretty varieties of *Primulas* and *Fritillarias* (including *F. pudica*, a dwarf flowering yellow variety). (See fig. 59, p. 405). (First-class Certificate). *Hepaticas*, and a number of varieties of *Puffodils* in pots (Silver Flora Med.

Narcissus in many varieties constituted the major portion of Messrs BAIN'S exhibit. Several species of Tulip were in bloom, including *T. biflora* which produces several flowers of pale lemon colour or white on each spike, *T. undulatifolia*

A very fine display of Cineraris was made upon the floor of the Hall by Messrs. JAS. CURRIE & Co., 237, High Holborn, London. The plants, which were furnished with very fine foliage, were all seedlings, and they represented a very

Road, London, S. E. Messrs. CUTBUSH'S group was especially rich in such excellent hardwooded greenhouse plants as *Erica Wilmoreana*, *E. Cavendishii*, *E. persoluta alba*, *Boronia heterophylla*, *B. megastigma*, and *B. serrulata*, &c. Some fine varieties of *Souvenir de la Malmaison* Carnations in pots were included also, and other species of spring flowering plants (Silver Banksian Medal.) Messrs. PEED'S group owed its fine appearance to some well-grown *Caladiums* and high coloured *Dracaenas*, which were intermixed with a number of *Orchids* in flower and a few spring flowering plants from the forcing houses. (Silver Flora Medal.)

Zonal *Pelargoniums* looked wonderfully bright and gay as shown in sprays by Messrs. H. CANNELL & SOXS, Swanley, Kent. Three plants were also shown of *Bellis perennis*, "The Bride," figured in *Gard. Chron.*, August 3, 1895, p. 131. There were not many flowers yet developed, but quite sufficient to show what an excellent white flower for many purposes it will make, considering its simple cultural requirements. As shown, the stems are stout, about seven inches long, and the flower is large, double, and pure white. (Award of Merit.)

A number of plants of a coloured flowered Primrose, "Kentish Bedder" were exhibited by Messrs. CANNELL, and the large flowered violet "Princess of Wales." (See fig. 53, p. 395). (Bronze Banksian Medal.)

From Messrs. T. CRIPPS & SON, Tunbridge Wells, was shown a basket of plants of *Rose Crimson Rambler*. The plants were not more than eighteen inches high, but were covered with flowers. A fine plant of *Asparagus Sprengeri*, *Berberis Knightii*, and some plants of *Lycocostera formosa variegata*, together with half-a-dozen plants or so in fine flower of *Deutzia Lemoinei* (First Class Certificate.) For figure and description of this fine variety of *Deutzia*, see *Gardeners' Chronicle*, Oct. 5, 1895, p. 389.

Mrs. CRAWFORD, Gatton, Reigate (gr., Mr. Wm. Slogrove exhibited two seedling varieties of *Clivias*, and from Mr. Wm. BULL, King's Road, Chelsea, were two plants of *Nidularium Innocenti striatum*, a variety with creamy white stripes through the centre of the leaves.

Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, N., staged a group of *Clivias* in flower, also some plants of *Azalea mollis* and *sinensis* (Silver Banksian Medal.)

A large and capital group of *Calla Little Gem* was shown by Mr. E. BECKETT, Aldenham House Gardens, Elstree, Herts (Silver Banksian Medal.)

Cut *Camellia* blossoms in eighteen varieties were staged by H. W. ROWKAT, Esq., Whitford House, St. Margarets-on-Thames, and Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, showed a large number of *Cineraria* blossoms representative of their superb strain, and their Covent Garden strain.

Messrs. STROUD BROS., 182, Green Lanes, Finsbury Park, N. exhibited half a dozen plants of a *Pteris*, with very toothed ragged foliage, under the name of *P. Peculiar*.

*Anthurium Andreanum* var. *maximum* was shown by J. T. BENNETT-POE, Esq., Hohnwood, Cheshunt (gr., Mr. Downes) The spathe of this variety are very large.

Two seedling *Anthuriums* were shown from the gardens of Sir TREVOR LAWRENCE (gr., Mr. Bain). One of these *A. pumila* was very dwarf, being not more than 7 inches high. The foliage was strap-like and the form of the spathe almost round (Award of Merit). A *Rothschildianum maximum* was a very handsome plant with large mottled spathes, of a very decorative character (Award of Merit).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, staged a group of exquisite *Hippas'rum* seedlings. To *Eros*, one of the lighter coloured flowers referred to in our columns last week, was recommended an Award of Merit. *Rosalind*, another of the same type, but with more green in the throat, and more colour in the petals, received a similar award. *Euterpe* was a self-coloured one of the brightest rosy crimson we have seen.

**Orchid Committee.**

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. J. O'Brien (Hon. Sec.), N. C. Cookson, De B. Crawshaw, F. Hardy, H. M. Pollett, H. Ballantine, W. H. White, J. Gabriel, W. H. Protheroe, H. J. Chapman, J. G. Fowler, T. W. Loud, E. Hill, J. Jaques, H. Williams, and F. Mason.

There was a very fine show of *Orchids*, among which the *Dendrobiums*, as is usual at this season, were prominent. One of the best representative groups of these plants was staged by F. HARDY, Esq., Tyntesfield, Ashton-on-Mersey gr., Mr. T. Stafford, in which some fine crosses and varieties of *Dendrobium* noble were excellent in regard to flowering and cultivation. Among them were a grand plant of *D. noble mobilis*, an equally good example of the fine white *D. n. Amesiae*, which was seen to advantage beside an example of the older *D. n. albiflorum*, and other forms of *D. noble*. There were also splendidly-flowered examples of *D. x Leechianum*, *D. x Leechianum album*, and smaller ones of the new *D. x Holmesianum* (*Dominianum x Schneiderianum* x); *D. x Cybele*, *D. x Apollo*, and a noble specimen of *D. x Schneiderianum*, for which a Cultural Commendation was awarded.

Staged together with the *Dendrobiums* were *Cattleya Schroderae* delicata, a white variety; and a very peculiar form of *Odontoglossum x mulus*. A *Silver Flora Medal* was awarded.

NORMAN C. COOKSON, Esq., Oakwood, Wylam, Northumberland, showed several fine hybrid *Dendrobiums* raised in his garden. The best of which is, perhaps, *D. x Murray*

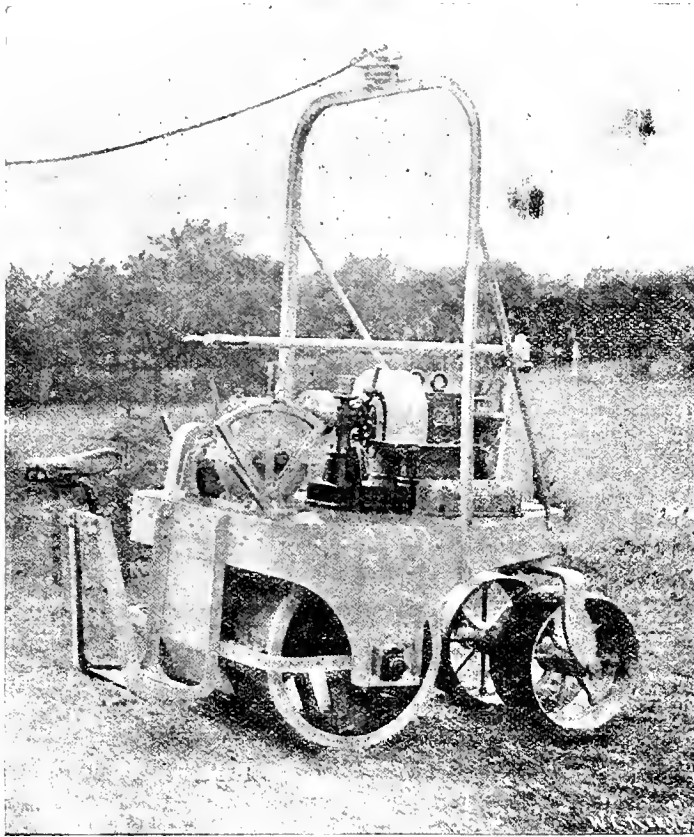


FIG. 57.—MOWER AND ROLLER DRIVEN BY ELECTRICITY. (SEE P. 400.)

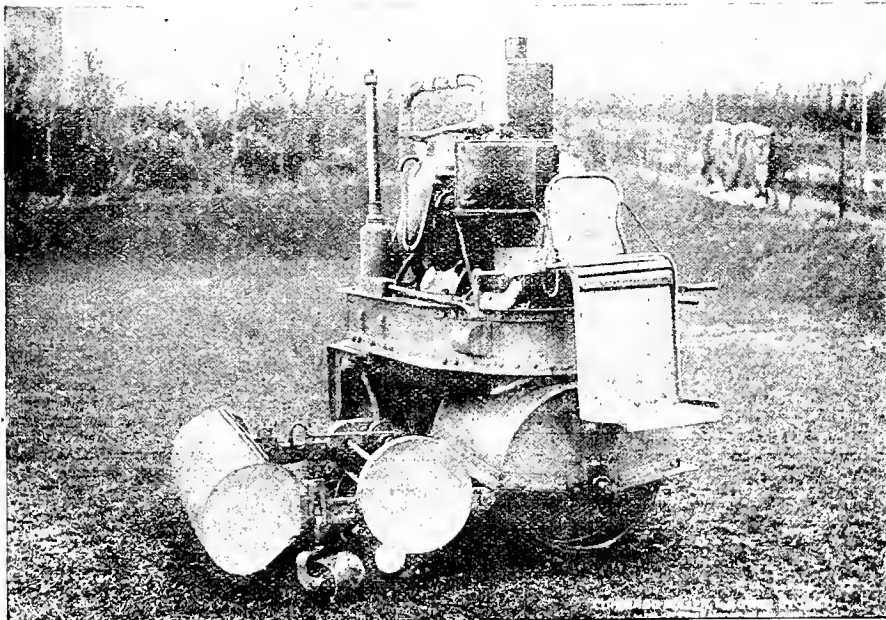


FIG. 58.—MOWER AND ROLLER DRIVEN BY STEAM. (SEE P. 400.)

*Boissieri*, a form having curiously crimped foliage and bright flowers, and the rare *T. Eichleri* with much broader leaves and taller but exceedingly bright flowers (Award of Merit). Various *Cyclamens* and other plants were also shown (Bronze Banksian Medal).

meritorious strain of varied colours and shades (Silver Flora Medal)

Miscellaneous groups of decorative plants were staged by Messrs. Wm. CUTBUSH & SON, Highgate Nurseries, London, N., and Messrs. J. PEED & SONS, Roupell Park Nurseries, Norwood



(albo-sanguineum ♀, nobile ♂), a finely formed wax-like flower, white, with a dark purple disc on the lip. The present plant is the reverse cross to that originally flowered, and although somewhat better in form it is practically the same. The stout pseudo-bulb and broad leaves marked the infundibulum of *D. albo-sanguineum* (Award of Merit). Another pretty novelty was a bizarre, or striped, rose and white form of *D. dulce* (anreum × *Linawianum*) named *D. dulce picturatum*, also raised at Oakwood (Award of Merit); and *D. × Astrea* (uteolum × *crassinode*), *D. × Bryan* (uteolum × *Wardianum*), *D. × Lecchianum album*, and the pretty *D. nobile Arnoldianum*, whose lower sepals bear a broad purple band, were also shown by Mr. Cookson.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. R. Aldous) received a Silver Flora Medal for a very pretty and effective group of Orchids, consisting of many subjects difficult of cultivation exceptionally well grown. The central attraction was a plant of *Odontoglossum × excellens* Rosslyn var., which was awarded a First-class Certificate, and which is, perhaps, in all points the best known *excellens*. It is likewise interesting as being the plant originally raised by J. Essrs. Jas. Veitch & Sons. The form of the flower is perfect, the white area at the base of the segments is effective, and the red-brown blotches clearly marked on the yellow-ground colour. Mr. Pitt received a Cultural Commendation for a very handsome *Odontoglossum Wilkeanum* with nineteen flowers; and also showed other fine *O. Wilkeanum* of which that named "rubiginosum" was the more distinct. There were also a singular and pretty series of varieties of *O. Andersonianum*; *O. Halli* with very peculiar fringed and striped labellum; a richly tinted *O. maculatum* with singular yellow ray on the lip; *Dendrobium nobile* Cookson, and other *Dendrobs*; five specimens of *Miltonia Roezlii* alba, *Angraecum sesquipedale*, *A. modestum*, *Epidendrum Wallisii*, &c.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, showed a very effective group of Orchids, comprising *Cymbidium × eburneo-Lowianum*; *Cattleya Schroderae caloglossa*, with very unusually bright lip, having a broad lavender-coloured margin (Award of Merit); *Odontoglossum Rossii asperum*, *Cypripedium × Schroderae candidum*, *Oncidium sarcodes*, *Dendrobium × Virginii* (Bensoniae × *Maniforme*), *D. × Aeneas* (crystallinum × *moniforme*), *Phalaenopsis Aphrodite*, *P. Sanderiana*, *Cattleya Trianae albescens*, and many very finely coloured forms; splendid specimens of *Dendrobium Devonianum*, *D. atropurpureum*, and other *Dendrobs*; *Bifrenaria Harrisonii*, *Platyclinis glumacea*, *Epidendrum × O'Brienianum* in various shades of rose and red; and some very handsome *Cypripediums* (Silver Flora Medal).

Mr. WM. BULL, King's Road, Chelsea, contributed one of the largest and most effective groups, in which all the showy Orchids of the season were represented. Among them were some interesting *Odontoglossums* which showed the wide range of variations included under *O. lanceans*, Reich. f.; of these *O. Jenningsianum parvicutatum*, *O. odontoglossum*, *O. baphicentum*, and several obscure forms of *O. Andersonianum*, were chiefly remarkable.

A fine lot of *Miltonia Roezlii*, and plants of *Masdevallia caudata* Shuttleworthii, M. Schlunii, *Cypripedium Exul*, *Aerides Houletianum*, *Odontoglossum Edwardii*, *Oncidium sarcodes*, (*Dendrobium Wardianum*, *Oncidium crispum* were included (Silver Flora Medal).

Messrs. HUGH LOW & CO., Clapton, were also awarded a Silver Flora Medal for a good group, comprising the yellow *Cypripedium insignis* Lutwycheum, *Phalaenopsis × leucorhoda*, *P. × intermedia* Portei, some fine forms of *Cattleya Trianae*; a very stout bulb and large form of *Dendrobium crassinode*, and a very stout and large form of the ordinary variety; varieties of the *Miltonia Roezlii*, *Dendrobium Hildebrandii*, *Cypripediums*, &c.

Messrs. P. SANDER & CO., St. Albans, staged a very pretty group, in the centre of which was a many-flowered specimen of the pink-tinted *Angulosa uniflora* Turneri, which flowered out of their importation provisionally named *alba-magna*; and the very remarkable *Odontoglossum × Wilkeanum* Cookson, with very large pale yellow flowers, the greater part of the sepals being coloured rich brown, the petals also being less profusely marked with the same colour; and the lip, which had a very conspicuous crest, bearing one large brown blotch (Award of Merit). *Odontoglossum luteo-purpureum* scepterum regale, with a very pretty circular crimson lip. *Cologyne DAYANA*, *Zygopetalum crinitum*, *Dendrobium aggregatum*, *Trichopilia stuevei*, *Cymbidium Lowianum aureum*, *Dendrobium Dearei*, &c. (Silver Banksian Medal).

Messrs. CHARLESWORTH & CO., Herton, Bradford, received a Silver Banksian Medal for a select group of Orchids, in which were many good *Odontoglossums*—*O. crispum*, *O. Andersonianum*, *O. cirrosum*, *O. Rossii in tunc*, *O. ramosissimum*, *O. Lindenii*, *O. Halli*, *Maxillaria Sanderiana*, *Sophronites grandiflora*, *Cologyne speciosa* mrtot, &c.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), showed *Odontoglossum crispum* Evelina, a grand white form uniformly spotted with purplish chocolate. It is one of the most distinct of spotted *crispums*, and altogether a charming thing (Award of Merit).

Sir THOMAS LAWRENCE, BARR, Burford, Dorset (gr., Mr. W. H. White), showed *Cattleya Trianae* "Reine des Belges," a noble flower with glowing purplish ruby-red fringed lip, handsome and very distinct (Award of Merit).

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed *Odontoglossum × Coradinei*, Rosefield variety, a showy flower and one of the very best of its class; flowers of the yellow of brass with large chestnut red blotches (Award of Merit).

J. HAWTHORN KITSON, Esq., Elmet Hall, Leeds (gr., Mr. Thos. Bonsall), showed *Odontoglossum Andersonianum* Kitsoni (*Gardeners' Chronicle*, March 21), a very distinct form with uniformly broad segments. The plant opened three weeks ago with twelve flowers, but most of them had been cut, and the rest evidently past their best.

R. I. MEASTRES, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), again showed *Cypripedium × Woottonii* (callosum × *bellatulum*) a fine flower, larger than *C. × Chas. Richman* and lighter in colour; and *C. × Olenus*.

H. GRINLING, Esq., Harrow Weald House, Stammore (gr., Mr. Rapley), showed a very handsomely spotted form of *Odontoglossum nebulosum*.

H. MASON, Esq., Bankfield, Shipley, Yorks, showed *Odontoglossum Humeanum* excellens, a very richly coloured and handsome form of the natural hybrid *O. Rossii majus × cordatum*. The sepals were dark brown with a few thin, wavy yellow bars, the yellow petals having some brown spots at the base, and the white lip a clear yellow cellus (Award of Merit); and *O. Ruckerianum* Masonii, good in form, in colour cream-white, tinged and spotted with purple (Award of Merit).

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson) sent *Cypripedium hirsutissimum*, Stand Hall var., very good in colour, and as the species had not before been distinguished it received an Award of Merit.

WELBORE S. ELLIS, Esq., Hazelbourne, Dorking (gr., Mr. Masterton) showed a splendid plant of *Odontoglossum crispum* with sixty-five flowers on a stout inflorescence with eleven branches (Cultural Commendation); and a profusely-flowered plant of *Maxillaria lepidota* (Botanical Certificate).

GEO. HODGSON, Esq., Hemsworth, Wakefield, sent a light form of *Cattleya Trianae*.

PANTIA RALLI, Esq., Ashted Park, Surrey, showed *Phaius Mannii*.

J. T. GABRIEL, Esq., Roupell Park, Streatham Hill (gr., Mr. E. Ranson), showed *Dendrobium Wardianum grandiflorum*.

Mr. CHALMERS, Tertegles Gardens, Dumfries, sent *Dendrobium × nobile × Wardianum*, which, though small seemed to be *D. × Murrhinianum*, which is the same cross.

Mr. H. A. TRACY, Anyand Park Road, Twickenham, showed *EPH* species, *Phalaenopsis Stuartiana* and *Dendrobium Devonianum*.

Messrs. GARRAWAY & CO., Durdham Down, Bristol, showed a striking plant in growth resembling *Aerides crispum* Warnerii, but with white flowers, also scented like the species named. The flowers showed traces of malformation.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed *Cattleya × Lawrenceana × Mendeli*, a very pretty hybrid identical with the *C. × Wm. Murray* raised and shown by Norman C. Cookson, Esq.

### Narcissus Committee.

Present: Mr. J. T. Bennett-Poë, Chairman; Rev. S. E. Bourne, Rev. G. H. Engleheart, Miss Willmott, Messrs. Walker, Kingsmill, Barr, De Graaf, Cowan, Serace-Dickins, and others.

The striking difference of weather between the past winter and that of 1894-95 is evidenced by the contrast between the two springs as regards the blooming of the Narcissus. Last year all the varieties woke up simultaneously after the long frost. Early, mid-season, and late kinds all appearing in flower at once. But since Christmas there has been a steady unchecked growth, which has separated these by their normal and well-defined intervals. Consequently only the trade growers, who have facilities for accelerating the tardier sorts in quantity under glass, could produce the familiar banks and tiers of 100 kinds or more. Indeed, the only exhibit of noteworthy dimensions was that of Messrs. BARR & SON, who had a very large and varied display. Very good and well-grown was the pale Ajax Mrs. Thompson, and pairs of *Corbularia citrina*.

The only prize offered for a collection of named sorts, in six varieties, grown without protection, was won by J. T. BENNETT-POË, Esq., Holmewood, Cheshunt. The prize for the best new seedling was taken by Rev. G. H. ENGLEHEART, with his seedling No. 478, a fine Ajax with white segments and deep cream-tinted crown. He also showed a set, in pots, of hybrids of *N. triandrus* and the best forms of Ajax, some of which are of extreme beauty, notably Snowdrop, from *N. albicans × triandrus*, a large, clear white drooping flower, almost like a *Fuchsia* in shape and pose. This was repeated in miniature by the outcome of the little *Pyrenean moschatus × triandrus*. Very robust and attractive are the forms resulting from Emperor, Horsfieldi, poeticus, &c., by pollen of triandrus. These hybrids form a very distinct and lovely section of Narcissus.

Mr. J. C. CORNHILL, of Byfleet, sent a very sturdy and symmetrical double yellow Daffodil, raised from the common double yellow of gardens and the Tenby variety.

A large flower from Mr. Jas. Hounslow, gr. to the MARCHMANS of HEADFORD, did not differ from the commercial Daffodil princeps in anything but size, and was thought somewhat coarse.

### Fruit and Vegetable Committee.

Present: Dr. R. Hogg in the Chair; and Messrs. T. F. Rivers, Geo. Bunyard, Jos. Cheal, A. F. Barron, G. W. Cummins, P. C. M. Veitch, Wm. Pope, T. J. Saltmarsh, J. Wright, Alex. Dean, C. Herrin, John A. Laing, Geo. Wythes, G. H. Sage, H. Balderson, F. Smith, F. Q. Lano, G. Norman and Robt. Fife.

Messrs. T. RIVERS & SON, Sawbridgeworth, showed a few fruits of Wagener Apples in excellent condition.

Mr. W. BELL, Ramsden, Essex, sent a small highly-coloured Apple named Sunset, described as an enormous bearer, and in season from Lady-day until Midsummer, but of very poor flavour.

Messrs. JARMAN & CO., Chard, Somerset, had a few fruits of an Apple named Whiteways Wimple Wonder, but they were thought to be identical with Grainger's Pearmain. The conical and angular Apple, Scotch Bridget, was shown by Mr. W. TROUGHTON, The Nurseries, Walton-le-Dale, Preston.

Mr. Geo. Wythes, gr. to Earl Percy, Syon House, Brentford, exhibited an excellent collection of Salads in twenty-four varieties, which served well to illustrate the lecture upon this subject. Radishes, Beet, Cucumbers, Celeriac, Onions, Endive, Celery, Lettuce, Mustard and Cress, Garlic and Chives, were amongst the most noticeable of this collection. Excellent purple Seakale was shown from the open ground, and Asparagus also. A dozen small but young and most pretty heads of Veitch's Main Crop Broccoli were the subjects of much admiration (Silver Banksian Medal).

### Lecture by Mr. Iggulden.

IN the afternoon a paper by Mr. W. Iggulden on "Summer Saladings" was read by the Assistant-Secretary. Prefacing his remarks by saying that Britishers failed to appreciate salads to the extent the French did, and that they were less successful in the raising and preparation of the ingredients, the lecturer passed to the consideration of some of the principal kinds. These were Lettices, Onions, Mustard, Cress, Cucumbers, and Tomatos. Each was the subject of a few remarks, and directions as to the continuous supply of them during the summer and autumn were given. Before concluding, Mr. Iggulden referred to the value of Beetroot also, and gave a few hints upon the preparation of the plants into salading. The discussion was chiefly remarkable for a vigorous denunciation by Mr. A. Dean of the practice of adding such (disgusting) additions as mentioned by Mr. Iggulden, to tasteful, healthful vegetables. Evidently, Mr. Dean would prefer his salad without the "pure salad oil," and possibly without the raw eggs, and some other of the foreign ingredients also.

"By all means," said Mr. Dean, "encourage an appreciation and taste for salads," but at the same time he would assure his listeners that everything that was required to make them toothsome, enjoyable and healthful was already placed in them by nature. A few other speakers, including the chairman (Mr. Geo. Gordon), continued the discussion.

### EDINBURGH BOTANICAL.

MARCH 12.—The usual monthly meeting of the Edinburgh Botanical Society, was held on the above date, Dr. A. P. Aitken, President, in the chair. After the Report of the proceedings of the Council had been read, Mr. Symington Grievie exhibited branches of the Spruce Fir with galls upon them. The formation of these galls was explained by Mr. R. Stewart Macdonald, B.Sc., who gave the life history of the insect which caused them.

The exhibits from the Royal Botanic Garden included *Odontoglossum dicranophorum*, *Leelia glauca*, *Vanda parviflora*, *Oncidium pubes*, *Dendrobium moniliforme*, *D. Cassiope Colax jugosum*, and others. Mr. Macdonald showed a series of excellent lantern slides illustrating the two great forest devastations, one on the Spruce by the Nun Moth caterpillars; and the other by the caterpillars of the Pine-Lupar Moth on the Scots Fir. In Bavaria last year and the year before, over 40,000 acres of Scots Fir were attacked. As a remedy millions of trees half way through their rotation have had to be felled, over 5000 workmen being engaged in the work in the Nuremberg State Forest.

Comparisons were also made as showing the different results to the health and the life of the tree of an early attack and a late one. The outcome of an attack on a forest by early feeding caterpillars like those of the Nun Moth, whose eating ended in July, was shown to be much more disastrous than in the case of attack by the Pine-Lupar caterpillars, which started feeding in July, and ended in October. This was apart altogether from the fact that the Spruce is much more sensitive to defoliation than the Scots Fir. The Spruce too easily falls a victim to sunstroke, whereas sunstroke in the case of Scots Fir seems practically unknown.

Mr. R. Lindsay in reporting upon the Vegetation in the Royal Botanic Garden, gave a list of plants producing flowers during February, illustrating the exceptionally mild weather experienced. From the meteorological report taken in the garden by Mr. A. D. Richardson, are the following items: *Barometre*. Highest 30.583 at 9 a.m. on the 3rd. Lowest 29.439 inches on the 19th. The mean 30.111, being 0.290 inch above average for five preceding years. *Protectral Thermometers*. Highest 53.8° on the 11th. Lowest 28.9° on the 19th. Mean for month 42.4°, this being 4.8° degrees above average for February for five years. Frost occurred on six days.

*Indication Thermometers*. Highest in sun 97° on the 28th. Lowest on grass 17.7° on the 18th.

*Sunshine*. Total recorded 42 hours 20 minutes, being 16% of possible amount. No sun was recorded on 10 days.

*Rainfall*. Rain fell on 12 days. Total fall 0.810 inch, being 1.57 inch below the average for February for five preceding years. Greatest fall in 24 hours 0.265 inch on the 8th.

**DEVON AND EXETER GARDENERS' ASSOCIATION.**

**Spring Flower Show.**

MARCH 18.—The third, and by far the best annual exhibition this society has held, took place in the Royal Public Rooms, Exeter, on the above date. The entries numbered 128 as against 67 last year, and the attendance was much larger. The schedule proved to be popular, for there was not a single class for which an entry was not forthcoming, while in many of the classes the competition was close and spirited. The President's prize was given for the best decorated table with spring flowers (no plants or fruit to be used) laid as for dessert for six persons. There were three entries, and the competition was close. The prize was awarded to Miss KINGDON, Taddyford, Exeter. Daffodils were used in this arrangement, and sprays of Berberis and other bronzy foliage. The centre of the table was draped with yellow silk, laid, with studied negligence, at the foot of a handsome epergne centre-piece. Hyacinths were fairly well shown. A prize was given by the chairman of Jadou Ltd. (Col. HALFORD THOMPSON), for six Hyacinths grown in Jadou fibre, and in this class Messrs. ROBERT VEITCH & SON were placed first for six well grown Hyacinths, the trusses being large and well finished, the colours particularly pure and bright, and the foliage very healthy and strong. Tulips were a strong class, and some first-rate flowers were shown. Freesias were uneven, but the 1st prize collection was good. Spiraeas were, comparatively, a failure. The class for Tree Carnations only produced one entry, but three fine plants were shown. Daffodils were well contested, and some very fine flowers were staged. In the trumpet classes, Emperor, Empress, Maximus, Golden Spur, Princeps, and cernuus were all good. In the incomparable section, Sir Watkin had it all his own way. The Poeticus section was but feebly represented. In the Polyanthus Narcissus class, Grand Monarque and Grand Soleil d'Or were conspicuously fine. The Primulas and Cyclamens shown by Mr. A. Williams, gr. to Mrs. A. D. SIM, Knowle, were very good. Lilies of the Valley were very fine. Cinerarias fair. Azaleas in pots produced three specimens of the type so dear to old-fashioned gardeners, but while symmetry in form was attained, perfection in flowering was not, there being an abundance of flowers on one side, while the other was thin and unequal. White Arum were very good. In the cut flower classes, the Daffodil bouquets, while not wanting in merit, left much to be desired. The basket of Daffodils was better. The hall bouquet prize was won with an indifferent exhibit, the flowers were good and plentiful, but the arrangement crude and inartistic. Flowering plants and table plants were very uneven, some really fine specimens being staged alongside others much below exhibition standard. The Violets shown by Mr. ABRAM, gr. to T. KEKEWICH, Esq., Peamore, were excellent in every way.

**HONORARY EXHIBITS.**

Messrs. ROBERT VEITCH & SON filled one end of the hall with a display of conservatory plants, Narcissi and Hyacinths. Their Hyacinths were well-grown, and showed a fine diversity and brilliancy of colour. Among their Narcissi were fine bunches of N. cernuus, cernuus flore pleno, Sir Watkin, Katherine Spurrell, Queen Bess, maximum, and other leading sorts. Rhododendron Fosterianum, Lotus peliorhynchus, Colens "Beauty of Exeter," and Richardia Magdalene, and some of the new blue Primroses, were conspicuous on their stand. Mr. W. J. GODFREY, Exmouth, had a fine collection of Pelargoniums. Messrs. RUSH & CO. showed some really artistic specimens of bouquetists' work. The exhibition was greatly helped by large contributions of flowering and foliage plants from the conservatories of Mrs. THORNTON WEST, Streatham Hall; T. KEKEWICH, Esq., Peamore; Mrs. A. D. SIM, Knowle; and Mrs. MILES, Dix's Field House. The Exeter Vegetarian Society had a side show of their specialties. The Silver Challenge Cup given by Mrs. THORNTON WEST, to be held for the year by the member gaining the largest number of points during the exhibition, was won by Mr. GEO. CRABBE of Prospect Park.

**VARIORUM.**

**MR. RICHARD NICHOLAS**, who was gardener to Earl Fortescue, at Castle Hill, South Molton, for twenty years, of which fourteen were passed as Head, has left his post owing to reduction in the establishment, and he has taken East Johnston Farm, at South Molton.

**PLANT NAMES IN POLYNESIA.**—At a full meeting of the Victoria Institute, held on Monday, March 2, Sir George Stokes, Bart., F.R.S., in the chair, Dr. H. B. Guppy gave an interesting account of his researches as to the light thrown by a study of the differences in plant names in use among the Polynesians. He said the more useful plants of these islands, and many also of their littoral plants, have in each case a story to tell, not only of the history of a plant, but of a people. The distribution, the uses, the vernacular nomenclature, &c., are all so many guides in such an investigation.

The wide range of the useful plants in this region, such as the Banana, the Breadfruit, and the Paper-Mulberry, is an indication of an age of free intercourse over the Pacific, an age long since passed away. Under the conditions prevailing in this region in the time of Cook, a newly-introduced plant would acquire a very local distribution and among such plants we may include the Shaddock of Figi and Tonga. Almost all the plants, and in most cases their names, have their homes in the Indian Archipelago and in further India. On comparing the names of the different regions, the Malagasy names are found to be more closely



FIG. 59.—FRITILLARIA PUDICA. (SEE P. 400, COL. C.)

connected with those of Fiji than with those of Polynesia. The Melanesian variety of man is regarded as the original possessor of the Malayo-Polynesian type of speech, which it has imposed to a greater or less degree on all that have come in contact with it. Many took part in the discussion that followed. *The Daily Chronicle.*

**ENQUIRY.**

**ACCUBA BERRIES.**—Will some one familiar with the Japanese flora kindly tell us at what season the berries are produced in Japan? Here it seems odd to see the berries ripening now just at, or a very little before, the time when the male flowers expand. What an addition the male plant has proved to our out-door gardens! It was to Fortune and the Royal Horticultural Society that we owe that and so many other boons, and yet the Royal Horticultural Society has forgotten to place portraits of Fortune, Hartweg, or Douglas in the library. X.

**MARKETS.**

**COVENT GARDEN, MARCH 26.**

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

**CUT FLOWERS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Orchids:—	
Azalea, 12 sprays...	0 6-0 9	Cattleya, 12 blms.	6 0 12 0
Bouvardias, per bun.	0 6-1 0	Odonatoglossum	
Carnations, 12 blms.	1 0-3 0	crispum, 12 blms.	3 0-6 0
Daffodils, double,		Pelargoniums, scar-	
doz. bunches...	3 0-6 0	let, per 12 bunch	4 0-6 0
— single, 12 bunch	3 0-6 0	— per 12 sprays...	0 8-1 0
Eucharis, per dozen	3 0-5 0	Pyrethrums, 12 bun.	2 0-4 0
Gardenias, per doz.	4 0-8 0	Roses, Tea, per doz.	1 0-3 0
Hyacinths (Roman)		— coloured, p. doz.	2 0-4 0
— 12 sprays...	0 4-0 8	— pink, French, doz.	3 0-4 0
— per doz. spikes	2 0-4 0	— yellow (Maré-	
Lapageria, 12 blms.	0 6-1 6	chal), per doz.	4 0-9 0
Lilac, French, p. bu.	3 0-5 0	— red, per dozen	3 0-8 0
Lilium Harrisii, bu.	4 0-8 0	— Safrano,	
Lily of the Valley,		French per doz.	2 0-3 0
per doz. sprays...	0 6-1 0	Stephanotis, 12 spa.	0 8-1 0
Maidenhair Fern,		Tuberoses, 12 blms.	0 9-1 0
per 12 bunches...	4 0-8 0	Tulips, various, doz.	0 6-1 0
Marguerites, per 12		Violets, 12 bunches	1 0-1 6
bunches...	3 0-6 0	— Parme, French,	
Mignonette, 12 bun.	4 0-6 0	per bunch...	2 0-3 0
Narcissus, White,		— Czar, do. ...	2 0-2 6
French, 12 bun.	1 6-2 6	— Mimosa or Aca-	
— Various, per		cia, do. ...	1 0 2 0
12 bunches...	0 9-1 6		

**ORCHID-BLOOM in variety.**

**PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	5 0-12 0
Arum lilies, per doz.	8 0-9 0	Ficus elastica, each	1 0-7 6
Aspidistra, per doz.	12 0-30 0	Foliage plants, doz.	12 0-24 0
— specimen, each.	5 0-15 0	Genistas, per doz...	8 0-12 0
Azalea, per plant...	2 0-3 6	Hyacinths, per doz.	6 0-10 0
Cineraria per dozen	6 0-9 0	Lilium Harrisii, per	
Cyclamens, per doz.	9 0-15 0	dozen pots...	18 0-36 0
Daffodils, per 12 pots	6 0-9 0	Marguerites, p. doz.	8 0-12 0
Dracena, each...	1 0-7 6	Mignonette, per doz.	6 0-9 0
— various, p. doz.	12 0-24 0	Palms, various, ea.	2 0-10 0
Ericas, various, doz.	9 0-24 0	— specimens, ea.	10 6-34 0
Evergreen Shrubs,		Primula sinensis,	
in variety, doz...	6 0-24 0	per dozen...	3 0-4 0
Ferns, small, doz...	1 0-3 0	Spiraeas, per doz...	8 0-12 0

**FRUIT.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Apples from Nova		Pine-apples, St. Mi-	
Scotia, per		chael, each...	2 6-4 6
barrel...	14 0-22 0	Strawberries, mar-	
Cobs, per 100 lb.	25 0-30 0	ing gathered	
Grapes (Cape), lb.	0 10-1 0	per lb. ...	6 0-6 0
— Gros Colmar,		— packed in bxs.	
1st quality, lb.	3 6-4 0	per lb. ...	4 0-5 0
2d quality, lb.	2 9-3 0	— seconds, per lb.	3 0-4 0

**VEGETABLES.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Asparagus, 1st size,		Onions, Eng. cwt.	3 0-4 0
per bundle	6 0-8 0	Potatos, Channel	
— 2nd size, do...	2 6-3 0	Islands, per lb. ...	0 4-0 5
— (sprue), do. ...	0 8-0 9	Radishes, Channel	
Beans, Channel Is-		Islands, doz. bun.	0 10-1 0
lands, per lb.	0 10-1 0	Sea-kale, per punnet	0 9-1 3
— Madeira, p. bus.		Tomatos, English,	
(8 to 10 lb.)	3 0-3 6	per lb. ...	1 8 ...
Cucumbers, per doz.	4 0-5 0	— Canary Is-	
Mint, per bunch...	0 4-0 6	lands, per case,	
Mushrooms, per lb.	0 6-0 8	11 to 14 lb. ...	5 0 5 6
Peas, Channel Is-		— Canary, boxes,	
lands, per lb. ...	2 0 ...	4 to 4½ lb. ...	1 3-1 9

**OLD POTATOS.**

Trade is still very dull, and the prospects for a bad finish seem to become daily worse.

**NEW POTATOS.**

Arrivals are gradually increasing. Best samples are selling freely, at 15s. to 22s.; ordinary, from 12s. to 14s. Small parcels from Malta, 12s. to 18s.

Reports from Jersey (Outdoor Crop):—"Mild weather is favouring rapid growth, and some of the earlier spots will be fit to earth-up this week." J. B. Thomas.

**POTATOS.**

**BOROUGH March 24.**—Quotations ranged from 30s. to 90s. per ton.

**SPITALFIELDS, March 24.**—Quotations:—Black lands: Bruces, 25s. to 35s.; Reading Giants, 30s. to 40s.; High lands: Bruces, 40s. to 50s.; Main Crops, 45s. to 55s.; Giants, 45s. to 60s.; Sutton's Abundance, 40s. to 50s.; Druids, 45s. to 55s.; Saxons, 70s. to 90s.; Scotch Bruces, 45s. to 55s.; do., Main Crop, 50s. to 60s.; Dunbars, 80s. to 90s. per ton.

**STRATFORD, March 21.**—Quotations:—Dark soil Bruce, 25s. to 30s.; light do., 30s. to 50s.; Reading Giants, 30s. to 50s.; Sutton's Abundance, 30s. to 60s.; Scotch Main Crop, 70s. to 80s.; Maganms, 80s. to 85s. per ton.

**FARRINGTON: March 26.**—Quotations:—Saxons, 70s. to 80s.; Dunbar Main Crop, 60s. to 80s.; Bruces, 60s. to 70s.; Hebrons, 80s. to 90s.; Main Crop, 40s. to 50s.; Sutton's Abundance, 45s. to 55s.; Imperators, 30s. to 35s.; Magnams, 30s. to 35s. per ton.

**SEEDS.**

**LONDON: March 25.**—Messrs. Joan Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended, with a small business doing. Sowing operations are much retarded by the wet condition of the soil. Mstantime prices all round show no important variation, and fine samples of Clover, Grass seeds, &c., can be secured for very little money. For Tares the demand is mesgre. Sainfoin is scarce, and dearer. The birdseed trade is lifeless. Linseed continues very dull. There is no alteration in either Peas or Haricots. Rape seed keeps firm, but Mustard is neglected.

**FRUIT AND VEGETABLES.**

**BOROUGH: March 24.**—Quotations:—Savoys, 3s. 6d. to 4s. per tally; Turnip-tops 1s. to 1s. 6d. per bag; Carrots, 2s. 6d. to 2s. 9d.; and Turnips, 2s. to 2s. 9d. per dozen bunches; Horse-radish, 8s. to 10s. per dozen rolls; Apples, 4s. to 6s. per bushel.

**SPITALFIELDS, March 24.**—Quotations:—Greens, bunch, 1s. 6d. to 2s. 6d. per dozen bunches; Broccoli, 6d. to 1s. per bushel; 9d. to 1s. per bag; Spring Onions, 1s. 6d. to 2s. per dozen bunches; Rhubarb, 2s. 6d.; Leeks, 1s. 3d. to 1s. 6d. per dozen; Parsley, 1s. to 1s. 6d. per dozen bunches; Turnips, 1s. 6d. to 2s. 6d.; Carrots, 1s. 9d. to 2s. 6d.; Kale, 9d. to 1s. per bag; Spinach, 1s. 3d. to 1s. 6d. per half-sieve; Turnip-tops, 9d. to 1s. per bag; Turnips, 2s. to 3s. per ton; Carrots (household), 2s. 6d. to 2s. 9d.; horse do., 17s. 6d. to 20s. 6d.; Horse-radish, 1s. to 1s. 3d. per bundle; Parsnips, 5d. to 6d. per score; Apples, dessert, 5s. 6d. to 6s. 6d. per bushel; do., cooking, 5s. to 6s. 6d.

**STRATFORD: March 25.**—Quotations:—Greens, 1s. 3d. to 1s. 6d. per dozen; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; do., 5s. 6d. to 7s. 6d. per crate; Scotch Kale, 6d. to 9d. per sieve; Sprouting Broccoli, 1s. to 1s. 6d. per bag; Turnip-tops, 1s. to 1s. 6d. per bag; Beetroot, 4d. to 6d. per dozen; Horse-radish, 1s. to 1s. 3d. per bundle; Parsley, 1s. per dozen; Rhubarb, forced 1s. per dozen; do., field, 2s. 6d. to 3s. per dozen; white Turnips, 1s. 9d. to 2s. per bag; Leeks, 1s. 6d. to 2s. per dozen; Spring Onions, 1s. 6d. to 2s. per dozen; Salad, 1s. 6d. per dozen punnets; Carrots, household, 2s. to 2s. 6d. per ton; do., cattle-feeding, 2s. to 2s. 6d.; Parsnips, 4d. to 6d. per score; Mangolds, 12s. to 16s. per ton; Swedes, 12s. to 18s. per ton; Onions, English 6s. to 8s. per ton; do., Dutch, 2s. 6d. to 2s. 9d. per bag; do., Bordeaux port, 4s. to 5s. 6d. per case; Apples, English cookers, 4s. to 5s. 6d. per bushel; do., English dessert, 4s. to 5s. per barrel; do., Nova Scotian, 14s. to 16s. per barrel.

**FARRINGTON: March 26.**—Quotations:—Savoys, 7s. per tally; bunch Greens, 7s. 3d. to 9d. per bushel; Cauliflowers, 1s. to 1s. 6d. per dozen; Leeks, 1s. do.; Kale, 6d. per bushel; Seakale, 10s. to 12s. per dozen; Parsley, 1s. 6d. per dozen bunches; Carrots, 2s. per dozen; Turnips, 2s. per dozen bunches; Cucumbers, 4s. per dozen; Rhubarb, 2s. per dozen bundles; Horse-radish, 1s. per bundle; Apples, 17s. to 18s. per barrel; for Nonpariels, Beo Davis, 20s. to 22s. do.

**HAY.**

**Averages.**—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 87s. 6d.; inferior, 38s. to 60s.; hay, best, 80s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 81s.; and straw, 20s. to 40s. per load.

**CORN.**

**Averages.**—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending March 21, and for the corresponding period last year:—1896: Wheat, 25s. 1d.; Barley, 31s. 1d.; Oats, 13s. 9d. 18 5: Wheat, 20s.; Barley, 21s. 10d.; Oats, 13s. 10d.

**"THE AUTO-CAR."**—The issue of the twentieth number of this journal is witness, not merely to the merit of the publication, but to the fact that mechanically propelled road carriages have many advocates interested in the literature of the subject. There is abundant proof that horseless conveyances of some, or of many a kind will be largely used in the future, when the restrictions with regard to them have been removed. The subject is by no means a new one, but progression has been slow; lately, however, an increased activity has been manifested, and this will undoubtedly have due results in hastening the time when auto-cars, motor-cars, motorcycle, and automobilic machines, at present somewhat mysterious to ordinary mortals, shall be familiar objects in our streets and roads. For florists, to aid

them in the conveyance of their fragile wares, and for exhibition purposes, auto-cars would be found valuable as the flowers would be less exposed to the risks pertaining to railroad carriage. The journal devoted to the consideration of these vehicles is recommended to readers who seek information concerning them. The editor is Mr. H. Sturmeay, and the publishers' address, 19, Hereford Street, Coventry.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	Above (+) or below (−) the Mean for the week ending March 21.	ACCUMULATED.			10ths Inch.	Inch.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 20, 1895.	
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 20, 1895.						Below 42° difference from Mean since December 20, 1895.
0	2 +	13	25 +	51	−219	9 +	61	163	30	15
1	2 +	31	30 +	32	−148	5 +	46	47	41	13
2	2 +	31	15 +	37	−152	1 +	35	34	31	20
3	2 +	36	16 +	40	−175	8 +	43	44	21	21
4	2 +	33	17 +	64	−194	3 +	40	40	25	19
5	3 +	36	7 +	43	−180	7 +	37	40	20	18
6	2 +	23	11 +	66	−158	13 +	55	113	36	18
7	2 +	31	11 +	94	−185	2 +	47	70	25	17
8	3 +	34	4 +	86	−157	5 +	44	64	27	21
9	1 +	29	16 +	109	−170	1 +	51	81	43	19
10	1 +	35	9 +	129	−154	7 +	46	79	39	20
*	3 +	43	0 +	143	−93	1 +	47	46	23	25

The districts indicated by number in the first column are the following:—

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E;
- 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c. Districts—6, Scotland, W;
- 7, England, N.W.; 8, England, S.W. 9, Ireland, N.;
- 10, Ireland, S. \* Channel Islands.

**THE PAST WEEK.**

The following summary record of the weather throughout the British Islands for the week ending March 21, is furnished from the Meteorological Office:—

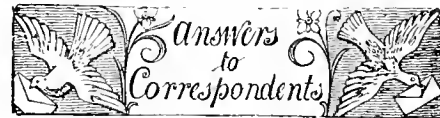
"The weather during this period was very changeable. Rain fell frequently, and the amounts were sometimes rather large. Many intervals of bright sunshine were experienced, however, especially in the north and west. Thunder and lightning occurred at some of the north-western stations on Friday.

"The temperature was above the mean in all districts, the excess ranging from 1° in 'Ireland,' to 2° in most other districts, and to 3° in 'England, S and S.W.,' and the 'Channel Islands.' The highest of the maxima were recorded towards the end of the week, and ranged from 56° in the 'Mid and Counties,' to 52° in 'Scotland, W.' The lowest of the minima were registered, as a rule, on the 19th, when they ranged from 26° in 'England, S.W.,' to 31° in 'England, N.E.,' and to 40° in the 'Channel Islands.'

"The rainfall exceeded the mean in all parts of the kingdom, the excess being large in nearly all districts. In the south and east of England, the fall during the week was about three times as large as the normal value.

"The bright sunshine exceeded the mean in Ireland, Scotland, and the north-west of England, but showed a deficit elsewhere. The percentage of the possible duration ranged from 43 in 'Ireland, N.,' and 41 in 'Scotland, E.,' to 22 in the Channel Islands, 21 in 'England, E.,' and 20 in 'England, S.'"

**SISAL HEMP.**—Dr. MORRIS lectured on the Sisal industry at the Society of Arts on the 18th inst. Dr. MORRIS, as we have already indicated, turned a winter vacation to advantage by visiting the Bahamas, where the Sisal, *Agave rigida*, var. *sisalana* is now largely cultivated for its fine white fibre. Dr. MORRIS's paper gives a summary history of the cultivation of the plant in various West Indian islands, Yucatan, British Honduras, &c.



**A HOUSE WITH A GARDEN:** *Greenhorn.* Without having seen the garden we cannot advise you; but as you say you know nothing whatever about gardening, you ought to call in an expert—say, the local nurseryman—to lay out and plant the garden.

**BULBS DISEASED:** *P. & Sons.* Your Tulips and Hyacinths are suffering from the "Lily disease," described by Professor Marshall Ward (*Annals of Botany*), and which is caused by a fungus of the genus *Polyactis*. We can suggest no remedy, since it attacks the growing point, and destroys the young "blooms," as well as the foliage. All the diseased plants would be better removed and destroyed, to prevent the disease spreading. Wet weather is favourable to the fungus, and so is a stiff retentive soil. *M. C. C.*

**CHRYSANTHEMUM PLANTS GNAWED BY GRUBS:** *J. H.* The insects sent had escaped from the box; and only gnawed plants were found, which showed the work of some weevils or weevil grubs. What the fly was that you saw on the leaf we are unable to say. It is yet too early for the leaf-miner fly to be about. To destroy winged pests on the plants you should fumigate once a fortnight. Weevils and their grubs are more difficult to deal with. Soil should be used which is not infested with the grubs; and if in doubt have it well searched before using it. The perfect insects can be caught at night by suddenly turning on a dark lantern on entering the house, and gathering up the beetles as they drop from the plants, which they do immediately the light is turned on. The plants should be stood at wide distances apart on sheets of white paper, &c.

**CINERARIAS:** *H. H. D.* We see nothing unusual in the flowers; the white appearance of some of the florets before they open is not uncommon.

**DENDROBIUM NOBILE:** *J. A.* It is not uncommon for *Dendrobium nobile* to send out young growths and flowers from the pseudo-bulbs, but it is not considered desirable that it should do so.

**GARDENING INFORMATION:** *C. E.* Kindly send specimen paragraph.

**HORTICULTURAL BUILDINGS:** *G. T. J.* If within an urban area you must consult the town or district surveyor.

**INSECTS:** *W. G.* Those you send are wireworms, than which there are few pests more injurious. If they are present in pots or in any soil in which plants are now growing, it is almost impossible to rid it of them. You might try clear lime or soot-water, or turn each plant out and examine them carefully, and remove all that can be found, and repot, if possible, into soil clear from the pest. On the other hand, if they occur in loam not yet in use, it will be well to break it up finely by hand, and remove as many of them as can be found. If the soil be baked before using it is sure to kill most or all of them. It may be worth while to consider whether it is more convenient to adopt such precautions or to obtain fresh soil in which the pest is not present in any quantity.

**LABURNUM WITH YELLOW AND PURPLE-COLOURED FLOWERS:** *W. C.* It is the result of budding *Cytisus purpureus* on *Laburnum vulgare*. The curious result of this proceeding, in some cases, is to have flowers in some parts of the tree resembling one or the other of the parents. The purple one is known in gardens as *Cytisus Adami*.

**LANDSCAPE GARDENING:** *J. K. S.* You should let the young man enter the employment of some firm of nurserymen largely engaged in landscape work. Here he would gain a practical acquaintance with the work, which he should supplement by taking lessons in field-surveying, levelling, measurements

of quantities, &c. The books which would be found of value meantime, are Kemp's *How to Lay out a Garden* (Bradbury, Agnew, & Co., Bouverie Street, London, E.C.), Milber's *Landscape Gardening* (Simpkin, Marshall, Hamilton, Keut & Co., Limited, Stationers' Hall Court, London, E.C.), *Landscape Gardening*, by Parsons (G. P. Putnam's Sons, 27, King William Street, London, E.C.). Other books to be read are *Corder's Landscape Gardening in Japan*; *Parks and Gardens of Paris* (Robinson); *The Tree Lifter*, by Greenwood.

**LILY:** *A. E. S.* We cannot tell from the specimen sent, but we think it very likely. We have no experience of the use of the Bordeaux Mixture in this case, but we should certainly try it cautiously on a few plants first and watch the results.

**MOWERS:** *G. S. C.* We know of no mower cutting grass by means of revolving spiral knives and a cutter plate that will make good work of long rye or other grass at one cutting, although by altering the height of the cutters above the sward it could be done at two operations, of course, lowering them on going over the turf on the second occasion. For makers we must refer you to our advertisement columns. Really long grass would need the scythe or the machine used in cutting hay-grass.

**MUSHROOMS:** *J. L.* What you send is the "sclerote," or resting stage of the fungus.

**NAMES OF FRUIT:** *J. H.* Hoary Morning.—*G. W. C.* The Apple you send is certainly not Northern Spy, which is always very highly coloured; we do not recognize it.

**NAMES OF PLANTS:** *M. A. Rolfe, Stamford-le-Hope.* *Freesia refracta alba*, see illustration, p. 392.—*R. M. 1*, *Daphne Mezereum*; *2*, *Pyrus japonica*; *3*, *Jasminum nudiflorum*; *4*, *Anemone appennina*; *5*, *Erythronium dens canis*; *6*, *Orobanchium*.—*J. P.* *Forsythia suspensa*.—*D. I.* *Picea sitchensis*; *2*, *Abies nobilis*; *3*, *Abies nobilis*; *4 & 5*, *Pseudotsuga Douglasi*; *6*, *Juniperus excelsa* Perkinsi.—*A. J. A. B.* *Forsythia suspensa*.—*W. C. R.* *Sherardia arvensis* with whorls of small leaves. Send the other when in flower.—*Belfast 1*, *Begonia riciniifolia*; *2*, *Begonia manicata*.—*Pteris*. The specimen sent seems very distinct. It is new to us.

**PHLOX:** *W. C.* The imported plants, of which you send roots, are badly attacked with eel-worm. Better destroy the plant—or, at least, isolate it. Wash the roots, and put them in fresh soil.

**PRIMULA SINENSIS:** *J. L. & Sons.* Very good, but nothing of extraordinary merit.

**PROLIFEROUS ROSE:** *W. F., Jamaica.* Does it not show the axial nature of the "hip." In your case it is prolonged into a flower-bearing shoot, a common occurrence here. Perhaps in your moist hot climate the change may be even more frequent.

**RHODODENDRON:** *A. M. W.* The surest way to increase any particular hardy variety is by inarching on the *R. pouticum*. The stocks should have been in pots for at least a period of seven or eight months, and the operation should be done in early summer in the greenhouse or out of doors.

**RUST ON MELON PLANTS:** *T. B.* It is a matter of treatment, the young plants have been incautiously ventilated in cold weather, or ammonia fumes from fermenting stable-dung have come into contact with them. The roots are healthy, and the soil is what it should be.

**COMMUNICATIONS RECEIVED.**—*J. McIntyre.*—*J. Leman.*—*J. W.*—*A. Barnes.*—*Dr. Muller.*—*G. P.*—*W. W.*—*H. H.*—*D. M.*—*R. B.*—*J. W. B.*—*John Baker* and *W. H. R.* (next week)—*R. B.*—*T. Sohren.*—*A. R.*—*E. H. M.*—*D. M.*—*T. F.*—*O. D.*—*E. C. Y.*—*M.*—*Experience.*—*F. R.*—*F. R.*—*D.*—*W. J. B.*—*W. B. H.*—*G. W.*—*J. W.*—*C. L.*

**SPECIMENS, PHOTOGRAPHS, ETC., RECEIVED WITH THANKS**—

**CONTINUED INCREASE** in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

**IMPORTANT TO ADVERTISERS.**—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of more than 90 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries

### NOTICE TO ADVERTISERS.

FRIDAY NEXT, April 3, being GOOD FRIDAY, the "GARDENERS' CHRONICLE" will be published on THURSDAY, April 2.

ADVERTISEMENTS for NEXT WEEK must therefore reach the Office not LATER than WEDNESDAY MORNING, April 1.

**BEESON'S MANURE, SHEFFIELD.**—For Vines, Plants, and Vegetables. Sold with a Guaranteed Analysis. Has stood the test of the principal growers for over 23 years, and is admitted to be the Best for all Horticultural Purposes. In boxes, 1<sup>st</sup> and 2<sup>nd</sup> 6d.; bags, 50 lb., 8s.; 1 cwt., 15s. May be obtained through any seedsman; or, direct (bags only), carriage paid, and liberal discount for cash with trial order, from W. H. BEESON, SHEFFIELD. Pure Crushed Bones, all sizes, and other Fertilisers at market prices.

**NATIVE GUANO.**—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt. sample bag sent carriage paid to any station in England, on receipt of P. O. for 5s. Extracts from 20th Annual Collection of Reports:—

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**B. LEE & SON, Market Gardeners, Burnham:**—Used for three years for Vegetables, Strawberries, Cucumbers, Tomatos, and other Market Garden Crops, and it has "given great satisfaction for all crops." **T. REASON, Gardener to Lord Windsor:**—Used for several years for Potatos and general Kitchen Garden Crops. Results: "Good. A capital manure."

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**G. STONARD, Gardener to Sir A. T. Watson, Reigate:**—"I have used your Guano for five years, and can bear testimony to its great value for fruit growing." **C. ROUSE, Nazing Park Garden, Waltham Cross:**—Used for Tomatos, Cucumbers, Chrysanthemums, and Roses. Results: "A marked improvement wherever used. A good and cheap manure."

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For Syringing, Dipping, and Washing Plants and Fruit Trees.

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**ADVANTAGES CLAIMED**—It is always of uniform strength, and perfectly safe when used as directed. Kills every insect which affects Plants and Fruit Trees. Does not stain Foliage, Flowers, or Fruit. A clear Liquid (no sediment), heretofore differing from the crude, thick, soapy preparations frequently recommended. Being the Strongest in the Market, it is cheap in use, standing twice the amount of dilution of any other safe preparation. As an example, Kills Fly at 1 to 40 parts of water.

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Telegraphic Address—"Vaporizing, London."

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THE ANALYSIS SHOWS—  
Insoluble Phosphate ... .. 35.74 per cent.  
Soluble ... .. 83 "  
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(Equal to Ammonia) ... .. 10.85 "

Sold in Tins, 1s., 2s. 8d., 5s. 8d., and 8s. each; and in Kegs, well secured, to prevent loss through exposure, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s.

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**WEBB'S COMPOUND MANURE.**  
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1 lb., 1s.; 2 lb., 2s. 6d.; 7 lb., 5s.; 28 lb., 13s.

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Price Lists and Testimonials on application. Analysis sent with orders of 1-cwt. and upwards.

SOLD BY ALL SEEDSMEN

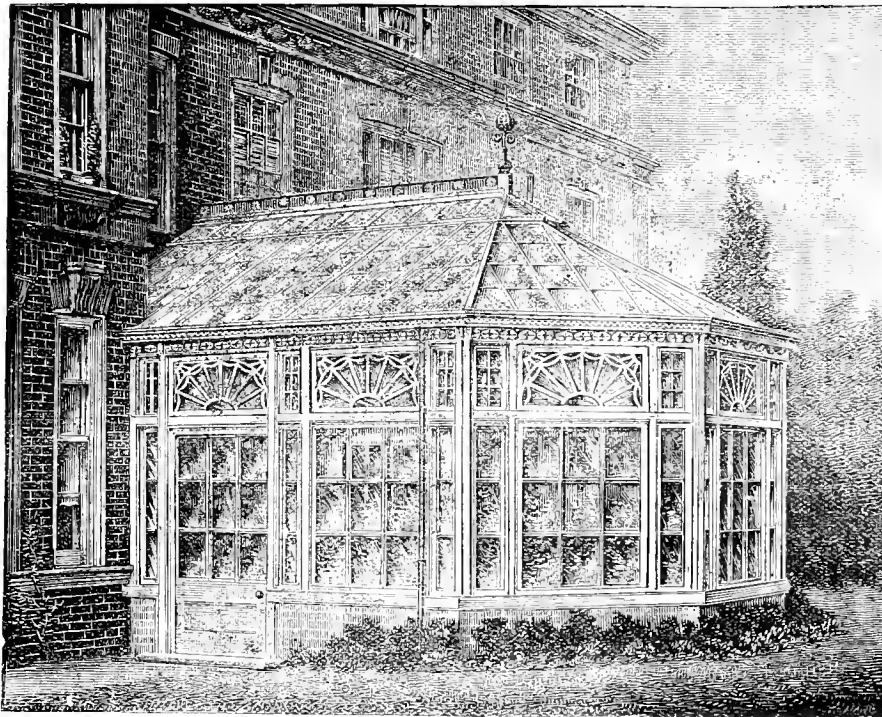


FOR GREENHOUSES. One is sufficient for 1300 cubic feet. REDUCED PRICES—9s. per dozen; refills for three tins 2s. per packet.

THE BEST and CHEAPEST IN THE MARKET. **E. G. HUGHES**, Victoria Street, MANCHESTER. SOLD BY ALL SEEDSMEN.

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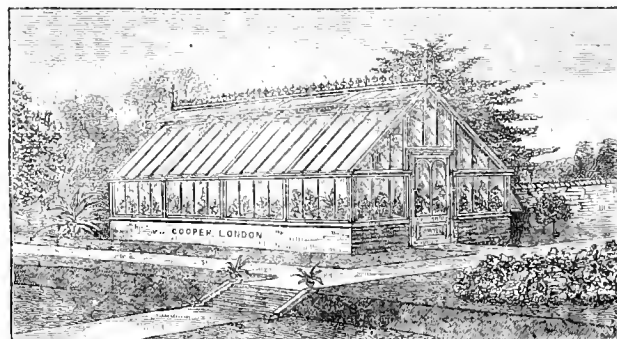
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III.—Rustic Work ... ..	99—134
IV.—Iron Buildings and Roofing, Church Furniture, &c. ... ..	135—178
V.—Heating Apparatus, Cooking Stoves, &c.	179—228
VI.—Horticultural Manures, Fertilisers, Insecticides, Worm and Weed Destroyers, Sunshades, Soils, &c. ... ..	229—246
VII.—Lawn Mowers and Edge Cutters, Tennis Markers, Garden Rollers, &c. ... ..	247—268
VIII.—Horticultural Timber ... ..	269—280
IX.—Horticultural Sundries, Wirework, Fountains, Vases, Statuary, &c. ... ..	281—342
X.—Vegetable and Flower Seeds, Plants, Dutch Bulbs, &c. ... ..	343—383

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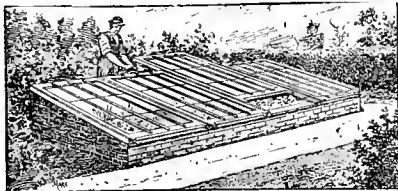
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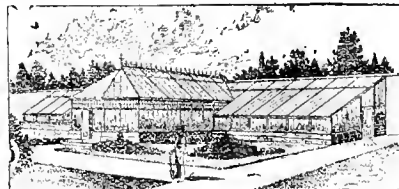
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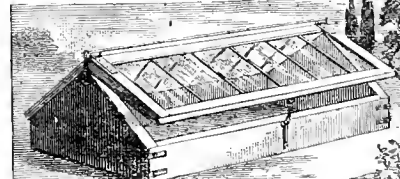
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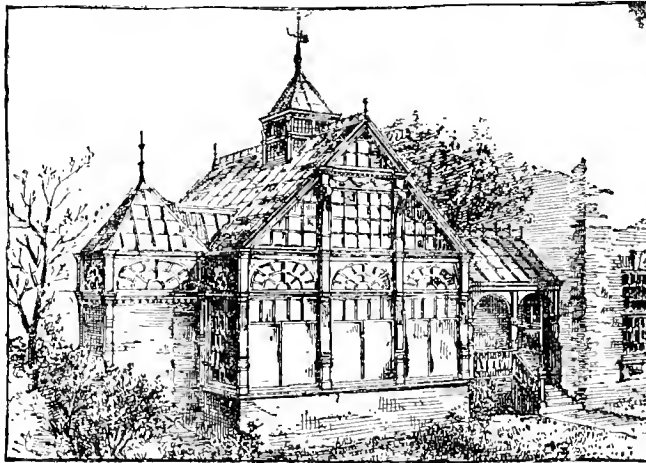
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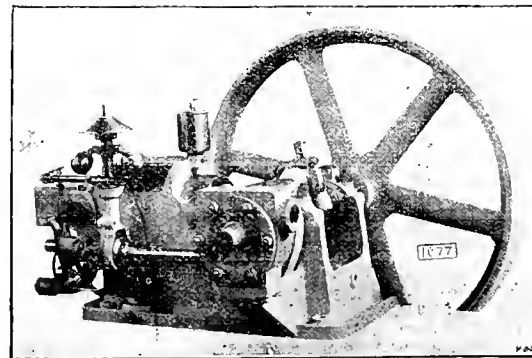
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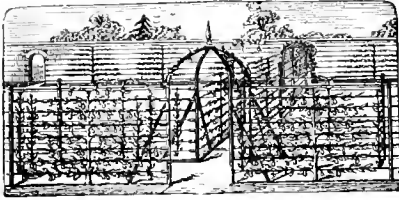
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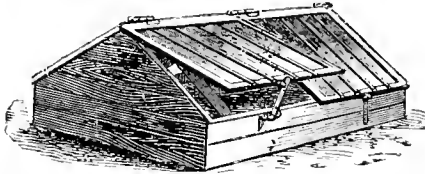
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**WANTED, an energetic young MAN for General Out door Nursery Work;** must be a good building hand. References, &c., to EDWIN HILLIER, The Nurseries, Winchester.

**WANTED, for the season, two young MEN,** with knowledge of Potting and Watering. Wages 18s. per week and 4d. per hour for all overtime.—CHARLES WOODROFFER, Florist, Sudbury, Harrow, N.W.

**A VACANCY occurs for an energetic ASSISTANT of good address, with thorough knowledge of Seed Trade.** State age, experience, married or single, wages required, &c. Permanency to a suitable person.—ALEX. BLATCHFORD, Seedsman, Coventry.

**WANTED, an IMPROVER, Inside.—Fair knowledge of his work;** active, and willing.—Height, age, and wages, to T. H. SLADE, Pottimore Gardens, Exeter.

## Herbaceous.

**WANTED, a respectable young MAN, as IMPROVER (not under 18 years)** in Herbaceous Department. Must have had a good insight in same and be willing.—Write, stating age, experience, and wages expected, to F. A. HINTON, Brockhampton Nurseries, Havant.

**WANTED, a Strong LAD, used to Nursery Work under Glass.** State wages expected and particulars to BOATWRIGHT, Florist, &c., Loughborough Junction, S.W.

## Wholesale Seed Trade.

**WANTED, CLERK, with thorough knowledge of the Trade.** Shorthand writer preferred. State age, experience, and salary required, to T. E., 41, Wellington Street, Strand, W.C.

**WANTED, a young MAN to help serve in Florist's Shop,** must be able to pot and plant quickly, and make himself useful; state wages, which must be low to commence, to—M., Conservatories, Finchley Road, N.W.

**WANTED AT ONCE, an energetic young LADY for a London Florist's;** one with a previous knowledge preferred.—Address, giving particulars, to FLORIST, 41, Wellington Street, Covent Garden, W.C.

**WANTED a young LADY, over 20, for Florist's and Seed-shop.** State full particulars to H. M. STEVENS, Florist, 3, Great Western Arcade, Birmingham.



## WANT PLACES.

### TO GARDENERS AND OTHERS SEEKING SITUATIONS.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all letters so addressed are opened by the authorities and returned to the sender.

#### Gardeners, Farm-Balliffs, Foresters, &c.

**DICKSONS, Royal Nurseries, Chertea**, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHERESTER."

**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—**F. SANDER AND CO., St. Albans.**

**GARDENER (HEAD).**—**CHARLES SHEPPARD**, the last twelve years in charge of the late Duke of Hamilton's Glenham House Gardens, Saxmundham, is at liberty to engage with any Nobleman or Gentleman. Married, 42 years, one child.

**GARDENER (HEAD).**—Age 37, no family. A GENTLEMAN with confidence recommends his Head Gardener, life experience in good establishment. Excels in Orchids, Fruit, Rose, Chrysanthemums; a capable manager.—**B. S. Gardners Cottages, Swain's Lane, Highgate.**

**GARDENER (HEAD).**—Age 31; life-long experience in all branches; 20 years' practical experience in London Market Nurseries and private places where surplus is marketed. Six years' excellent character as Foreman Propagator and Grower.—**G. P. Q., 41, Wellington-st., Strand, W.C.**

**GARDENER (HEAD).**—Age 30; married; four years' character; one child; is open to engage with Lady and Gentleman requiring the services of thoroughly experienced man; can undertake management of Stock if required.—**A. G., 2, Grove Cottage, Horsell, Woking.**

**GARDENER (HEAD).**—Age 42; married; 26 years' practical experience in all the branches of gardening in good establishments. Sixteen years head. Land and Stock if required. Good References.—**E. J., Mr. Dicksons, Seed Warehouse, Chertea.**

**GARDENER (HEAD).**—**Mr. G. MOODY**, Nurseryman, Louth Lines, can highly recommend to any Lady or Gentleman a thoroughly practical good all-round man.

**GARDENER (HEAD);** thoroughly experienced in all branches.—Leaving through estate being sold. Good references.—**F. WELLS, The Gardens, Bridgen Place, Bexley, Kent.**

**GARDENER (HEAD).**—Age 35, married; twenty years' practical experience in Fruit, Flowers, and Vegetables, and routine of a good Garden. Four years' good character.—**T. BELL, The Gardens, Byram House, Clapham Common, Surrey.**

**GARDENER (HEAD WORKING).**—Age 30; thoroughly practical in all branches; highly recommended by late and present employers.—**W. AUSTIN, Mr. G. Hall, Rushton, Kettering, Northants.**

**GARDENER (HEAD WORKING).**—Age 30, married, two children; thorough practical knowledge in all branches; can be highly recommended.—**G. GIBSON, East Sutton Park, near Staplehurst, Kent.**

#### To Gentlemen.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED).**—Age 45; two children (girls); thoroughly experienced in all branches.—**W., 2, Rosalin Villas, Durant's Road, Ponders End.**

**GARDENER (HEAD WORKING).**—Age 31. **JAMES TAYLOR, Esq., Rendcombe Park, Cirencester**, will be pleased to recommend **W. RICHARDSON**, who has been Foreman in these gardens for over four years. Sixteen years' experience in good establishments.—**W. RICHARDSON, Rendcombe Park Gardens, Cirencester.**

**GARDENER (HEAD WORKING).**—Age 28; thoroughly experienced in all branches, both Inside and Out. Excellent references from present and previous employers.—**A. STEVENS, Catton Park, Norwich.**

**GARDENER (HEAD WORKING);** age 29.—**Mr. WILLIAMS** will be pleased to recommend **WILLIAM HUGHAN**, as above. First-class references from Brampton Bryan, Galloway House, Eaton Hall, and Blenheim Palace.—**W. HUGHAN, Blenheim Gardens, Woodstock.**

**GARDENER (HEAD WORKING),** where three or more are kept.—**WM. GARMAN, Manager, Frythesden Gardens, Great Berkhamsted**, highly recommends his Foreman, **CHARLES HOWARD**, age 30, married, one child, to any Lady or Gentleman requiring the services of a practical Gardener. Two years in present place. Experienced in all branches.

**GARDENER (HEAD WORKING).**—Advertiser is open to engage with any Lady or Gentleman requiring a good all-round practical man; wife Laureless if required. Good character.—**HEAD GARDENER, The Lodge, Sycamore Avenue, Farnboro', Hants.**

**GARDENER (HEAD WORKING).**—Married; no family; practical in all branches, inside and out. Highest references as to ability, &c. Disengaged.—**GARDENER, 40, St. George's Street, Canterbury.**

**GARDENER (HEAD WORKING),** where 2 or 3 are kept.—Age 25; single; total abstainer. **T. GOLDRING** will be pleased to recommend young man as above. Five years' good character.—**T. GOLDRING, The Gardens, Chilgrove, Chichester.**

**GARDENER (HEAD WORKING),** where 3 or more are employed.—Age 23. **Mr. ROGERS**, gardener to the Right Hon. the EARL TEMPLE, Wotton, Aylesbury, wishes to strongly recommend his Foreman to any Lady or Gentleman requiring the services of a steady and trustworthy man, thoroughly efficient in all branches of Gardening, and in every way qualified for the position of head. Four and a half years as foreman at Wotton. Good character from previous places.

**GARDENER (HEAD WORKING).**—Age 37; married, no family. Twenty-two years' experience. Ten years' excellent character, 4½ previous. Disengaged. Leaving through no fault. Please state wages and full particulars.—**F. K., Celars Cottages, Uckfield. No circulars.**

**GARDENER (HEAD WORKING).**—Age 36. Good knowledge of Houses, Fruit, Flowers, also Kitchen Garden and general Outside Work; six years Head in present place; good references from present and previous employers.—**W. DOWLING, Carlers Clay, Romsey.**

**GARDENER (HEAD WORKING).**—Age 40, married, one child, seven years; understands Stove and Greenhouse, Forcing Fruits, Flowers, &c.; Peach, and other Wall Fruit, Kitchen and Flower Gardens. Twenty-five years' practical experience. Well recommended personally.—**BURGESS, "Fairfield," Denmark Hill, S.E.**

**BONUS** for securing advertiser a HEAD WORKING or good SINGLE-HANDED with help. Age 31; excellent character.—**H. F., 41, Wellington St., Strand, W.C.**

**GARDENER (HEAD WORKING).**—Thoroughly understands Vines, Stove, Orchids, Conservatory, Flower and Kitchen Garden. Good character. Nine years in previous place. Wife thorough Landress if required. One child (12).—**G. J., The Gardens, Westlea, Boxbourne, Herts.**

**GARDENER (HEAD WORKING).**—Age 30. **Mr. HENDERSON, Steward, St. Leonards, West Malling, Kent**, wishes to recommend a trustworthy young Man, who has been with him for three years.—Thoroughly experienced in all branches.

**GARDENER (HEAD WORKING).**—Age 28; fourteen years' practical experience in good establishments. Well up in all branches. Good testimonials as to character and abilities from present and previous employers.—**T. G. KEMP, Sundridge Park Gardens, Bromley, Kent.**

**GARDENER (SINGLE-HANDED, or SECOND).**—Age 21; nine years' experience, Inside and Out. Excellent character.—**A. S., 32, Richmond Road, South Tottenham.**

**GARDENER (good SINGLE-HANDED),** or one under.—Eleven years' practical experience in all branches. Age 25; single. **Mr. HOCKING** will be pleased to recommend **J. BATTELEY** as above.—The Gardens, Marden Park, Caterham Valley, Surrey.

**GARDENER (SINGLE-HANDED or SECOND).**—Situation wanted as above by young man aged 24; abstainer; good character.—**D. BROWN, Silcocks Farm, Broadly Common, Waltham Cross, Herts.**

**GARDENER (SINGLE-HANDED) or ORCHID GROWER.**—Age 34; two years in present situation.—**S. R., Blackstone, Henfield, Sussex.**

**GARDENER (SINGLE-HANDED),** or otherwise.—Age 48, married, no family. Can manage Bees; no objection to Cows or Poultry. Good reference from present and previous employer.—**GARDENER, Goldings, nr. Horsham, Sussex.**

**GARDENER (SINGLE-HANDED).**—Age 28; Vines, Cucumbers, Greenhouse, Flower and Kitchen Garden. Good references.—**GARDENER, Ormsby Hall, Ailford.**

**GARDENER (good SINGLE-HANDED, or where help is given)**—Age 24. Well up in Fruit and Plants under glass. Excellent testimonials; abstainer.—**W. JONES, Shortmead Street, Biggleswade, Beds.**

**GARDENER (SINGLE-HANDED or UNDER).**—Age 23, single; no objection to look after Stock. Two years' good character.—**H. F., 20, Hambro Road, Streatham.**

**GARDENER, where help is given.**—Age 26. Well experienced in all branches, both Inside and Out. Two and four years' good characters. Newcastle-on-Tyne preferred.—**W. MERSUM, 3, Albert Cottages, High Road, Loughton, Essex.**

**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 27, married; twelve years' experience in all branches.—**E. W. H., Mr. Brace, Eleanor Road, Waltham Cross, Herts.**

**GARDENER, where two or three are kept.**—Understands the cultivation of Fruit, Flowers, and Vegetables; highly recommended.—**A. GRACE, Tring Park Gardens, Tring, Herts.**

**GARDENER.**—Age 23; single. Three and a half years' good character; Inside and Out.—**H. H., 39, Woolwich Road, Belvedere, Kent.**

**GARDENER (SECOND),** in a Gentleman's Establishment.—Age 25; eight years' experience Inside and Out.—Good general knowledge of Stove and Greenhouse Plants, Vines, &c.; Wall Fruit and Pleasure Grounds. Two years in present situation. Abstainer.—**JONES, Stoughton Grange Gardens, Leicester.**

**GARDENER (SECOND), where five or six are kept.**—Age 25; nine years' experience; two years in last situation; good references.—**W. WHITE, Coffee House, Compton, Guildford, Surrey.**

**GARDENER (SECOND),** in good establishment.—Age 24; ten years' experience in Plant and Fruit Houses. Well recommended by last employer, **Head Gardener at Wellington Hall, Lincoln**, and other good gardens.—**FREDERICK ANDREWS, Cherterton, near Bicester, Oxon.**

**GARDENER (SECOND),** in good establishment.—Thorough all-round practical experience Inside and Out. Excellent characters from present and previous employers.—**GARDENER, 120, Albany St., Regent's Park, N.W.**

**GARDENER (SECOND).**—Age 26, married; twelve years' experience Inside and Out. Well recommended by present and previous employers.—**AMOS WHITEHEAD, Flemish Villas, Pound Road, Chertsey, Surrey.**

**GARDENER (SECOND), or JOURNEYMAN (FIRST).**—Age 25; ten years' experience. Well up in Fruit, Plants, &c. Can be well recommended.—**W. HASKINGS, Hanger Hill House Gardens, Ealing, W.**

**GARDENER (UNDER).**—Age 20; three years present situation. Good character. Leaving to improve.—**F. MOORE, 11, Nelson Road, Harrow, Middlesex.**

**GARDENER (UNDER).**—Age 23; three years in Kitchen and Flower Garden; four years previous in Nurseries. Excellent character. Bath preferred.—**E. H., Arthur Cottages, Hanworth, Middlesex.**

**GARDENER (UNDER),** where two are kept.—Age 27; used to Pleasure Grounds and Kitchen Garden; help inside if required. Three years' good; well recommended.—**C. CHALLEN, Sandrocks, Hayward's Heath, Sussex.**

**GARDENER (UNDER).**—Age 18; seeks a situation; chiefly in the houses; two years in last place.—**W. PARRISH, Greenley, Brackley.**

**GARDENER (UNDER).**—Age 20; six years' experience inside and out. Excellent character.—Apply **M. PAGE, Ridlett, near St. Albans, Herts.**

**GARDENER (UNDER).**—Age 18. Three years' good character under **Mr. GOODALL, Head Gardener to the EARL OF HARWOOD, Goldbars' Hall.**—**F. RICHMOND GOLDBOR, Knarsborough.**

**GARDENER (UNDER),** to work in Kitchen Garden and assist in Houses.—Age 21.—**F. C., Kempshott Park, Basingstoke.**

**GARDENER (UNDER).**—Age 19; leaving to improve; good knowledge inside and out. Five years' good character from present employer.—**LOJK, Woodlands, Snow Hill, Crawley Down, Sussex.**

**GARDENER (UNDER).**—Age 22; having five years' experience Inside and Out. Good character.—**T. SEWELL, Chipstead Lane, Riverhead, Kent.**

**GARDENER (UNDER).**—Situation wanted by young man; age 20; inside and out; six years' experience, good references.—**F. PERKINS, The Gardens, West Leigh, Havant, Hants.**

**GARDENER (UNDER).**—Young Man; age 22; seeks Situation inside and out; four and half years' experience; good recommendation.—**W. COGK, Hautrope, Stony Stratford, Bucks.**

**GARDENER (UNDER).**—Situation wanted, by a young man, age 20; good experience Inside and Out.—**G. WALKER, News Agent, Crossleigh, Surrey.**

**GARDENER (UNDER).**—A Lad of 18; in both preferred. Three years' experience, and a good character.—**E. GREENAWAY, The Gardens, Ravensbrook, Chislehurst.**

**ORCHID GROWER.**—Age 29. Eight years' experience in Orchids; used to imported stuff. Well recommended from present and previous employers. Private work preferred.—**X., 41, Wellington Street, Strand, W.C.**

**GROWER.**—Age 26; seeks a situation. Life experience. Ferns and Soft-wooded Stuff. Good references from Leading London Nurseries.—**A. F., 41, Wellington Street, Strand, W.C.**

**GROWER, under Foreman.—Experienced in the Cultivation of Stove and Greenhouse Plants, Cut Flowers, Cucumbers, Tomatoes, Carnations, &c.** Six years with **Alderson Bros.—J. HUNTER, Wallbrook Road, Farnborough, R.S.O., Kent.**

**GROWER.**—Age 26; life experience in large Market places. Well up in Soft-wooded, Stove or General Stuff for Pot or Cut. Good references. London preferred.—U. X., 41, Wellington Street, Strand, W.C.

**GROWER or JOURNEYMAN (FIRST).**—Good Budder and Grafter, well up in Beath Propagation; ten years' experience; good reference past employers.—COLE, 2, High Street, Swanley Junction.

**GROWER, or JOURNEYMAN (FIRST), of** Soft-wooded Plants. Ten years' experience in leading Nurseries. Good references from past and present employers.—PAYNE, 2, High Street, Swanley Junction.

**FERN RAISER and GROWER, or GROWER.**—Age 30; accustomed to Raising and Growing both Exotic and British Ferns in quantity for Trade and Market. Several years with Mr. H. B. May, Dyson's Lane Nurseries, Edmonton.—R. MANSEY, Mr. Trotter, Hanworth, Middlesex.

**FOREMAN (WORKING).**—Age 35; life experience in London and provincial Nurseries. Well up in growing in quantities Plants and Cut Flowers, such as Cyclamen, Double Primulas, Roses, Eucharis, Hydrangas, Carnations, Pelargoniums, and Lilies; also Ferns, Palms, Vines, Wreaths, and Bouquets. Excellent references.—FOREMAN, Croxtop, Bishopsworth, Bristol.

**To Nurserymen.**

**FOREMAN.**—Age 28; fourteen years' experience. Good all-round hand. Specialty: Growing Palms and Forcing Lilies, Bulbs, &c.—HARRISS, 4, Beauchamp Road, Twickenham.

**FOREMAN, Inside.**—Age 27; thoroughly experienced; four years' good character.—J. W. REED, Broadwater, Otlands Park, Weybridge, Surrey.

**FOREMAN.**—Age 28, where three or four are kept in the Houses. Twelve years' experience in good establishments. Two years Foreman at Viscount Falmouth's, Trogothan, Truro. Bothy preferred.—G. BARRELL, Bartore Court, Hungerford, Berkshire.

**FOREMAN.**—Age 26; eleven years' practical experience in all branches of Gardening and Table Decorations. Mr. OFFER, Head Gardener to J. WARREN, Esq., Handcross Park, Crawley, Sussex, can highly recommend G. MUNNINGS as above. Has been with him two years. Abstainer.—G. MUNNINGS, Manor Cottages, Waswell Rise, Pinner, Middlesex.

**FOREMAN.**—Age 23; E. BENNETT, The Gardens, Chilham Castle, Canterbury, will be pleased to recommend his Foreman, who has a good practical knowledge of the Cultivation of Stove and Greenhouse Plants, Fruit Culture, House and Table Decorations. Bothy preferred.

**FOREMAN, or PROPAGATOR and GROWER.**—Young man (age 31), eighteen years' experience, London and Provincial Nurseries, seeks situation as above. Seven years' excellent references. Total abstainer.—WILLIAMS, 4, Gladstone Cottages, St. Luke's Road, Maidenhead.

**FOREMAN (GENERAL), and PROPAGATOR.**—Eighteen years' practical experience in Roses, Clematis, Rhododendrons, Conifers, Hard and Soft-wooded Plants.—M. Mrs. Catlin, Inspector's Lodge, Plumstead Common, Kent.

**FOREMAN or HEAD,** where two or more are kept.—J. CHANDLER can with confidence recommend C. Few as above; seven years' good character.—J. CHANDLER, Gardener, Nya Park, Potters Bar, Herts.

**FOREMAN.**—W. LAMBERT, Agnot Hill Gardens, near Nottingham, can highly recommend A. Smith, who has good practical knowledge of Fruit and Plant cultivation. First-class references.

**FOREMAN in private garden.**—Age 28; good knowledge and experience. Well recommended.—T. H. ODAM, Brightside Cottage, Turner's Hill, Chesnut, Herts.

**FOREMAN.**—Age 28, has had good practical experience with Fruits, Flowers, Plants, and House Decorating; five years in present situation; references unexceptionable.—W. HOLDEN, South Lodge, Horsbam, Sussex.

**FOREMAN (Inside), or JOURNEYMAN (FIRST).**—Age 25. Four years in present situation. Good references.—F. EDWARDS, Pains Hill Park Gardens, Cobham, Surrey.

**JOURNEYMAN, in the Houses.**—Age 20. Young man seeks situation as above. Two years in last, four and a half in previous. Good character. Bothy preferred.—J. WHEELDON, Wyaston, Asbourne, Derby.

**JOURNEYMAN (FIRST).**—GEO. ABBEY, Avery Hill Gardens, Eltham, Kent, can with confidence highly recommend H. KERR as above. Eight years' experience here, and other situations.

**JOURNEYMAN (FIRST).**—A. COLE, Gardener to H. GOSCHEN, Esq., will be pleased to recommend E. Thomas, who has been under him three years. Well up in Plants and Fruits. Age 22.—The Gardens, Heatfield, Addington, Surrey.

**JOURNEYMAN, Inside.**—Age 19; six years' experience; bothy preferred.—F. MILLER, Pine Grove, Fleet, Winchfield, Hants.

**JOURNEYMAN, in the Orchid-houses,** can be highly recommended; age 22.—Apply, stating particulars, to G. BALDWIN, The Gardens, Arnot Hill, Daybrook, Nottingham.

**JOURNEYMAN (FIRST), Inside.**—Age 24; last two years at Lowther Castle. Good references.—A. GOULD, Cann's Down, Besford, North Devon.

**JOURNEYMAN, in the Houses, under Foreman.**—F. ORCHARD can highly recommend H. Cass, age 20, as above, who has been here three years.—Undermount Gardens, Bonchurch, I.W.

**JOURNEYMAN.**—Age 19, Inside and Out preferred; six years' experience (chiefly outside); good recommendations; eighteen months in present situation; abstainer; bothy preferred.—GARDENER, Hylton Castle, Sunderland.

**JOURNEYMAN, Age 22.**—JAMES CYPHER begs to recommend young man as above. Seven years' experience. Good knowledge of Plants, and last two years in Fruit-houses, &c. Thoroughly steady and trustworthy.—CHEVEREAL, Queen's Road Nurseries, Cheltenham.

**JOURNEYMAN (FIRST).**—Age 23. G. KIMMINS, The Gardens, Albury Hall, Hadham, Herts, would be pleased to recommend F. OVERILL as above, having been with him three years. Good references. Bothy preferred.

**JOURNEYMAN (FIRST),** seeks situation in good establishment. Over three years' good references present place.—E. LAWRENCE, 32, Hawley Road, Kentish Town, London. Suburbs preferred.

**JOURNEYMAN (FIRST), Inside.**—Age 22; eight years' experience under glass; good character.—S. JONES, 26, Russell Street, Altrincham, Cheshire.

**JOURNEYMAN, in the Houses.**—Age 20; six years' experience. Two years in present situation. Excellent references. Not afraid of work.—K. W., 37, Eardley Road, Streatham, S.W.

**JOURNEYMAN.**—Gardener seeks situation as above; highly recommended; life experience; single; testimonials and particulars can be had by applying to W. TREACHER, The Gardens, Barkham, Wokingham.

**JOURNEYMAN (Inside).**—Age 22; three years present situation; can be well recommended by present and previous employers; bothy preferred; references.—A. DREWETT, Gardener, Wakehurst Place, Bayward's Heath.

**JOURNEYMAN, Inside.**—Age 20; with a good knowledge of Fruit and Plant Growing; excellent references; strong and active.—W. RADDEN, Bowdon Nurseries, Altrincham.

**JOURNEYMAN, age 20.**—Seeks situation in Plant and Fruit Houses in good establishment. Three years' experience. Well recommended. Disengaged.—W. TEE, Down End, Fareham, Hants.

**JOURNEYMAN, in the Houses.**—Age 20; six and a half years' experience. Good references. Disengaged. Bothy preferred.—W. WATERTON, Redmond, King's Langley, Herts.

**JOURNEYMAN, Inside, or Inside and Out.**—Age 20; five years' experience, three and a half last situation; with or without Bothy. Well recommended.—A. WATERS, Balcombe Nursery, Sussex.

**JOURNEYMAN (Inside and Out), age 22.**—Wm. SKEGGS, Gardener, West Lodge, Birmes, will be pleased to recommend a young man who has been here three years.

**JOURNEYMAN in Houses, in or near London.**—Six years' experience. Wreaths and Crosses. Good references.—F. L. SMITH, 3, Mill Road, Myland, Colchester, Essex.

**JOURNEYMAN, Inside.**—Age 23; four years' excellent character from present situation. Bothy preferred.—ROBERT BRUNT, Canwell Gardens, Tamworth.

**JOURNEYMAN, Inside, or Inside and Out.**—Age 21; six years' good characters, three years in last situation, and three previously.—H. CHECKLEY, Fulbeck, Grantham.

**JOURNEYMAN.**—Age 22, Inside and Out, seeks Situation; anxious to improve. Four years' experience. Bothy preferred.—HEAD GARDENER, Berrington Hall, Leominster.

**JOURNEYMAN, Inside, or Inside and Out.**—Age 20; seeks situation in large Establishment. Good character; experience; abstainer.—F. PATLIPS, The Rookery, Chaldon, Caterham, Surrey.

**JOURNEYMAN, in a good Establishment.**—Age 22. Nine years' experience in Plant and Fruit Houses.—A. GODDARD, 45, Beehill Road, Sutton, Surrey.

**JOURNEYMAN (FIRST).**—Mr. W. HOPWOOD begs to recommend a man as above; the last two and a half years in a leading establishment. Thoroughly steady and trustworthy.—WOOKE, Belle Vue Nurseries, Cheltenham.

**JOURNEYMAN (FIRST) in the Houses.**—Age 25. Ten years' experience; good character.—H. FLANCE, Frimlag Road, Camberley, Surrey.

**JOURNEYMAN, Inside.**—Age 25. W. A. WALTER, Holmdale. Mr. DORRING can confidently recommend a thorough, reliable and steady young man, lived with him four years.

**IMPROVER.**—Age 21; five years' experience Inside and Out; leaving to improve himself; bothy preferred; excellent character.—A. FULKER, Vicarage Gardens, Compton, Newbury, Berks.

**IMPROVER, in good Private Gardens.**—Age 19. Three years' character from present place.—State terms to L. CHANTLER, The Gardens, Ewell Castle, Ewell, Surrey.

**IMPROVER (Inside), age 19.**—J. MALTBY, Denton Manor, Grantham, can confidently recommend a young man as above. Six years' experience. Bothy preferred.

**IMPROVER, Inside and Out.**—W. A. WOODFIELD, Gardener to W. DUGDALE, Esq., Meeson Hall, Wellington, Salop, would be pleased to recommend GEORGE WOOLLEY as above. Excellent character.

**IMPROVER.**—A GENTLEMAN can recommend a youth (age 18) as IMPROVER, for Inside and Out. Bothy preferred.—W. R., Stanyards Hill, Chobham, Surrey.

**IMPROVER, Inside and Out, or Kitchen Garden and Pleasure Ground.**—Age 18; good reference. Strong.—Mr. A. J. BROWN, School of Handicraft, Chertsey, can recommend as above.

**IMPROVER, Inside, or Inside and Out.**—Strong and willing; good character from last and previous situations.—A. HOLDING, Baslow, Derbyshire

**IMPROVER.**—Young Man (age 20), seeks situation in Nursery or Garden as Improver; good references. Near London preferred. F. ROLCKE, Felstead, Essex.

**IMPROVER, Inside, or Inside and Out.**—Age 19; strong and willing. Twelve months' good character from last situation.—HEAD GARDENER, Manor House Gardens, Ethingham, Leatherhead.

**SIR JOSEPH HOOKER, The Camp, Sunningdale,** can highly recommend as UNDER GARDENER and IMPROVER a Lad of nineteen years of age, who has been in his service for some time. The lad has an excellent character, is capable, strong, and willing, and a total abstainer. Further particulars may be obtained from the EDITOR, 41, Wellington Street, Covent Garden, W.C.

**COVENT GARDEN.**—Young man desires situation with Salesman. Six years' experience in all branches. Excellent references.—S. B., 25, Holland Road, Brixton, S.W.

**TO GARDENERS.**—Miss M. CARRINGTON recommends a young Man, age 20, for garden work, Seythe; strong and willing.—Missenden Abbey, Great Missenden.

**TO GARDENERS.**—Young Man, age 24, seeks situation as UNDER GARDENER. Two years' experience Inside and Out; good characters.—H. MORGAN, Key, and Hill, near Sittingbourne, Kent.

**TO GARDENERS.**—Young Man, age 20, requires place under a good Gardener. Steady; abstainer. Well recommended.—CLIFF, Brick House, Seaton, Devon.

**TO GARDENERS.**—Young Man, age 20, seeks situation in Gentleman's Garden as Improver.—E. EVERETT, J. S. Davies, Esq., Ramsden Hall, Billericay, Essex.

**TO GARDENERS.**—Young man (age 23), situation as UNDER. Would take small SINGLE-HANDED. Experience Inside and Out. Good references. Disengaged.—J. BARRETT, Shepherd, Ruscombe, Twyford, Berks.

**TO NURSERYMEN.**—Advertiser, age 24 seeks situation; ten years' experience in London Nurseries; six years in last place; accustomed to growing Ferns, Palms, and Soft-wooded Staff.—G. W. M., 38, Aberdeen Road, Angel Road, Edmonton, Middlesex.

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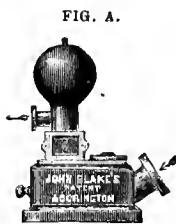


FIG. A. This Ram raises a portion of the same water that works it.



View of Ram worked by Water from a spring, and supplying the house and garden on the hill.



FIG. B. This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

**FOR RAISING WATER**  
 FOR THE Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

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## CONTENTS.

Anguloa uniflora, var. ...	433	Richardias	... 433
Auricula gossip ...	437	Riviera, notes from the	422, 429
Carnations ...	438	Rolleston Hall and gar-	419
Cherries, novelties in ...	423	dens ...	419
Catalogues at Woolton	429	Rosary, the ...	423
Wood ...	425	Royal Botanic Gardens,	428
Early spring flowers ...	425	Glasnevin ...	428
Ferns, hybrid ...	432	Shortia galacifolia as a	428
Florist's flower, in San	429	decorative pot plant ...	428
Francisco, California...	429	Societies—	
Gardeners and Machinery	438	National Dahlia ...	429
Herbaceous border, a ...	436	People's Palace Horti-	437
Interdependence of plants	435	cultural, and ...	437
and animals ...	435	Reading and District	437
Judging, the Royal Horti-	436	Gardeners' ...	437
cultural Society's code of	436	Royal Botanic ...	430
rules for ...	436	Scientific Committee of	437
Larch disease, the ...	434	The Royal Horticultu-	437
Ledger, Mr. Chas. ...	438	ral Society ...	437
Orchids, a supplementary	431	Torquay Gardeners' ...	437
list of hybrid ...	431	Strawberry forcing ...	430
Orchids at Tring Park ...	421	Top-dressings ...	428
Origin of Honey-dew ...	429	Trees and shrubs ...	420
Orphan Fund, Royal Gar-	429	Vinegar from honey ...	429
deners' ...	429	Went's Work, the ...	427
Potantillas, double hy-	430	Flower Garden, the ...	427
brid ...	430	Fruits under Glass ...	428
Poultry-manure for the	424	Hardy Fruit Garden ...	427
garden ...	424	Kitchen Garden, the ...	426
Propagation by leaves ...	429	Orchid Houses, the ...	428
Propagation, methods of	432	Plants under Glass ...	427

## ILLUSTRATIONS.

Anguloa uniflora var. ...	423
A view in the Royal Botanic Gardens, Glasnevin (Sup-	423
plement)	
Catalogues in the garden of H. Gaskell, Esq. ...	425
Larch disease ...	434, 435
Multiple cones in "Scots Fir" ...	423
Rolleston Hall, the residence of Sir O. Moseley, Bart. ...	421

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 3, at half-past 12 o'clock precisely.

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 8, at Twelve o'clock.

On view morning of Sale, and Catalogues had.

Friday, April 17.

25 CASES of CATTLEYA TRIANÆI, Popayan Variety.

COLLECTED BY CONSUL F. C. LEHMANN, In fine condition.

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Also (in Case No. 5) plants of a

CATTLEYA VARIETY,

with red leaves and bulbs. The flowers of this are of a very tender rose colour with deep-coloured lip. This can very easily be distinguished botanically by the texture of leaves, bulbs, and flowers. Some of the finest are described and numbered, and among them are several white varieties. The plants are uniformly good and leafy, some of them having over 100 bulbs. And a few lots of a very handsome strain of

ODONTOGLOSSUM LUTO-PURPUREUM.

varying from almost wholly bright yellow to yellow and dark purple-brown, no two being alike, and *Eriopsis rutidubulbon*, the handsomest of the genus, together with

250 DISA GRANDIFLORA SUPERBA,

sound fresh gathered tubers just starting into growth (another property).

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Friday, April 10.

EXHIBITION HOLLYHOOKS, PYRETHRUMS, RANUNCULUS, CHRYSANTHEMUMS, PEONIES, HERBACEOUS PHLOXES, GLADIOLI, LILIUMS in variety, 300 STANDARD and DWARF ROSES, IRIS, CYPRIPEDIUM SPECTABILE, TRITOMAS, CARNATIONS and PICOTEEES, VALLOTIAS, AMARYLLIS, DAHLIAS, HARDY CLIMBERS, BEGONIAS, PANCRATIUMS, TIGRIDIAS, &c.

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Ickworth Park, Bury St. Edmunds.

CLEARANCE SALE OF STOVE, GREENHOUSE, and BEDDING PLANTS, GARDEN IMPLEMENTS, &c., by order of A. H. Wood, Esq., whose Lease of the Estate has expired.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Ickworth Park, Bury St. Edmunds, about 4 miles from Bury St. Edmunds Railway Station, on THURSDAY, April 23, at half-past 12 o'clock, the whole of the well-grown STOVE and GREENHOUSE PLANTS, also about 100 Orchids, 5000 Geraniums, 400 Fruiting Strawberries, about 100 lots of Garden Implements, 3 Mowing Machines, Lights, Frames, Tanks, Garden Engines, and numerous other items.

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**BRIGHTON SPRING SHOW**.—TUESDAY and WEDNESDAY, April 14 and 15. Schedules, &c., of the Secretary, 56, Queen's Road, Brighton. Entries close April 8.

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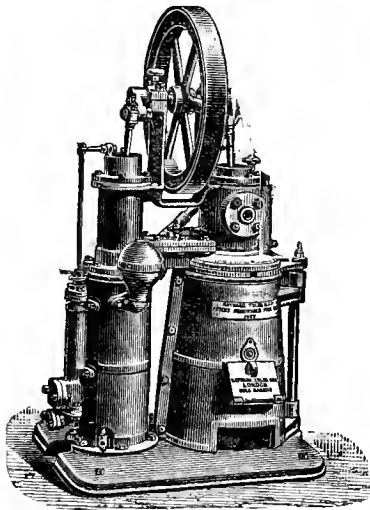
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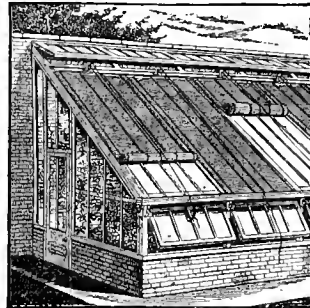


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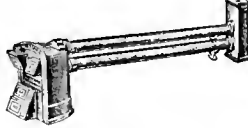
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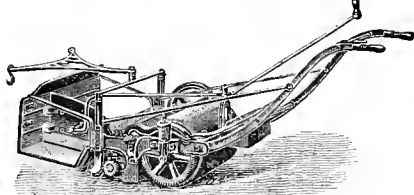
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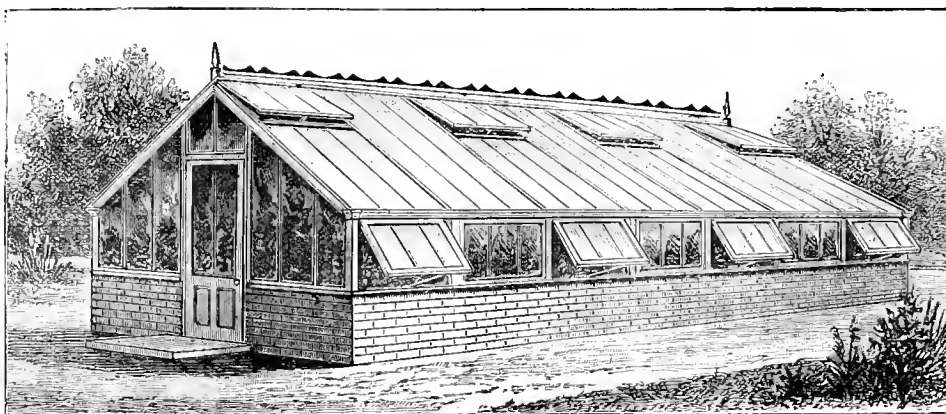
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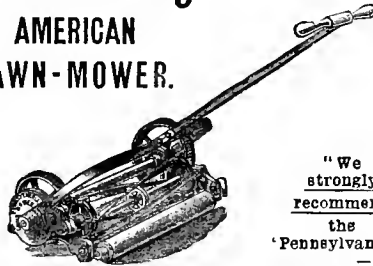
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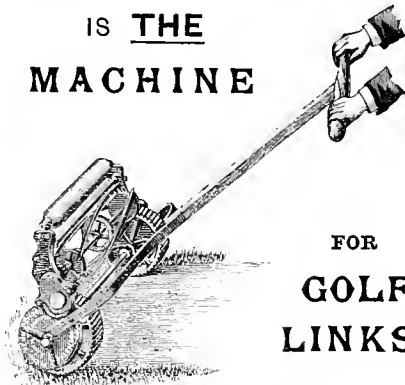
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THE

**Gardeners' Chronicle.**

SATURDAY, APRIL 4, 1896.

ROLLESTON, STAFFORDSHIRE.

ALTHOUGH the physical characteristics of the country around Rolleston are less romantic-looking than some which are distinctive of other parts of the same county, the valley in which the parish is situated, on the south bank of the river Dove, is pleasant and fertile. Near the river (which here forms the boundary-line between Staffordshire and Derbyshire), there are fine woods, and the timber trees are of large size. Rolleston lies 3½ miles north-north-west from Burton-on-Trent, and is doubtless a very ancient village. It is said that by a charter dated in 1008, "Ethelred gave it in exchange for the villages of Edeswithe and Elfredinton to Abbot Walget. In the time of Edward the Confessor, it was the lordship of Earl Teste, at whose death the king gave it to Morcar, Earl of Northumberland. William the Conqueror gave it to Henry de Ferrers, but it was forfeited to the Crown in 1269, by Robert of the same house, and last Earl of Derby of that name, who was taken prisoner in 1266, at the battle of Chesterfield. Many particulars of an interesting nature, relating to the ancient history of the place, are given in Harwood's *Erdeswick*, from which it appears that the village and park belonged for a number of years to a family of the name of Rolleston, which name it is supposed was assumed by the family when it acquired the revenues of the Ferrers. There is a MS. in the British Museum of the reign of Queen Elizabeth, which gives a full descriptive account of "Rolleston Parke," when it was the property of the Crown. In this MS. occur the following passages:—"It is within the manor of Rolleston, and within the ward of Tutbury, within half a mile of the castle." The face of the park, which is now about 300 acres, is thus portrayed: "Whereof in Marsh overgrown with allers six acres, in meadows three acres, and the rest is all very good and beautiful pasture. It will bear well deer, and sufficient herbage to make the King's rent, which is yearly cvis. viiij."

After giving particulars of the number of deer on the place, it is stated that there is "no covert, but the marsh and allers, and the rest is well planted with old Oaks and some timber." Speaking of Rolleston, we are told, "it is well inhabited by divers honest men whose trade of living is only by husbandry." There are many more inhabitants now than at that time, and we hope they are equally honest.

Rolleston Hall is now the seat of Sir Oswald Mosley, Bart., whose family first obtained possession of the place in 1614. Sir O. Mosley is also Lord of the Manor, and principal landowner. The present handsome mansion (fig. 61, p. 421),

which stands on the site of a very ancient building (it is thought that there has been a residence here since the days of Henry III.), was erected nearly 170 years ago, but in 1871 a portion of the house was destroyed by fire. Since that date it has been very thoroughly restored, wings have been added, and a fine conservatory also, which may be seen in the figure. There appears to have been an intelligent interest manifested in the gardens ever since the Mosley family acquired the place. The following is a letter respecting the place in 1841 which appeared in the first volume of the *Gardeners' Chronicle* :—

"There is a most luxuriant plant of *Ipomoea Learii* in the Orchidaceous-house, which has produced daily from thirty to forty blossoms for the last fortnight. *Calandrina discolor* and *grandiflora*, with *Portulaca Thellusonii*, are in flower in the frames. The Limes have suffered generally from a caterpillar of one of the Tortrices. Several of the choice Firs have many leading shoots of 6 or 7 inches, but the most astonishing growth is apparent in the circumference of many of the forest trees. Amongst others, a Sycamore near the north-west angle of the house, which in 1840 measured (at 3 feet from the ground), 5 feet 8 inches in girth, now measures 6 feet 3½ in.; a *Quercus cerris* near the rockery, which did not at the former period exceed 3 feet 3 inches, is now increased to 3 feet 10½ inches; and a common Oak (*pedunculata*), which was then 5 feet 4 inches in circumference, rather exceeds at the present time 5 feet 9 inches. These comparative dimensions appear extraordinary, considering that they have been taken within a year and a quarter of each other. The Cedar of Lebanon is by no means a slow-growing tree; one of these which Sir O. Mosley planted in 1805, rather exceeds 4 feet 6 inches in girth at 3 feet from the ground, and is at least 35 feet high."

The years that have since passed, however, have proved that Conifers generally do not thrive at Rolleston, the ground being too cold and stiff.

The amount of flower gardening outside is not unusually extensive. It is contained principally on the two terraces near the Hall. On what is known as the upper terrace there are ten beds, eight of which are filled in the summer with carpet designs, and the remaining two with tuberous Begonias or other effective flowering plants. Then there are twelve additional beds of large size on the lower terrace, which are furnished with Calceolarias, Pelargoniums, Heliotrope, Verbenas, and such like plants. In the centre is an ornamental fountain.

The lawn slopes gently from the house on the south, across the park to a very fine lake, and there is a very pretty and excellent waterfall. The park is well timbered with Oaks, Elms, and Chestnuts. On the eastern side the lawn extends down to the very ancient parish church, of which the picturesque tower and spire can be easily seen. The church was thoroughly restored and enlarged in 1892. In this part of the lawn are some very fine American Oaks, including the Champion Oak, *Quercus americana rubra*, *Pavia rubra*, and *P. discolor*, also *Acer dasycarpum*, *Fraxinus Ornus*, Limes, Purple Beech, Elus, Yews, and Hollies. Some old ruins which have been brought from a neighbouring village, have been placed in a natural manner in the pleasure-grounds. There are numbers of shrubberies, and the borders in front of these are sown each year with annuals, such as French and African Marigolds, Linums, Godetias, Tropæolums, Shirley Poppies, Mignonette, Collinsia, &c.

The museum is a distinct and novel feature of the grounds. After an inspection of the gardens, an hour can be very pleasantly spent among the treasures contained there. These consist principally of English birds, the collection of which is very complete, and small native carnivora. Everything has been beautifully mounted, and is in a good state of preservation. Such a natural history museum is not by any means out of place in a large and well-maintained garden. In front of this museum an out-of-door rosary was made a year or more ago, and a few flower-beds on the fine turf.

There is an extensive kitchen garden, but it is not all contained together and enclosed with walls. There are, however, plenty of good fruit walls, and trees thereon which the present gardener may be trusted to make the most of. It is satisfactory to record that this garden contains an unusually good collection of salads, and most kinds of vegetables are well cultivated. The gardener takes an especial interest

in the cultivation of Blackberries, as well as Raspberries. He succeeds with the former capitally, and the fruit is much appreciated in the mansion. The varieties include *Rubus laciniatus* and the American variety, Wilson Junior. The first-named variety grows 8 to 10 feet, and the latter from 5 to 6 feet high. They are both very vigorous, and at Rolleston bear large crops of fine fruit annually. [The cultivation given them here was described in *Gardeners' Chronicle*, Jan. 11, p. 46.] Raspberries are likewise very satisfactory in this garden, where the cool stiff soil so well meets their requirements; and there is an excellent new plantation of the variety Superlative. There are numbers of bush fruit trees, some very old, but we have seen good crops of fruit upon these, especially on those of Lord Suffield. The fruit-garden contains over 100 Apple trees of the best sorts, trained as espaliers; also pyramidal Plums and Pears in variety, which have been planted about four years, the intermediate ground being filled with Strawberries of the leading kinds.

#### GLASS HOUSES.

The extent of glass is considerable. First, there is the private conservatory already alluded to, which is

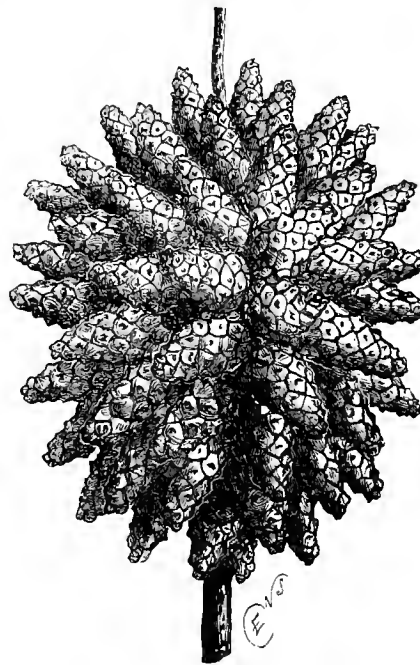


FIG. 60.—A PRUNELLUS SCOTS FIR. (SEE P. 421.)

furnished with Palms, Bamboos, &c., and brightened by the addition of flowering plants. On the walls are Bignonias, Hibbertias, Passifloras, and Plumbago; *Cobea scandens* trails gracefully below the roof, and there are Fuchsias attached to the pillars. There is also a capital span-roofed stove, and a comparatively new house for the cultivation of Cattleyas. The latter is nearly 25 feet wide. In this house we noticed a stock of imported species, and miscellaneous established Orchids, including several fine plants of *Phalaenopsis*. There are three useful houses about 20 feet wide (span), in which greenhouse plants are principally grown. Of the vineries, one was planted with new canes last spring, and another contains comparatively young ones, whilst a third is to be overhauled owing to bad drainage. A capital Peach-house is also included here, which measures about 80 feet long and 30 feet wide. Vines are cultivated along the top of this. A lean-to house, which had formerly been employed for the cultivation of Figs, we found had been re-arranged. The Figs are now grown on the back wall, and Tomatoes at the front. If Figs are not appreciated, it may be useless to grow them well, but we cannot understand why such a delicious fruit should be unwelcome.

The gardens have during the last year or so been under the management of Mr. Geo. Woodgate, who is

supplying our Hardy Fruit Garden Calendar during the present year. Mr. Woodgate is well known in the south as the late Secretary of the Kingston Chrysanthemum Society, and to his genial character and energetic work that society is, in large measure, indebted for the position it has attained. When Mr. Woodgate has had more time to develop the gardens at Rolleston, a work in which he is now engaged, and in which he has every encouragement from Sir O. Mosley, we feel sure they will be of considerable importance.

One satisfactory feature of Rolleston has yet to be related. During the months of May, June, and July in each year, the public is permitted free access to the gardens and grounds on each Wednesday and Saturday. Last season, this privilege was enjoyed by nearly 4000 persons.

## TREES AND SHRUBS.

### PRUNUS MUME.

A DISTINCT and valuable addition to early-flowering hardy trees is this beautiful Apricot from Japan, recently introduced. It is a dwarf tree, flowering before the leaves, and with the common Almond, so that full effect is given to its bright flowers, which recall those of *Prunus triloba* in size and colour. In the Japanese nurseries there are several varieties sold under the names of white single, white double, pink single, pink double, red double, red very double, and red with drooping branches. These forms have no doubt all resulted from cultivation, and the selection of seedlings, as it has for ages been a favourite spring flower with the Japanese, for one sees it in every garden, generally as pot plants—dwarf bushes often contorted in the usual Chino-Japanese fashion. We welcome it in English gardens, though it blooms with the Almond and Peach, and especially if we can get all the forms of it the Japanese have. It looks very much like an Almond, but Professor Sargent says it is really an Apricot. He also says it is not a true Japanese tree, but a native of Corea. It is no doubt thoroughly hardy, and may be seen in the Arboretum at Kew in flower. *W. G.*

### RHODODENDRON MUCRONULATUM.

This deciduous-leaved shrub, raised in the Arnold Arboretum from seed gathered on the mountains near Pekin, and sent in 1883 by Dr. Bretschneider, at that time surgeon of the Russian Embassy in the Chinese capital, is closely related to the Siberian and Manchurian *Rhododendron dauricum*, although, for garden purposes at least, it will, perhaps, be well to consider it distinct. In American gardens it is now a robust shrub from 3 to 4 feet in height, with slender stems, and branches clothed during their first year with smooth, rather light yellow bark. The leaves, which do not unfold until after the flowers have begun to fade, are oblong, gradually narrowed to both ends, and mucronate at the apex, very finely serrate, thin and firm, dark green above, pale and pubescent below, from 2 to 2½ inches long, about 1 inch wide and short-stalked, turning in the autumn, before falling, bright scarlet. The flowers are broadly campanulate, about 1 inch across, and light clear rose coloured, with broad rounded corolla lobes, and are produced in two to four-flowered clusters; they appear in Eastern Massachusetts during the last week in April, before those of any other plant of this class, and at a time when comparatively few other shrubs are in bloom. Their brilliancy and cheerfulness, and the splendid colour the leaves assume late in the autumn, make this little *Rhododendron*, which is very hardy, a most desirable inhabitant of northern gardens.

*Rhododendron mucronulatum*,\* which the Russian botanist, Maximowicz (who had made a special study of these plants), considered merely a geographical variety of *Rhododendron dauricum*, inhabits south-eastern Siberia, Russian Manchuria, and Northern China. *C. S. S.*, in "Garden and Forest."

\* *Rhododendron mucronulatum*, Turczaninow, *Bull. Soc. Nat. Mosc.*, 155 (1857); *Fl. Baicalensis-Daurica*, ii., 208. — De Candolle, *Prodr.*, viii., pt. ii., 347. — *Rhododendron dauricum*,  $\beta$  *mucronulatum*, Maximowicz, *Mém. Acad. Sci. St. Pétersbourg*, sér. 7, xvii., 43 (*Rhododendron Asiæ Orientalis*).

## PINUS PINASTER PROLIFERA.

This is not only a distinct but very remarkable form of the Cluster Pine, while at the same time, even under the very best cultivation, it cannot otherwise be described than as an ugly, wretched-looking, and ungainly tree. Some of the oldest specimens I have observed were growing near the remote village of Penryn in Cornwall; but which, although ample room for development has been allowed them, are no ornament to the position they occupy, and in consequence several have already been removed. The largest hardly exceeded 30 feet in height, and all were remarkable for their contorted and half-dead appearance, caused by the stout, tortuous branches having died-back, and yet remained in position, for fully half the height of the tree. The immense clusters of small cones adhering to the long dead branches further added to the weird appearance of these Pines; and in several instances I counted fully sixty cones in a

Kew, but there is none that equals this in the richness and brightness of its flowers. They are borne in rather small trusses (about 4 inches across), each flower being a little over 1 inch in diameter. The colour is a deep blood-red, and the trusses, when the sun strikes them, are lit up into glowing balls of fire. At Kew this species is perfectly hardy, and provided the flowers are shaded from the morning sun long enough for them to thaw slowly, they will stand 7° or 8° of frost without harm. Certainly they are the least susceptible to injury from frost of all the early Rhododendrons. This matter of shelter on the eastern side should always be considered when planting early-flowering kinds. Considering the hardiness and extraordinary beauty of *R. fulgens*, it appears strange that it has scarcely, if at all, been made use of by the hybridiser. The influence of *R. arboreum*, on the other hand, is seen in numerous golden varieties, although it is no richer in colour,

sample of the many now flowering at Arddaroch; and with them was a very handsome *O. × Humeanum* and *O. crispum*.

## ORCHIDS AT TRING PARK.

In the Right Hon. Lord Rothschild's gardens, the *Dendrobium Wardianum* and other showy *Dendrobiums* have been remarkably fine, and a group of them arranged by Mr. Hill, the head gardener, at the entrance of one of the span-roofed Orchid-houses is an admirable display. The stout arching floriferous pseudo-bulbs of the *D. Wardianum* suspended overhead droop over the plants arranged on the staging, among which variety in form and colour is given by well-bloomed specimens of *D. crassinode*, *D. Findlayianum*, *D. luteolum*, *D. × Ainsworthii*, &c. In the centre of the group is a very large plant of a noble variety of *Dendrobium fimbriatum oculatum*, its tall stems bearing on the upper portion racemes of large flowers of an orange colour.

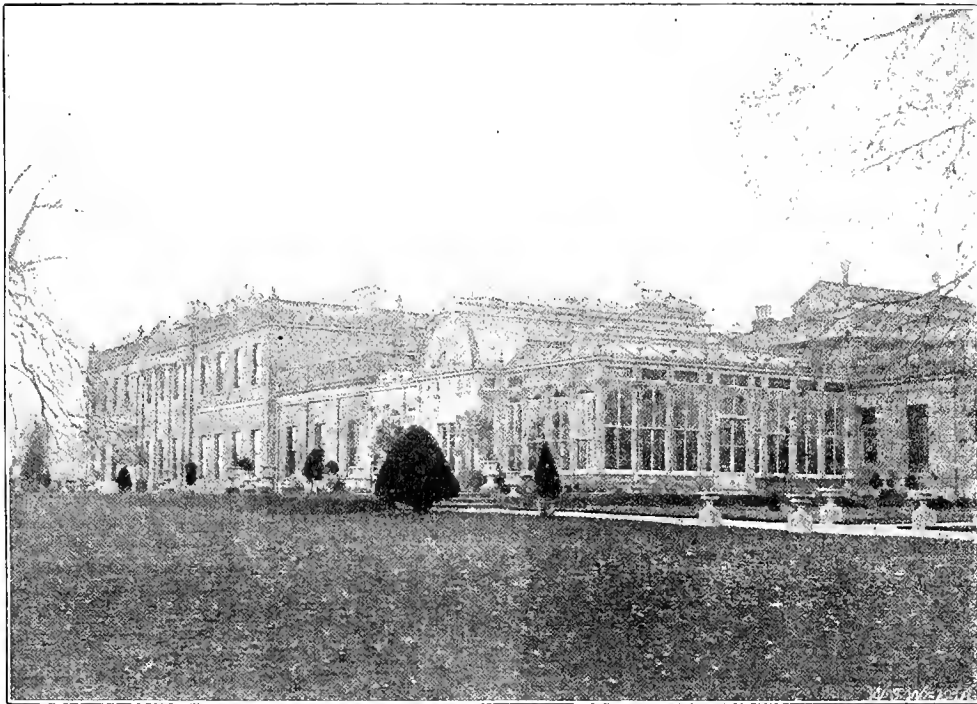


FIG. 61.—ROLLESTON HALL, BURTON-ON-TRENT. (SEE P. 419.)

single cluster of not more than a foot in length. In some of the cottages these huge clusters of cones were used as ornaments, that portion of the branch on which they grow being inserted in a wooden stand. I counted sixty-five cones, each fully 2 inches long, in one of these ornamental clusters. Even in colour and shape the cones are exact miniatures of those of the species; the leaves are only about half as long, and the bark is of a very dark brown colour and flaked. [On p. 420 is reproduced an illustration of a similar malformation in the Scots Pine.] *A. D. Webster.*

## TILIA DASYSTYLA.

This is said to be the finest species of Lime-tree to plant in avenues, owing to the pyramidal form of the crown, ample foliage, and fresh green colour of the same. The tree will grow in almost any kind of soil, it flowers abundantly, and the flowers have a stronger perfume than any other Lime.

## RHODODENDRON FULGENS.

Of the Himalayan Rhododendrons that are really hardy in the London district, this is certainly the most striking; but although introduced in 1851, it is still one of the rarest. Several species and varieties of Rhododendrons are in bloom now in the open at

and is much more tender than *R. fulgens*. The plants of the latter at Kew are 5 to 8 feet high, and nearly every branch carries its crown of flowers. *W. J. B.*

## ORCHID NOTES AND GLEANINGS.

## ODONTOGLOSSUMS FROM ARDDARROCH.

A SET of a dozen varieties of the kind known in garden—as *O. Andersonianum* and *O. Ruckerianum*, &c., comes from Mr. G. Roberts, gardener to R. Brozman-White, Esq., Arddaroch, Garelhead, N.B., and they seem to offer an excuse for the bewildered botanist who saw similar varieties one at a time in succession, and gave them distinct specific names, so very dissimilar are the extreme forms. *O. Andersonianum* Holfordii is by far the finest in shape, approaching *O. crispum*, the spotting of its clear primrose-yellow flowers being very effective. One handsome form is spotted with dark purple and tinged with rose; another rather narrow-petalled variety is 4 inches across, and bright yellow, with a small cluster of spots on each segment; and yet another seems identical with *O. hebraicum*. These are but a

sample of the many now flowering at Arddaroch; and with them was a very handsome *O. × Humeanum* and *O. crispum*.

It is a noble variety of a species which varies considerably, but rarely assumes such stature and beauty as here seen. Among the *Cattleyas* some of the *C. Trianaei* still remain in bloom, as well as good examples of *C. Walkeriana nobilior*, *Laelia cinnabarina*, and other of the dwarf *Laelias*. The rose-scented *Trichopilia suavis* were remarked, and a pretty group of the later-flowering hybrid *Calanthes*. In the *Odontoglossum* house is a very pretty and interesting series of varieties of *Odontoglossum Andersonianum*, varying considerably, a remarkably handsome creamy-yellow *O. × Humeanum*, with dark reddish-brown spotting on the sepals and lower halves of the petals; the white, unspotted *O. nebulosum candidulum*, two really handsome *O. × Coradinei*, *O. Inteo-purpureum sceptrum*, *O. triumphans*, the orange-scarlet *Ada aurantiaca*, and some showy *Masdevallias*, of which the most attractive at present are *M. Veitchii grandiflora*, and some distinct varieties of *M. ignea*.

In the remarkable collection of rare Orchids of botanical interest formed by the Hon. Walter Rothschild—who in the matter of plant culture, as in all the branches of natural history which he takes up, leans to the scientific rather than to the showy side



of the subject—a great number of interesting plants are in bloom, and we noted *Epidendrum Schomburgkii*, a graceful species, with heads of brilliant vermilion-red flowers, each about 2 inches across, the column being orange colour—a very rare and pretty species; the modest little *Epidendrum Linkianum* and *E. polypetalum*; the pretty *Chondrorhyncha Chestertoni*, which few succeed in cultivating satisfactorily, but which does admirably and flowers continuously here, as do also most of the plants of similar habit, such as the lesser *Zygopetalums*, *Z. (Kersteinia) gramineum*, the singular and elegant little *Koellenstenia (Aganisia) graminea*, the pale yellow *Stenia pallida*, and others, being in bloom. One of the most graceful and fragrant of the small white-flowered *Dendrobiums* is *D. lingueforme*, which is grown suspended in a compact tuft, which is now covered with blooms. Other singular-looking or attractive specimens in flower are *D. Moorei*, with pretty little white flowers; *D. tetragonum*, purplish and spider-like, every stem flowering; *D. glomeriflorum*, flowering in bosses from apparently dead stems; *D. platynealon*, whose singular pseudo-bulbs are flat, as though compressed to the utmost, the cream-coloured flowers appearing at intervals at the edges; and many other species.

In one group were remarked several examples of *Lelia flava*, which growers used to think was unmistakable, by reason of its bright chrome yellow flowers, but here *L. flava aurantiaca* has rich orange-coloured flowers, and others are bright red. The fine collection of botanical Masdevallias here in bloom includes varieties of *M. Chimera*, *M. radioa*, *M. Schroderiana*, the true *M. pachyura*, with sprays of rather large yellow and brownish-red flowers; the small-growing *M. Wendlandi*, covered with white flowers appearing above its tufted leaves, and which is grown rather warmer than the other species; the mossy-stemmed *M. muscosa*, with its sensitive labellum which closes like a trap on being irritated; *M. × Courtauldiana*, *M. × Hiucksiana*, *M. Ehippium (Trochilus)*, *M. Schlimii*, *M. triangularis*, *M. Wageri*, *M. Estrade*, and other species. With them are all the obtainable species of *Restrepia*, *Pleurothallis*, *Octomeria*, *Stelis*, &c., some of each genus being in bloom. Of the *Cirrhopetalums* and *Bulbophyllums*, *C. Thouarsii*, *C. guttatum*, *C. picturatum*, and *Bulbophyllum Sillimanianum*, a charming bright yellow species, are in bloom.

Among other remarkable things noted were *Catasetum Warszewiczii*, Lindl. (*C. scurra*, Rehb. f.), a pretty and delightfully fragrant flower; *C. discolor*, and other *Catasetums*; *Eulophia scripta* with a fine branched inflorescence of yellow and red-brown flowers; *Aerides cylindricum*, the plant illustrated in the *Gardeners' Chronicle*, now flowering again; *Eria aridostachya*, an ornamental plant with graceful if not showy flower-spikes; *Aspasia lunata*, *Maxillaria variabilis*; *Loekhartia pallida*, with flattened stems and curious yellow flowers; *Bifrenaria Harrisonae*, and *B. vitellina*, two very dissimilar members of the same genus; *Phaius maculatus*, and *P. Sanderianus*, a remarkable *Stanbopea*, and a small unknown *Polystachya*, remarkable for its delicate odour; the rich yellow *Oncidium chrysomorphum*, the singular *O. didon* and other botanical *Oncidium*s, *Spathoglottis aurea*, and many other singular species—truly a remarkable record for a private collection.

In a warm moist house a giant *Grammatophyllum speciosum*, the largest in Europe, but which although growing freely, bears out its character for being difficult to flower, was observed. Wintered in the same house is a monster tortoise, said to be over one hundred years old.

VANDA BENSONI (*Buteman*) VAR. "TRISTER" (*Parish*).

A dark-coloured variety of this well-known plant, the flowers sulphur-coloured outside, and dirty brown within; the claws of the sepals and petals are more reddish than brown, the tessellation of the flower is a little more distinct than in the typical form. The lip is whitish-yellow, with clear green uncinuate anterior side lobes. As the flowers I received from Messrs. F. Sander & Co., St. Albans, agree in all cha-

acters with those of the typical plant, I assume this must be the form called "Trister" by Rev. — Parish, mentioned by Sir Joseph Hooker in *Flora of Brit. Ind.*, vol. vi., p. 51. Varieties of *Vanda Bensoni* are very scarce, and, except this short note, I have not found another remark in garden or botanical literature. It is well known that *Vanda Bensoni*—the type—is more striking and interesting than beautiful in the common meaning of the word, so it is the same with this variety. *F. Kraenzlin*.

#### VANDA BICOLOR, Griffith.

This very rare species was first described by Dr. Griffith, in his posthumous papers *Natalia*, iii., 354, his *Litrary Notes*, 132, and figured in his *Plantae Asiaticae*, t. 330. If we omit a short remark by Reichenbach twenty years ago (*Gardeners' Chronicle*, 1875, p. 629), the literature about this plant is more or less a reproduction of Griffith's original description. The foliage of the plant is rather stout, and thicker than in the allied species; the top of the leaf is, of course, oblique, very unequally two-lobed, with a sort of angle or edge on the inner side of the longer side (a peculiarity called by Dr. Lindley "subtridentate"). The flowers have white stalks nearly 2 inches long, with three very sharp edges immediately below the flower. The odd sepal and the falcate drooping petals are of about the same size, cuneate-ovate, and as the edges are bent backwards, they appear narrower than they are; the side sepals are twice as large as the three other segments. All these are whitish outside, and within of a dirty-brown colour, with darker tessellations. The side-lobes of the lip are very large, nearly semicircular, whitish with yellow borders; the middle lobe almost triangular, with a cordate base, and a blunt bidentate apex, and except for two small callosities at its base it is quite smooth. Its colour is a very clear and beautiful lilac, contrasting prettily with the other segments. The spur is short, blunt, somewhat compressed, and without any characteristic details. The whole flower measures nearly 2 inches across. The edges of the sepals and petals are rolled back, but not waved, a peculiarity which contributes very much to the characteristic appearance of the flower.

The plant is still very rare in our collections. I received fresh flowers from Messrs. F. Sander & Co., St. Albans, who imported it last year. Sir J. Hooker relates that the plant was collected in the tropical parts of the Himalaya, in Sikkin, Bhootan, Assam, and other countries, at about 2000 feet elevation above the level of the sea; and we may therefore assume that it is a hot species. *F. Kraenzlin*.

## FOREIGN CORRESPONDENCE.

### HORTICULTURAL EXHIBITION AT CANNES.

Owing to the very mild winter, the annual exhibition at Cannes, which was held on March 19 and four following days, was this year far in advance of other years in the quality and number of the exhibits. The great feature of the show was the display made by Messrs. Vilmorin, Andrieux, & Co., Paris, which occupied one large tent. Their various exhibits were artistically arranged in groups, each forming a feature in itself. These consisted, among others, of a group of well-flowered *Cannas*, amongst which I noticed several meritorious novelties. In a group of *Primulas*, several new shades of colour were remarked, but the plants were lacking in the compactness and floriferousness of the older varieties. A group of spring-flowering bulbs was furnished with a groundwork of a new pure white *Ionopsidium*, which is an improvement on the old *I. acule*. *Cinerarias*, and one of *Cyclamens* were represented by very fine, well-flowered plants, and of excellent strains. In the centre was a large group of flowering annuals, which showed what may be had in flower at this season of the year among these plants.

A large bank of vegetables at one end of the tent consisted of excellent samples, which had been grown at Messrs. Vilmorin's branch establishment at Antibes, as were, indeed, most of the plants they exhibited. In an adjoining tent was a very fine group of new seedling *Anthuriums* from the Villa Crombez, including several very fine hybrids of the *A. Andreanum* type. The firm of Solignac was represented by a very effective group of *Azaleas*, backed with white *Lilac*, a small group of *Orchids*, and a variety of flower-baskets and vases. *Carnations* were not largely represented. A new primrose-coloured variety called *Soleil de Nice*, of free-flowering habit, was shown by M. Ginells, a nurseryman near Nice; it is a variety likely to become very popular. Amongst a group of cut flowers exhibited by Falconis, the famous *Carnation raiser* at Antibes, I remarked several very fine varieties, including *Mille. Aug. Falconis*, delicate rose, and of very fine form; *Léon Aicrange*, bright scarlet; *Chas. Swartz*, pale primrose, fine form; *Madame E. Dollfus*, amber, striped red; and *Madame Chas. Molin*, a very large-flowered, deep rose-coloured variety. Many other groups of spring bulbs, *Cinerarias*, *Azaleas*, and floral decorations of less importance helped to make up a very nice show.

### PALMS AT VILLA "LA CHUSA," MENTONE.

Situated in a very sheltered spot, about ten minutes' walk from the Italian frontier, is to be found one of the most interesting gardens in the whole Riviera. Mr. Kennedy, its proprietor, certainly could not have chosen a more favourable spot, with the mountains running up almost perpendicularly from this garden, protecting it from all cold winds. Mr. Kennedy has long made a special study of Palms and their nomenclature, and the list appended will afford readers of these lines an idea of what may be grown here under favourable conditions.

*Chamaedorea elatior*, *C. glaucifolia*, *C. elegans*, and *C. Alexandrea*, all in perfect health. *Livistona oliviformis* (true), 15 feet, has fruited; *L. inermis*, 20 feet, bearing flower-spikes; *Washingtonia robusta* trunk 3 feet in diameter, and with over 100 leaves; *Kentia Fosteriana*, 14 feet high, with eighteen leaves, now flowering for the first time; *K. Balmoreana*; *Ptycosperma Cunninghamiana*, 24 feet high, has fruited; *Areca sapida* is flowering; *A. Baueri*, *Brahea dulcis*, *B. Roezli*, *B. Egregei*, and *B. calcarea*. These are a few of the more interesting species, and there are many more worthy of note. Amongst the species of *Phoenix* I noted a fine plant of *P. senegalensis*, with its highly-coloured fruit; a very healthy little plant of *P. Robelini*, and a fine one of the true *P. argentea*. The genus *Phoenix* is very largely represented in this garden, and it has long been the study of Mr. Kennedy to try and classify them. It is to be hoped that a record is being kept of his work, which may some day be of great value, as the genus has long been a source of trouble to botanists, owing to one species crossing so freely with another. Amongst other plants I noted *Bignonia Chere* and *B. venusta* flowering in profusion, and a very fine flower-spike of *Doryanthes Palmeri*. A very fine tree of *Wigandia caracasana* was bending down with the weight of its immense heads of blossom, a sight which is only met with in the eastern part of the Riviera.

### NYCTERINIA SELAGINOIDES.

With regard to this plant, which was shown in quantity by Messrs. Vilmorin, Andrieux, & Co. at the late flower-show at Cannes, and which is very showy and effective as a border plant, it would be interesting to know if its specific name is correct. Finding it exhibited under this name, and not having known the plant before, I naturally looked for the resemblance of a *Selaginella*, and on consulting the *Dictionnaire of Gardening*, I found it placed under the name of *Zaluzianskia selaginoides* (syn. *Nycteria*). As it closely resembles the *Selago*, from which the name is probably taken, I presume it should read *S. selaginoides*. [No; the genitive of *Selago* is *Selaginis*.] It would be interesting to know if this is correct, as such names are very misleading. [In *Index Kewensis* the plant is named *Zaluzianskya selaginoides*. Ed.] *Riviera*.

## ANGULOA UNIFLORA, VAR.

FLOWERS of a beautiful variety of *Anguloa* were shown by Messrs. Veitch & Sons, of Chelsea, and F. Sander & Co., St. Albans, at the meeting of the Royal Horticultural Society, on March 10 last. The plant was provisionally named *alba magna*, but as we stated in our report of this meeting, p. 337, it turns out to be a variety of *A. uniflora*. The flower is of a creamy-white, minutely spotted with pink (fig. 62).

## THE ROSARY.

## THE PRUNING OF TEA ROSES.

NEXT to time, perhaps the length of pruning is of most importance. Three lengths are generally recognised among rosarians—long, medium, short close, or hard. Among novices, however, the very terms are liable to be misunderstood. The writer has met with growers who interpreted long pruning by the measure or length of the shoots cut off, whereas, of course, all experienced rosarians know that it derives its name from the length of the shoots left on the Rose-bush or tree. In long pruning, comparatively few buds are cut off, and many are left on. In short pruning, many eyes or buds are cut off; a few, from one to three, are left on. Medium pruning strikes the happy mean between the two extremes of length in pruning, which may possibly reach from an inch to 144 inches. Both these lengths may be described as extremes, and the average ranges of length included in the ordinary pruning of Tea Roses may mostly be found within the range of from 3 to 12 inches; but these hardly touch the special training and pruning of trees on walls, or as rough bushes, pyramids, cloths of summer-houses, verandahs, church steeples, or other tall buildings, in which not a few Rose-shoots are treated as biennials, to the renewing of the youth and enhancing of the beauty of the Roses. Thus the length of pruning of Tea Roses gets very much mixed with the form, size, vigour, or character of plant desiderated. For example, the removal of exhausted boughs, limbs, or branches, and the provision of young ones to furnish vacancies, in fact or in prospect, are often of the utmost practical importance, though outside the range of the common routine-pruning of Roses for bloom, chiefly or only. Again, rosarians should prune their Tea Roses for form, stability, the concentration of as much verdure and beauty as may be into limited areas. As already stated, there is an almost infinite diversity of habit, strength, form, and extent of growth among Tea Roses. Hence, if beds, groups, masses, or borders of Tea Roses are to preserve any approximation to symmetry or congruity, pruning will have to be prudently and judiciously used. Tall, thin, and lanky Teas are less effective or profitable than shorter, stouter, rounder heads or bushes. Standards, Pyramidal, or scrambling Roses may also be moulded into more pleasing as well as profitable forms through judicious and timely pruning.

Some of the thinner and longer-budded and more slender-growing Teas lend themselves readily to the formation of shower, weeping, or drooping Roses for the clothing of arbours, arches, poles, triangles, crosses, trees, steeples, trellis-work, walls, or buildings. Niphetos, Luciole, Madame Cusin, Madame Falcot, Sunset, L'Idéale, and Wm. Allen Richardson, are useful for this style of growth and graceful mode of furnishing. Maréchal Niel, Gloire de Dijon, and most of its family, and such Noisettes as Lamarque and Aimé Vibert, as well as Homère, form splendid material for drooping down from pollards or showering over arches. For laying the foundation of shapely standards or dwarf bushes, the rather short pruning of Teas is, on the whole, best. Rosarians, like fruit-growers, generally like to keep their harvests of beauty as near home as may be. Hard pruning at first greatly contributes to this result. In pursuit of this object we are brought back to close-budding as well as hard-pruning, and here, at least, there is a general consensus of opinion among rosarians. We

cannot get our Rose-buds too near to the base of our Briar shoots, as all the Briar left is only a useless breeding ground for troublesome and useless suckers. The number of shoots budded on the Briar may often also materially affect the mode or length of pruning adopted. Perhaps on the whole the best, certainly the most rapid mode of budding Roses is to place one bud only on a Briar, selecting always the strongest and best-posted shoot for budding. But many rosarians prefer two, some three or four, as many as four or five buds on their standard Briars.

The more Rose-buds inserted at first, the closer or harder the Roses should be pruned afterwards, and this to prevent overcrowding. Supposing, for example, we start forming our Rose-heads from five distinct centres or heads: one good shoot from each would prove



FIG. 62.—ANGULOA UNIFLORA, VAR. : CREAMY-WHITE, WITH PINK SPOTTING.

enough material and to spare for furnishing a head; but should we start from one centre, it is good practice to leave at least three buds for furnishing purposes; and this numerical start, with its multiples, will speedily furnish a sufficiency of furnishing and flowering wood for our Tea and other Roses. Many of our Tea and other Roses also make less growth as they get older. Such may be more closely pruned, and so long as buds are cut back to a bud, pointing outwards from the main shoots, there will be little danger from inter-crossing or over-crowding.

Medium and long pruners contend that they have a larger choice, a richer pick of wood or buds than the hard or short pruners. And so they have. But the advantages are more limited than appears at first sight. I know that there are rosarians who contend that the best blooms are cut from the tops, others are

equally confident that they come from the middle and yet others that they spring from the base of the shoots. And Rose-growers writing or speaking thus, treat the shoots as a unity, while we all know that the shoots of Tea Roses are at least dual, if not trio productions, the first or major portion grown before midsummer, all above and beyond this afterwards.

Now there are very few rosarians that go in search of their finest flowers among the soft and somewhat late or spongy growths, and if they did, the weather and the climate would most seasons reap the richer harvests. Practically, these vital and physical conditions powerfully affect our times, and modes, and length of pruning. As a rule, with not a few exceptions, it sends Rose growers back to the first or summer-made wood of their Tea Roses for their reserve of growing wood for furnishing their Rose trees and bushes, and also for their best-formed, deepest-coloured blooms. Safely landed on this early-made, firmly-compacted, well-matured wood, an inch or two less or more in the length of the cut, or a bud or two less or more left, will only afford a wider scope for disbudding, and result in more perfect blooms. Whatever mode of pruning Tea or other Roses is adopted, it can hardly be called complete until supplemented by careful disbudding, which affords a final opportunity of weeding out all the failures of the current season, as well as any old wood that has failed to break or bloom as expected. Amid all our diversities of pruning Roses, this general law prevails: the stronger the growth, the less pruning; the weaker, the more. Finally, late budding is almost our only antidote to early growth. Maiden buds inserted last August and September are still sound asleep through this winterless winter on the 23rd of March, though yesterday and to-day are more like midsummer than the first days of spring. *Rosa*.

## CATALPAS.

LIKE a large proportion of our hardy trees and shrubs, the Catalpas are represented in both the Eastern and Western Hemispheres. In the *Index Kewensis* eleven species are recognised, but of these there are only seven of which anything definite is known. Three are natives of the West Indies, two of North America, and two of China. The following are the only species hardy in Britain:—

## NORTH AMERICAN.

1. *C. bignonioides*, *syn. C. syringifolia* and *C. cordifolia*.
2. *C. speciosa*.

## ASIATIC.

3. *C. Kämpferi*, *syn. C. ovata*.
4. *C. Bungei*.

These, especially the American ones, are amongst the most beautiful of all hardy trees. Their leaves are of large size and bold outline, and give the trees a striking and distinctive appearance even when they are out of flower. In good, and especially in moist soil, the Catalpas grow rapidly. Owing to the branches never forming a terminal bud, they have largely a dichotomous arrangement, and this, in open situations, naturally produces a short trunk and broad spreading top. Young trees, therefore, especially when destined for street planting, require to be carefully kept to a single lead, and perhaps staked, in order that a clean trunk of the desired height may be obtained. The moisture-loving propensities of the Catalpas render them specially adapted for planting in riverside avenues, near ponds, &c. They can be easily propagated by cuttings both of the stem and root. The former should be made as soon as the young leafy shoots are moderately firm, and placed in a mild bottom-heat in a propagating-frame.

Whilst in Britain it is scarcely likely that the Catalpas will ever acquire any value as timber trees, the wood of the American species has been extensively used in the United States. Although soft, it has, for certain purposes, such as the making of fence-posts, &c., proved extremely valuable on

account of its power of resisting decay when in contact with the soil.

*C. bigonioides*.—This is the commonest of the cultivated Catalpas, and its introduction to England dates back further than that of any other. By Loudon it is said to have been first brought from the United States in 1726. It was figured by Catesby in his *Natural History of Carolina* in 1731. Although in its native country it occasionally reaches a height of 50 to 60 feet, one rarely sees it more than half as high in England, unless drawn up by surrounding trees. The leaves, which occur in twos or threes at each node, are pubescent on both surfaces when young, but afterwards become quite smooth on the upper side; they are broadly ovate, measuring on adult trees 6 inches in length by 4 or 5 inches in width. On young specimens they are frequently twice as large. It flowers in July, bearing large terminal erect panicles, the individual blossoms of which are 1½ inch across. The corolla has a broad tube and a spreading limb with a frilled margin; it is creamy-white, with yellow blotches and clusters of purple spots on the lower side. The thin, capsular fruits vary in length from 6 inches to over 1 foot. It is a native of Georgia, Carolina, Florida, &c.

Vars. *aurea* and *purpurea* have golden and purple leaves respectively. Var. *nana* is a very dwarf form, which never flowers.

*C. speciosa*.—Although this species has been known for a good many years, it was for a long time confounded with *C. bigonioides*. It is, however, quite distinct; and as it thrives in parts of the United States where the winters are too severe for its fellow species, it is likely to prove the more valuable of the two, especially as it is quite as handsome. Professor Sargent says that in the forests it is occasionally met with over 100 feet high, but that in the open its height is rarely more than 50 feet. Its leaves differ from those of the last species in being larger, and in having the apex drawn out into a much longer, acuminate point. The panicles have fewer flowers, but the latter are considerably larger, measuring 2½ inches in diameter. The corolla is white, and it has the same series of yellow blotches as *C. bigonioides*, but the spots of purple on the lower lobes are less numerous. I do not think the species has flowered in England, but it has flowered under the more rapidly-maturing climate of the continent—a coloured picture of it may be seen in the *Revue Horticole* for March, 1895. It flowers a week or two in advance of the other American species. In a wild state it affects moist and often inundated land. The value of the wood of the American Catalpa has already been alluded to. Professor Sargent, in the *Silva of North America*, cites an extremely interesting example of the power of the wood of *C. speciosa* to withstand submersion in water. After the earthquake of 1811 in Missouri, a large tract of land sank, and eventually became submerged, and a great number of this Catalpa and other trees growing there were killed. Sixty-seven years after, the Catalpa trunks were still perfectly sound, whilst all the trees among which they had once grown had decayed and disappeared long before. It is a native of Kentucky, Texas, Tennessee, Louisiana, and several other States, its habitat being more western than that of *C. bigonioides*.

*C. Kämpferi*.—Up to within the last few years, and before the restrictions against foreigners travelling into the interior of Japan were removed, this species was thought to be indigenous to that country, where Kämpfer first saw it over 200 years ago. It is really a native of China, and only exists in Japan as a cultivated tree. It has been noticed chiefly in the vicinity of Buddhist temples. Siebold introduced it to Belgium in 1849. It reaches a height of 20 feet in Britain—probably more in Japan—and has the same round-topped habit as its American allies. It is not, however, so handsome a tree, and never attains to so great a size. Professor Sargent says that in the United States it has proved hardier than the native species; so it is probable that in Great Britain it might be grown further to the North than they can. The leaves are usually ovate, frequently

lobed, and measure about 6 inches each way; when young, they are pubescent, afterwards becoming glabrous above. The flowers are smaller than those of *C. bigonioides*, being about 1 inch in diameter: they are pale yellow, spotted with reddish-brown or dull purple, the margin of the corolla being lobed and frilled.

*C. Bungei*.—The true *C. Bungei* has not long been in cultivation, and of several young trees in the Arboretum nursery at Kew, none is as yet large enough to flower. It is a native of North China, where it is a tree 30 feet high. The leaves are lobed, or nearly entire, usually of triangular shape, with a long acuminate apex. They are 3 to 8 inches long, and from 2 to 5 inches wide. It has not flowered in Europe, but is apparently superior to *C. Kämpferi*, both panicles and individual flowers being larger than in that species. The corolla is white, spotted with purple. The name is not infrequently met with in gardens and nurseries, both of this country and the Continent, but is nearly always erroneously applied to *C. Kämpferi*, or merely dwarf forms of *C. bigonioides*.

*C. × J. C. Teas* (Teas' Hybrid Catalpa).—This is a hybrid which originated with Mr. John C. Teas, in his garden in Indiana, U.S.A., about twenty years ago. Its parents are the Japanese *C. Kämpferi* and the American *C. speciosa*. It is in cultivation at Kew, but has not yet flowered. From the descriptions given of it, as seen growing in the United States, it would appear to be the finest of all the Catalpas, surpassing even *C. speciosa* in the vigour of its growth. The flowers are produced on enormous panicles, as many as 400 of them occurring on one panicle; they are white marked with minute purple dots, and a patch of yellow. Having the two hardiest species for its parents, and being more beautiful than either, it is certainly a plant which English tree-lovers ought to look after. *W. J. Bean, Arboretum, Kew.*

## POULTRY-MANURE FOR THE GARDEN.

QUESTIONS are frequently asked about the value of poultry-manure for garden purposes. The real facts about the case are, that this substance is decidedly richer in plant-food than the dung of other animals, because it contains both the solid and liquid excrements combined, and is somewhat analogous to guano in character, though far less valuable than guano weight for weight. To begin with, the food of hens, of pigeons, and even of turkeys, except in grasshopper season, is of vegetable rather than of animal origin, while the sea-fowl that produced the guano lived upon fish, and consequently voided a more highly nitrogenised excrement; and, moreover, the guano has become exceedingly concentrated by the peculiar processes of slow decay to which it has long been subjected. It is well known that the dung of cows, horses, pigs, and sheep, contain comparatively little of the animal urine, unless absorbents in the form of good litter have been freely used. Nitrogen, the most valuable part of animal manure, is voided mainly in the liquid excreta. For example, 1 ton of horse-droppings contain 17 lb. of nitrogen and 13 lb. of potash; while 1 ton of horse-urine contains 42 lb. of nitrogen and 33 lb. of potash. Again, sheep-droppings contain in each ton, 20 lb. of nitrogen and 14 lb. of potash; while the same weight of sheep-urine contains 33 lb. of nitrogen and 44 lb. of potash. Hence, if both the solid and liquid excrements are obtained together as in poultry-manure, nitrogen, the most expensive element of plant-food, is saved, and is combined with larger quantities of potash and phosphates. We see in the case of guano that sea-fowl excrements depend for their manurial value very much upon the character of the food consumed; so it is in the case of domestic poultry. In some experiments recently conducted it was found that a pen of fowls fed on a concentrated mixture as follows—Wheat-bran 3 parts, Linseed-meal 4 parts, ground Oats 6 parts, gave a manure containing 1·8 per cent. of nitrogen,

2·2 per cent. of phosphoric acid, and 1·1 per cent. of potash; while another pen of fowls fed on Maize-meal alone contained on analysis 1·5 per cent. of nitrogen, 1·9 per cent. of phosphoric acid, and 1 per cent. of potash. Thus the fowls receiving the concentrated food yielded a manure containing one-fourth more plant-food than the Maize-meal fed fowls.

The value of fowl-manure further depends, and very widely differs, according to the description of bird that has produced it, as is shown by the following table:—

*Selected Constituents in One Ton of Fowl Manure (Fresh)*

	From	Nitrogen.	Potash.	Phosphoric Acid.
		lb.	lb.	lb.
Hens	... ..	43	19	59
Pigeons	... ..	47	25	41
Ducks	... ..	27	13	31
Geese	... ..	15	21	12

These figures show that the excrements of the duck and of the goose are far inferior in manurial value to those of the hen or pigeon, owing to the fact that the former birds consume water in such large quantities. It has been computed that a hen yields 12 lb. of dung in a year, a pigeon 6 lb., a turkey or a goose about 25 lb. each, and a duck 18 lb. These weights of dung are reckoned as air-dried.

It should be borne in mind that nearly one-half of the nitrogen in poultry-manure, which exists very largely in the form of carbonate of ammonia, may be lost by evaporation, and, as we have already stated, this element being the most valuable part, care should be taken to preserve it in the dung. This may readily be done by freely using an absorbent under the fowl-roosts, also using it in the heaps in which the manure is kept, and keeping the excrements sheltered from moisture or heat. Dry earth, gypsum, peat, or even finely-sifted coal-ashes make excellent absorbents. Do not, however, use either lime or wood-ashes; because these substances tend to liberate the ammonia in the dung.

Since poultry-manure is apt to be sticky when fresh, and lumpy when dry, it is not particularly well fitted to be used as a concentrated fertiliser; it may, consequently, well be relegated to the compost-heap, as a general rule. It is to be observed, however, that much of the nitrogen in the dung of birds is in the form of uric acid—a substance directly assimilable by plants, and easily converted into oxalate of ammonia by putrefaction. Plant-food in poultry-manure being thus mostly in a very soluble form and quickly available for crops, it may be used to give young plants a good start, or employed for quickly-growing crops. For many horticultural purposes, also, it may be well to turn over the heap of poultry manure, or of compost made from the same, many times and often, in order to provide delicate food for some cherished plant. *J. J. Willis, Harpenden.*

## CŒLOGYNES AT WOOLTON WOOD.

THE cultivation of Orchids has been for a long period of time carried on with most satisfactory results in Mr. H. Gaskell's garden at Woolton Wood, Liverpool, and numerous notices of the plants in these pages will be in the recollection of those of our readers who are interested in Orchids and their culture. The plants seen in our view of the house (fig. 63, p. 425), show by their large size and floriferousness, the perfection of cultivation.

## EARLY SPRING FLOWERS.

COMING into flower sometimes before Christmas, as some of these do in mild seasons, the term "Winter Flowers" would not be inappropriate; but as only very rarely appearing in sufficient quantity to make a good show until the end of January and onwards, they are valued chiefly as harbingers of spring, and

as giving assurance that our plants will again awaken from their period of rest, and put forth blossoms and leaves—and to some they speak of higher things than these. We all value these early flowers perhaps more than the showier inhabitants of the garden which appear later in the year. The commonest of the early flowers is the Snowdrop, *Galanthus nivalis*, prized of all; but there are several species or varieties which come almost as early as this one, and are as easily grown, and which have some slight difference in colour, size, and form.

*Snowdrops*.—The common variety, *G. nivalis*, is one of the best of flowers for naturalising on grass, and in

*Crocus imperati* is valuable alike for its earliness to flower and the beauty of the blossoms, often opening before Christmas, and lasting a long time in good condition, if frosts are not very severe. It is a plant that needs to become well established to have it in full beauty, as after remaining a few seasons undisturbed it forms compact masses, and its blossoms withstand rain and wind much better than in small, thin, scattered clumps. The plant grows from seed shed naturally on the ground at this place, although it gets nothing special in the way of soil or treatment, with the exception that it is grown on the borders, and not amongst grass. Like all those mentioned below, it

some of the flowers coming almost white. It is of very dwarf habit, and the flowers are often 2½ inches in diameter when expanded; its habit of closing up in dull and showery weather accounts for the long period during which the flowers remain in perfection. The varieties *A. b. Seythiana* and *Cypriana* are very pretty, but are a trifle later in flowering. The former is pure white, the latter blue outside and white within, and very pretty when half expanded.

*Anemone fulgens*.—Few flowers surpass this for effect when seen in a mass during March and April in mild seasons; if planted early in a sheltered posi-



FIG. 63.—CÆLOGYNES IN MR. H. GASKELL'S GARDEN, AT WOOLTON WOOD, LIVERPOOL. (SEE P. 424.)

favourable soils and situations the patches increase rapidly in size. It is sometimes to be seen planted in fantastic patterns, but these seldom look well, and the best way to plant is in clumps of a middling size in an irregular manner, which holds good of all of the plants previously mentioned. Snowdrops are so accommodating as to soil that I do not remember an instance where they have not thriven, no matter what the soil or sub-soil on which they were planted. The single forms are, in my opinion, superior in point of beauty to the doubles, but both seem to last in good condition equally well. Snowdrops, if planted amongst *Eranthis hyemalis*, make a harmonious combination of foliage and flowers, and blossom at the same time.

should be planted before the middle of the month of August in a sunny position, for the reason that the flowers only open in the sunshine, a very little of which, however, suffices to expand them and show the purplish crimson interior.

*Anemone blanda*.—This is our earliest blue-coloured flower, often showing a few expanded blossoms in December, and continuing to produce them for nearly three months. Like the preceding, it expands only when the sun shines upon it, and should therefore have a place in a sunny part of the garden. This plant also increases fast from self-sown seeds if it be left undisturbed. The only disadvantage to this course is the variation in the colours of the flowers which ensues

tion, it will afford quantities of flowers in January—in fact, like the Irishman's flower, it comes in bloom so early, that it sometimes comes the year before. This plant is easily grown if the following points are attended to, viz., it dislikes fresh manure, and should be planted in ground that has been manured six months previously; after two years' growth it should be lifted when the leaves turn yellow, the roots spread out thinly on dry airy shelves until planting time comes again, and then be placed on a fresh piece of ground, and it should always be planted again before the middle of the month of August. The roots may be broken into pieces not more than half an inch long when replanting, if an increase of stock is wished



for; and the pieces should not be placed deeper than 1 inch below the surface in order that a dressing of burnt earth may be spread over the bed half an inch thick as soon as the planting is finished, which will largely prevent the growth of weeds which are apt to be troublesome in the autumn before the plants appear above the ground. It is a useful flower when cut for indoor decoration, remaining open night and day when in a warm room, and lasts a long time. One of the prettiest ways to employ it is to mix the flowers with those of the yellow Daffodil, and Daffodil foliage, in clear glass vases.

*Chionodoxa Lucilia* is greatly admired by all who see it, the sprays of flowers when fully expanded being light and graceful. Its first flowers opened here this season on March 1. The flower-spike continues to grow and produce flowers for some time, and clumps or beds of it eventually become a mass of flowers. This variety is far prettier than *C. sardensis*, owing to its large white eye, and the greater size of its flowers. It reproduces itself from seed here freely—in fact, it has got so well established in a few years that it is difficult to eradicate, owing to the seedling bulbs being very small during the first two or three years. This plant increases much in strength after the first season, and the spikes are longer and more effective. I find the colour and size of its flowers vary slightly from seed, judging from a few stray plants I have observed. It would appear to be useful for naturalising in the grass.

*Scilla bifolia* is not so bright in colour as *S. sibirica*, but it is far prettier in habit, and comes into flower several days earlier; but it has the disadvantage of fading sooner than some of the above-named flowers. It is, however, worth cultivating, especially the white and pink varieties, which are at the present time very scarce at Belvoir; the normal form increases fast, and does well on our stiff clay.

*Eranthis hyemalis*.—The so-called Winter Aconite is a very pretty flower, and the best of all for naturalising in shady places, under trees, &c. If a few roots are planted, it soon increases from self-sown seed, and forms a mass of golden flowers. The plant is partial to decayed leaves, but grows as well on clay as on limestone; and if it be planted beneath Elm, Lime, or similar soft-leaved trees, the leaves of which for the most part decay before growth recommences, and those that remain undecayed till the end of December should be removed, as in mild seasons the flowers begin to push up soon after that time. I have found this plant to lift without injury when in full flower, and in this way it is a useful one for indoor decoration, being taken up in small clumps and secured in damp moss. It has the habit of growing fast as soon as it gets in a warm room, so that it only lasts about three days; and if the plants are then put out again, they will flower at the usual time the following year. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

#### SHORTIA GALACIFOLIA AS A DECORATIVE POT PLANT.

—My object in writing this note is to point out how useful a plant is *Shortia galacifolia* for early spring decoration. Used as a front-row plant in the greenhouse, in shallow square or round pans, a very pretty effect is obtained from its numerous flowers, which are of pink tint. This plant requires a rather spongy peat, and a small quantity of leaf-soil and sand. The rhizomes should be rather closely laid-in, with the clusters of leaves rising just above the soil, as by so doing a painful affords quite a mass of bloom. The pans should be placed in a shaded cold frame, and watered freely when in growth, allowing always a free circulation of air in the frame. If grown in the direct sunlight, the foliage is less luxuriant, but it has a more reddish hue. When the flower-buds become visible, a sunny position should be given the plants, which hastens slightly its time of flowering. If artificially fertilised, seed is freely produced, which may be sown as soon as ripe on the surface of a peaty mixture, with scarcely any covering, covered with a square of glass, and placed in a cool place. *R. L. H.*

## THE WEEK'S WORK.

### FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

**EARLY FIG-TREES IN POT.**—As the fruits show signs of ripening, syringing should be discontinued, and the amount of water given to the roots lessened gradually, or the flavour will be poor. Trees upon which the fruits are still swelling must be allowed an abundance of moisture until ripening commences, when a circulation of warm air is absolutely necessary to secure fruit of the highest quality. The temperature should be 60° to 65° at night, with a rise of 10° in the daytime from fire-heat, and 80° to 85° with sun, admitting air at 75°, and closing early at 85°. As the Fig produces surface roots in greater abundance than most other fruit trees, these should be encouraged by suitable mulchings of partially-decayed rich manure as soon as growth has well commenced, and if this be kept in a moist condition it will become full of active fibres by the time the trees require increased support in perfecting a crop of fruit. In a suitable position, soil, and with thorough drainage, heavy crops of fruit may be obtained, but the trees should be afforded liberal supplies of liquid-manure during the final swelling. Trees in pots will require this more frequently than those planted out, especially where turves, or some similar material, may have been placed over the rims of the pots to encourage surface roots. Continue to pinch the points of the shoots at the fifth leaf, and prevent crowded growths on planted-out trees by thinning. Shading of any kind, by their own foliage or otherwise, is most injurious to the Fig. Ventilate freely during favourable weather to induce stout, leathery foliage, but carefully guard against cold currents of air. Trees under glass-cases or in unheated houses should now have any extra protection removed, and the trees be pruned, thinning-out the less fruitful growths, and removing old and bare shoots. Over-crowding is a common error in Fig culture. In unheated houses it is especially needful to secure all the light and sunshine possible. When growth is sufficiently advanced, pinch the shoots at the fourth leaf to assist the swelling of the fruit, and encourage the formation of short, stout-jointed, spur-like shoots at the base of this season's bearing-wood. Ventilate freely at 50°, closing early at 65° or 70°. The border, if dry, should have a thorough watering, repeating it if necessary till thoroughly well moistened throughout, afterwards mulching it with short manure.

**PLANTING YOUNG VINES.**—This is a suitable time to plant young Vines, as the canes, if cut back early in the winter, and since kept in a cool-house, will probably have made an inch or two of growth. If the canes have not been shortened, do not do this now, or it will cause excessive bleeding, but remove the buds from the upper portion, to the length desired, and shorten the canes later on when in active growth, or they may be left until the winter pruning. When turned out of the pots, the roots should be carefully disentangled, and spread out on the previously-prepared border at their full length, working the soil well amongst them with the hand, and covering them to a depth of 3 or 4 inches. Give a good watering with tepid water, and mulch with short litter. Sprinkle the Vines and borders twice a day, and keep the house rather close until growth commences, when more air should be afforded, and every effort made to obtain sturdy, short-jointed canes.

### THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Oxon.

**HABENARIAS**—These pretty terrestrial Orchids are not sufficiently known or they would surely be more generally cultivated, being in foliage and flower alike charming. Such varieties as *H. militaris*, *H. carnea*, and its white variety *ovata*, *H. Susanna*, and *H. rhodochila*, if properly arranged together when in flower, make pretty and effective groups of plants. These deciduous plants are now commencing to grow, therefore turn the plants out of their pots and remove the old soil, and carefully examine every particle for small tubers. When the plants have been strongly grown, the tubers frequently cling so firmly to the inside of the pot and on pieces of crock, that there is some difficulty in turning them out. Carefully break the pots in such cases, and the roots may then be easily detached from them without injury. These species of *Habenaria* usually increase very freely, and if they were well treated last season and properly rested during the winter months as directed in a former Calendar, more than one new tuber will

be found in each pot. Carefully separate them and repot each singly, using pots as small as possible, those known as long thumbs being preferable for the largest and strongest tubers on account of their greater depth. One very important item in their cultivation is perfect drainage. On no account place a flat piece of crock over the hole at the bottom of the pot, but a hollow piece, and lay a few smaller ones over it. Then place the tuber in the centre of the pot with its base resting upon the drainage, and keep the top of the tuber about half-an-inch below the rim. Fill the space around the tuber with clean crocks to within an inch of the top, then place a thin layer of sphagnum-moss, and fill up with the following compost, just covering the top of the tuber: One-half of good fibrous peat and loam, and one-half finely-chopped sphagnum, a good share of small broken crocks, and a sprinkling of coarse silver-sand. Mix the whole well together, and pot moderately firmly. The first three-mentioned varieties should be placed on the shady side of the warmest house, where the atmosphere is hot and moist. See that the pots be kept close to the roof-glass in good light without sunshine. For the present it is not advisable to afford a decided watering, but merely an occasional spraying with a fine-rose watering-can until the growth has well commenced. The quantity may then be gradually increased, and during quick growth they will take almost any quantity. During bright summer weather well syringe the under parts of the foliage. *H. Susanna* and *H. rhodochila* require the temperature of the Cattleya-house.

**GENERAL REMARKS.**—Owing to the increase of sun-heat at this season, insect pests of every description will begin to make their appearance, and if not checked will multiply rapidly. Green and yellow-fly are sure to be troublesome in the cool-houses, especially on the growths and young flower-spikes of *Masdevallias* and *Odontoglossums*. Small yellow thrips may be looked for in almost every plant in the collection. The remedy against these insects is the XL All Vaporiser. Previous to using the vaporiser, close the house early, and obtain a nice moist temperature, as the fumes from the compound are more effectual in a damp than dry atmosphere. On the day following the operation, examine those plants which are known to be subject to these insects, and if any be found alive, use the vaporiser again in the evening. Black thrips are exceedingly fond of the Australian and New Guinea *Dendrobiums*, also the Mexican *Lelias*, but these insects are not so easily destroyed by fumigation as the yellow thrips; and nothing is so effectual as sponging the under-sides of the leaves with some safe insecticide whenever they make their appearance. White and brown scale, and mealy-bug, also do a great amount of damage, the first two named especially, among such epiphytal Orchids as *Aerides*, *Saccolabiums*, *Vandas*, &c.; while the last insect is generally to be found in the growths of *Epidendrums*, *Compretias*, *Burlingtonias*, &c., also very frequently on the under-sides of the foliage of *Masdevallias*. To keep down these, the brush and sponge must be constantly employed. In the *Cattleya* and Mexican-houses, woodlice sometimes eat the young roots both in and out of the compost, but now that the majority of the plants require more frequent waterings, which woodlice do not like, they may easily be caught by laying pieces of Potato or Carrot upon the compost, which should be examined every night and early morning. Cockroaches must be got rid of by poison or skilful trapping.

### THE KITCHEN GARDEN.

By C. HERRIS, Gardener, Drogheda, Maidenhead.

**SEAKALE.**—Assuming that the site selected for growing the next winter's supply of Seakale roots has been thoroughly prepared by trenching and manuring it, the planting of the sets should now be done. If these were prepared and laid-in in sandy soil two months ago they will have callused, and produced several small shoots, which before the sets are planted should be rubbed off, with the exception of the strongest. The ground should be trodden evenly all over, and the larger stones removed with a wooden rake. This having been done, draw drills of about 1 inch deep and 15 inches apart, and afford a surface-dressing of wood-ashes and soot in the proportion of six of the former to one of the latter, nearly half filling the drills with this. In planting the sets with a dibber, a portion of this dressing is carried down with the set. The top of a set should be 1 inch below the soil when the latter is raked down lightly

which should be done in a line with the drills. If space can be afforded, the sets may be planted 18 inches apart each way; still, strong roots can be grown at a lesser distance apart, and a considerable saving of ground effected when a large number of plants are required. The raising of Sea-kale roots from seed is a slow process, two years' growth being required before roots strong enough for forcing are obtained.

**GLOBE ARTICHOKE.**—The small portion of protecting material yet remaining round about the plants should now be removed, and established clumps of plants afforded a heavy dressing of rotten manure, which should be dug in with a fork. If the plantation is old, and as a consequence unsatisfactory, a new one should be made from the suckers which were potted up for this purpose, or suckers with roots attached taken off the old stools, and planted in clumps of threes set out triangularly 6 inches from each other, the clumps being 3 feet apart in the rows. The ground for a new bed should have been trenched and manured, and the plants should be mulched with half-rotted manure. It is a common practice to destroy a few plants annually—the oldest, and plant rooted suckers; a good method where land is scarce.

**VEGETABLES.**—Successional sowings of Broad Beans should be made, putting the seeds in with a dibber if the soil be light; otherwise double drills 9 inches apart and 2 to 3 inches deep should be drawn, and the Beans set in these at a distance of 6 inches apart. Sutton's Green Giant Longpod is a prolific green-seeded variety; Seville Longpod is a white-seeded variety, and preferable to the Green Windsor for general culture. Where a small Bean is liked, Beck's Dwarf Green Gem may be grown, the seed being sown at half the distances apart given above. Spinach is an important crop, and another sowing of the Victoria variety should be made in an open situation. The earliest Spinach sown between the rows of Peas on a south border may with advantage be cleared off as soon as leaves from the sowing now made are ready for use. A large sowing of Parsley should be made, also of Thyme, Chervil, Borage, Pot Marjoram, and Savory. Basil and Sweet Marjoram which were raised in pans and boxes under glass should be carefully pricked off into others, or planted direct to the border, receiving some kind of protection against frost and cold weather. Early-sown Cauliflowers, Brussels Sprouts, and Protecting Autumn Broccoli should be carefully pricked off into frames, or on to a warm border where some slight sort of protection can be afforded. The last sowing of Ne Plus Ultra French Beans under glass may now be made, the seedlings to be planted out in cold pits or frames when fit. French Beans growing in heat will need careful attention in the matter of watering and syringing, any neglect of the latter tending to an increase of red-spider and consequent deterioration of the crop. Onions now standing in boxes and beds should be hardened off preparatory to planting them out about the middle of the month.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Kettleton Hall, Burton-on-Trent.

**APRICOTS** appear to have set a very good crop of fruit this season considering the changeable weather that has prevailed during the time the trees have been in bloom. On many occasions cold showers of rain, late in the day, have been followed by frost at night, and during such days the temperature has ranged between 60° and 70°. It should be clearly understood that the Apricot produces fruit on the wood of the preceding year's growth, as well as upon spurs, and disbudding or stopping effected accordingly. As soon as the shoots are of sufficient length to be taken hold of with the finger and thumb, all foreright ones, that is, those which spring from the front of the branches, should be entirely rubbed off, as well as others that are not required for extending the branches, or for replacing those shoots now fruiting, or for forming fruit-spurs. The growths left for extension, and those for producing fruit next season, should be carefully selected, choosing those inclined to grow in the required direction; any not required for either of the above purposes should be pinched at the third or fourth leaf. These, together with the natural spurs, which grow about an inch long, should be regulated with due regard to each other, and must not be so numerous as to impede the proper development of the foliage. As soon as the fruits are well set, the trees should be looked carefully over, and the fruits thinned, if necessary, removing first the smallest and those which are growing between the branches and the wall. It is the safer practice to look over the

trees two or three times, taking away a few fruits at each time, but leaving a few more than are necessary for a full crop, until the fruits have passed through the stoning process. Strong growing trees should be allowed to carry more fruit than weak ones. As a guide to the proper number of fruits to leave on a healthy tree, I would say ten to twelve of the smaller-fruited varieties, six or seven of the medium, and four of the large varieties to each superficial foot. During the operations of disbudding, and of thinning the fruits, keep a sharp look-out for the Apricot-maggot, and if any are found, they can be destroyed by pinching the leaves in which it has encircled itself. On the first appearance of aphid, spray the trees with a solution of Bentley's compound liquid Quassia extract, in the proportion of one part extract to fifty parts soft-water, or one part of XL All liquid insecticide to forty parts of soft-water. Use either of these dilutions at a temperature of about 100°, and they will destroy aphid without injury to either the young fruits or foliage.

### PLANTS UNDER GLASS

By JNO. MCINTYRE, Gardener, Woodside, Dartington.

**STROBILANTHES DYERIANUS.**—This plant, sent out by Messrs. Sander of St. Albans about two years ago, is of use in grouping in stands of miscellaneous plants in entrance-halls and rooms, the magenta-coloured foliage having a pretty appearance. Propagation is by means of cuttings taken at this season, and treated in much the same manner as *Colens*.

**PHYLLANTHUS NIVOSUS.**—This plant is not so much cultivated as it deserves to be, the silvery foliage having a telling effect in decorative work. Old plants which may have been pruned and started, and have made shoots a few inches long, may have some of these removed to make cuttings, which, if struck at this season, will make well-developed plants by the late summer and autumn. To grow this plant well, it should be placed at the warmest part of the stove, and receive no overhead syringing, and when grown of the required size removed to the intermediate-house, so as to become somewhat inured to still cooler conditions.

**PROPAGATION.**—*Bartolonias* will now have made nice shoots fit for cuttings, which may be struck in a close case in the stove, or under bell-glasses. *Sphenogyne latifolia* is a rather difficult plant to propagate from cuttings, but the old plants invariably losing their leaves during the winter, it becomes very necessary to raise young stock in the spring; and if the tops of the old plants are taken off early, a quantity of shoots form which make excellent cuttings. These should be taken off with a heel, inserted singly in 2-inch pots filled with leaf-soil and silver-sand, and plunged in bottom-heat; the plants should be repeatedly repotted during the season, but rich composts should be avoided. *Cyanophyllum magnificum* may be struck from eyes taken from the old stems; but where only a small number of plants is wanted, good ones can be obtained if cuttings are taken and treated like *Sphenogyne*. *Nepenthes*: To increase any of this species, take the tops when 5 or 6 inches in length, and not too soft. *Nepenthes* cuttings are very liable to "bleed" when severed from the parent plant, and finely-powdered wood-ashes should be applied to the wound, to stop the flow of sap. Take 3-inch pots, fill them with finely-chopped sphagnum-moss, peat, Cocoa-nut fibre refuse, and silver-sand, one part of each; insert one cutting in each pot, plunge in a bottom-heat of 80° in a close case in the propagating-house, and keep the cuttings well moistened, but guard against damp by raising the lights for a short time daily, so as to air the case. Straggling plants may be cut back at this season to last year's wood; they will take a considerable time to break after this kind of treatment. Seedlings of *Gloxinias*, *Begonias*, and other plants that are large enough to be handled should be pricked off singly into thumb-pots, and placed close to the glass.

**CROTONE.**—These plants will now require an abundance of moisture, therefore all paths and stages should be damped three or four times daily, and, as in the case of all warm plant-houses, the last damping should be done as late as nine or ten o'clock, in order to preserve a moist atmosphere during the night. Young plants which have filled their pots with roots should be re-potted into larger ones.

**SOLANUMS AND EPACRIS.**—*Epacris* which have finished blooming, should be cut-back and re-potted, using a compost of hard peat and silver-sand. Pot firmly, and place the plants in a little warmth until

they break afresh. *Erica hyemalis* and *E. gracilis*, if flowering is past, should be similarly treated. Plants of *Solanum capicastrum* may be cut hard back and shaken out of their pots, reducing at the same time the balls sufficiently to allow of their being put in pots of smaller size. Use good loam and leaf-mould, and put them in a warm pit where they may be kept rather close for a time. When the plants are growing nicely, a frame should be got ready, in which to plant them out during the latter part of April. When all danger of frost is past, remove the lights altogether. Treated in this way, well-berried plants may be obtained early in the season.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**FLOWER-BEDS** should be carefully looked over, and all flower-spikes of Hyacinths that are of sufficient length should be neatly staked and made secure against rough winds. Tiffany or other suitable material should be held in readiness to place over the beds in the event of sharp frosts occurring; grass edgings may be trimmed, and everything in the vicinity of the flower-garden made neat and orderly.

**HERBACEOUS BORDER:** are beginning to look gay, and most of the plants are above ground; therefore, any gaps that may have occurred should be made good without delay. If the borders have not been dug, a dressing of wood-ashes, soot, or guano may now be afforded.

**HARDY FERNERIES AND ROCKERIES** should be cleared of all dead or decaying fronds and leaves. Fill up all vacancies with suitable plants, and restrict all strong-growing subjects to their proper limits, so that they may not kill less vigorous plants. In some instances a top-dressing of soil may be necessary, especially if some of the soil has been washed away by heavy rains.

**BEDDING PLANTS.**—The propagation of these and the potting-on of cuttings or seedlings must still receive attention. Do not allow greenly to become numerous, but lightly fumigate as often as necessary. All bedding plants in frames should be fully exposed on favourable occasions, so as to prepare them for less sheltered positions, in the event of the frames being required for less hardy plants.

**SEEDS** of Asters, Stocks, Zinnias, Scabious, Annual Chrysanthemums, Everlastings, Ornamental Grasses, Godetias, Marigolds, Nasturtiums, Aquilegias, Foxgloves, Balsams, Carnations, &c., should now be sown in cold frames, lightly covering the seeds with fine soil. Keep the frames close until the seedlings appear, shading only from bright sun.

**TUBERS OF DAHLIAS** that were not required for producing cuttings, may now be put into pots or boxes and placed in cool frames. These plants usually produce blooms much earlier than those raised from cuttings during late winter or early spring, but the blooms are not so fine. Cuttings of Dahlias that are rooted should be kept growing by potting them on as soon as the pots are filled with roots, gradually hardening them off in cold frames before planting them in their permanent quarters out-of-doors.

**MISCELLANEOUS REMARKS.**—Gravel walks and drives should be regularly rolled, and all weeds destroyed as soon as they appear. Grass walks and lawns should also be swept, rolled, and mown as occasion requires. Complete the pruning of Laurels and similar shrubs as rapidly as possible, and give all trees which have recently been moved a mulching of well-rotted manure. Shady walks in shrubberies should now be gay with a display of spring-flowering plants on either side. Such walks may be made very attractive at this time of the year by the use of Wood Hyacinth, Anemone pulsatilla, Daffodils, Primrose, Polyanthus, Myosotis, Crocuses, and other plants.

**BET SUGAR.**—In Germany there were 790,000 acres cultivated in Beets in the season 1884-85; in 1894-95 there were 1,100,000 in this crop. In the latter season there were 14,526,000 tons of Beets produced, yielding 1,842,000 tons of raw sugar, or 12.2 per cent. The sugar consumption in Germany is but 26 lb. per capita, requiring but 600,000 tons for the domestic use of the empire, necessitating the export of the rest. In France 370 factories worked during the campaign of 1894-95, handling 7,130,736 tons of Beets, obtaining a yield of 710,645 tons of raw sugar, or 666,672 tons of C. P. sugar. The average extraction was 9.34 per cent. C. P. sugar, and the average density of the juice 1.072. D. M.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

## APPOINTMENTS FOR THE MONTH.

## MEETINGS.

- SATURDAY, APRIL 4 { Isle of Wight Horticultural Association meet; Soc. Franc. d'Hor meet.  
 SATURDAY, APRIL 11—Royal Botanic Society meet.  
 THURSDAY, APRIL 16—Linnean Society.  
 SATURDAY, APRIL 25—Royal Botanic Society meet.

## SHOWS.

- SUNDAY, APRIL 5 { Royal Agricultural and Horticultural Society of Ghent.  
 TUESDAY, APRIL 7 { Royal Horticultural Society's Committee's shows.  
 WEDNESDAY, APRIL 8 { Royal Caledonian Horticultural show at Edinburgh (two days).  
 SUNDAY, APRIL 12—Brussels Orchidéenne.  
 TUESDAY, APRIL 14 { Brighton Horticultural Society's Show  
 WEDNESDAY, APRIL 15 { Durham, Northumberland, and Newcastle Botanical and Horticultural Society's show (two days).  
 TUESDAY, APRIL 21 { Royal Horticultural Society's Committee's show (Auriculas and Primulas).  
 WEDNESDAY, APRIL 22—Ancient Society of York Florists.  
 SATURDAY, APRIL 25 { National Auricula (Northern Section) Society's Show at Manchester.

## SALES FOR THE ENSUING WEEK.

- WEDNESDAY, APRIL 8 { Begonias, Tuberoses, Azaleas, Palms, Lilies, Roses, &c., at Protheroe & Morris' Rooms.  
 FRIDAY, APRIL 10 { Hardy Perennials, Roses, Carnations, Climbers, Pansies, &c., at Protheroe & Morris' Rooms.  
 Imported and Established Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—45.8°.

Most gardeners know the value of manurial top-dressings for growing crops, and they apply them pretty generally, but there is less done in the matter of top-dressing the land before it is sown or planted. The reason for abstaining from the practice at that season may be due to a belief that the dressings chiefly used on the growing plant are more likely to do harm than good to the newly-germinated seedling—a belief that is not without its substratum of fact. As for instance, gas-lime in a fresh state, nitrate of soda, Peruvian guano, and even dry earth-closet manure, when highly concentrated, will undoubtedly injure the young plants if brought into contact with them in excessively heavy dressings. But these same substances, together with fowl's and pigeon's dung, soot, woodashes, charred earth, the refuse potting soils from the sheds, and superphosphate of lime in finely comminuted particles, if employed with a light hand, and strowed along seed-drills, or broadcasted, greatly assist the progress of the seedling plants, besides keeping at a distance some of the insect enemies of the various crops. In this last-named important matter, it is a question if we take

enough precautions to safeguard the plants. How many gardeners employ turpentine or petroleum to coat the seeds of Peas, Beans, Turnips, and the Cabbage family, Onions, &c., as a preventative of loss by insects? We opine there are but few who do so.

If a top-dressing consists largely of earth, charred, or simply finely sifted, provided it is known to be free from seeds of weeds, it may be used to coat the surface of the staple to a depth of 1 inch, or to half or quite fill the drills after the seeds are placed therein. The other constituents of the dressing may consist of guano, fowl's or pigeon's dung which has been dried and somewhat fermented; or manure derived from the dry-earth closets, these forming not more than from one-sixth to one-tenth of the whole according to their strength and age. Used in this proportion, none of the manurial aids to growth mentioned can do anything but good, and may therefore be used on any kind of soil not already made rich by manures dug into it over a long series of years. The dressings which such soils as these call for are quick-lime and potash, to supply the probable deficiencies in these substances; gas-lime and soot as remedies against club in Brassicas and the Onion-fly; salt for such crops as Asparagus, Seakale, Celery, Carnations, and Strawberries; all of which, with the exception of salt, should be dug into the soil early in the winter; that is, some months before any crop will be sown or planted thereon. Common salt, muriate of potash, or, as it is now called, sodium chloride, is of much value as an insecticide, besides supplying the plants named with a desirable stimulant, and as a retainer of moisture in soils otherwise dry—one reason why its large use on heavy land is not so desirable. The best time to employ salt is during the earlier part of the season of growth in the plants, for if used after the chief efforts of the plants have been put forth in high summer, growth is unduly prolonged, and the ripening of all parts of the plant delayed till too late in the autumn.

To render a salt-dressing safe when applied to growing plants, it should be intimately mixed with an equal bulk of finely-sifted loamy soil or charcoal-powder, and the quantity of this mixture may not exceed  $\frac{1}{2}$  lb. per square yard; such dressing being afforded at intervals of three or four weeks, and by preference in showery weather, or be followed with a watering with the pot or hose. Salt as a winter-dressing may be applied unmixed with other substances, and at the rate of 3 oz. per square yard, or about 4 cwt. per acre.

The dressing which may be applied to the land when sown or planted, is not necessarily as efficacious when used on the surface during the season of growth, if it contain much earth; quicker effects being obtained when the actual manure is scattered without any admixture, at the rate of 2 oz. to 3 oz. per square yard; closet-manure being an exception, owing to a necessarily large admixture of loamy soil, and 6 or 8 oz. is not too much to be used at one application.

ROYAL BOTANIC GARDENS, GLASNEVIN, DUBLIN (See Supplementary Illustration).—Our illustration is from a photograph taken by Miss ARMSTRONG, and it represents the fringe of the rock-garden, with a shady little rest-house or shelter, from which some pretty peeps and views are obtained. Glasnevin is generally conceded to be one of the most picturesquely beautiful of all the botanical gardens of northern climes. The grounds are very agreeably diversified by Nature, and the genial climate has also been a factor in enhancing its

charms. Glasnevin is beautiful at all times and seasons, and has been much extended and improved during the past sixteen or seventeen years, though it has long been a garden of the richest in exotic plants of all kinds. The place, apart from its acknowledged botanical richness and beauty of contour, is also fraught with many pleasant memories of the past. Close by is Delville, an old domain, the former residence of Dr. DELANY, a Fellow of Trinity College, and afterwards Dean of Down. It is a quaint old-world place, sheltered by great evergreen Oaks, and the grounds are just now blue with the exquisite Apennine Anemone. Even in the latest guide or *Dictionary of Dublin* we find Glasnevin truthfully described as "a quiet little village, prettily situated on the banks of the river Tarka, about two miles from Dublin. It consists of a single street, with some picturesque old houses. In the eighteenth century it was a favourite suburb, and TICKELL, ADDISON, SWIFT, DELANY, SHERIDAN, STEELE, and PARNELL (the poet), are but some of the names intimately connected with its history." SWIFT was a constant visitor at Delville, and it is supposed that whilst there in 1735, he printed some of his squibs and satires, the ordinary printers and publishers being afraid of punishment in such sensitive and troublous political times. Be this as it may, an old hand-printing-press was discovered in an old loft there early in the present century. It is an agreeable experience to visitors to see Glasnevin and its garden for the first time, with the little river Tarka flowing all along its lower side, fringed with beautiful old Willows of several kinds, and there are some pretty peeps from the new arboretum, which was added to, and planted by Mr. F. W. Moore a few years ago. An old lock-up or reserve-garden here is full of rare and interesting things. *Megacarpus gigantea*, *Dicentra chrysantha*, are two plants I never yet saw elsewhere! The rock-garden and hogbed are also full of beautiful things—here, in a dry chink or cleft, a silvery *Celmisia* from Mount Cook, there the Indian *Edelweiss*, or some choice Himalayan Primrose, a giant *Rhubarb* from N. China or Tibet, the dainty *Shortia galacifolia* (sacred to the memory of MICHAUX) and its allies, *Galax aphylla*, or the still more rare *Schizocodon* of Japan. Near the rockery is a quaint Yew-tree avenue known as "Addison's Walk," and doubtless of greater antiquity than the botanical garden itself, having formed a portion of the old demesne that preceded its establishment by the Dublin Society in the later part of the last century. A very handsome addition has been made to the rock garden, especially for hardy Ferns, and a very choice and extensive collection is now most happy and luxuriant in its new home. In a word, Glasnevin is an honour to Ireland as a focus of good plant culture and accurate botanical observation and cultural experiment, and a credit to its Curator, Mr. F. W. MOORE. I am not alone in my expression of this opinion, which is echoed by thousands who visit the garden every month of the year. *F. W. Burbidge.*

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, April 7, in the Drill Hall, James Street, Westminster, S.W., from 1 to 5 P.M. At 3 o'clock, a lecture on "The Movements of Lants" will be given by the Rev. GEO. HENSLAW, M.A.

LINNEAN SOCIETY.—The next meeting of the society will be held on Thursday, April 2, at 8 P.M., when the following paper will be read:—Mr. C. H. WRIGHT, "Monograph of the Genus *Stemona*, Lour." (Communicated by Mr. W. T. THIBELTON DYER, C.M.G., F.R.S., F.L.S.); and Dr. F. ARNOLD will exhibit photographs of types of certain Lichens; and Mr. M. F. WOODWARD, a young *Echidna* from Western Australia.

NATIONAL ROSE SOCIETY.—A meeting of the General Purposes Committee will be held at the Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 7th inst., at 2 P.M., and at 3 P.M. that of the Committee. At the former the Supplement of the Society's Official Catalogue will be discussed, and



A SHADY RETREAT IN THE BOTANIC GARDENS, GLASNEVIN, DUBLIN.





at the latter the Reading and Ulverston Schedules, the report of the referees on the essays on the "Hybridisation of Roses," and other business. H. HONEYWOOD D'OMBRAIN, and EDWARD MAWLEY, Hon. Secretaries.

**M G SCHNEIDER.**—We have to congratulate Mr. SCHNEIDER on his nomination by the French Government as Chevalier of the order of the "Médaille Agricole." Mr. SCHNEIDER is the President of the Société Française d'Horticulture de Londres, and is the author of a valuable work on Ferns, and a trusted employé of Messrs. VEITCH & SON.

**THE ROYAL GARDENERS' ORPHAN FUND.**—The executive committee met at the Horticultural Club on the 27th ult., Mr. W. MARSHALL presiding. The guardians of several of the recently-elected children were appointed, in every case it being the mother. The chairman made formal announcements of the fact that his Grace the Duke of BEDFORD had been approached with a view of his becoming the President of the Fund in the place of the late Sir JULIAN GOLDSMID, Bart., and that his Grace had been pleased to accept the presidency, and would preside at the annual dinner at the Hôtel Métropole on June 18. Authority was given to the Treasurer to pay the quarter's allowances to sixty-eight children now enjoying the benefit of the Fund, amounting to £221. A donation of £5 from Mr. THEODORE COOKSON, Warminster, was announced. Some other matters of business were transacted, and the proceedings closed with a vote of thanks to the Chairman.

**THE NATIONAL DAHLIA SOCIETY.**—The annual general meeting took place at the Horticultural Club, on the 27th ult., Mr. G. GORDON, one of the Vice-Presidents, presiding. There was a good attendance of exhibitors, and of other persons interested in the cultivation of the Dahlia. The annual report, read by Mr. T. W. GIRDLESTONE, the Hon. Secretary, stated that while in 1894 the Dahlia plants were backward owing to the sunless character of the summer, the prolonged heat and drought experienced in 1895, seemed in many districts to delay the starting of the plants into growth, and it was undoubtedly the case that many varieties were not fully in bloom, by the date of the Society's exhibition at the Crystal Palace, on September 6 and 7. Nevertheless, the quality of the show, as a whole, and of fancy blooms in particular, was of a high order, although not a few of them showed evidence of the effects of heat and lack of moisture; but the collections of Cactus Dahlias were magnificent, and the fine display made by these and the single varieties was unquestionably the feature of the exhibition. A considerable number of Certificates of Merit were awarded to new Dahlias, the majority of the varieties certificated being of the best Cactus type. The committee still have to regret the membership of the society does not increase to the desired extent, and they would gladly welcome a further increase, especially from the northern growers, who are not strongly represented. The report concluded by thanking the donors of special prizes, and announcing that the next exhibition will take place at the Crystal Palace on September 4 and 5. The financial statement submitted by the treasurer, Mr. E. MAWLEY, showed that, with a small balance in hand, the income of the society had amounted to £134 2s. 6d. Subscriptions came to £53 7s., donations to £22 3s., contribution by the authorities of the Crystal Palace £50, and advertisements in the schedule of prizes £8 4s. On the other side, prizes had been paid amounting to a sum of £116 7s., and with printing, office expenses, &c., added, there was yet a balance in hand of £1 13s. 5d. In moving the adoption of the report, the chairman called attention to the very small cost at which the society is worked, and hinted, as a means of bringing in more supporters, whether more meetings of the members could not be arranged; throwing out other suggestions of a practical character. Several members also suggested measures which it was thought would lead to a greater and more widespread interest being taken in the Society's work;

eventually, the motion for the adoption of the report was carried. The Rev. CHARLES FELLOWES was re-elected President; the Vice-Presidents were also elected. The names of Messrs. W. MIST, F. FELL, and A. TAYLOR were added to the committee; Mr. E. MAWLEY was re-elected Hon. Treasurer, and Mr. T. W. GIRDLESTONE as Hon. Secretary. The list of true Cactus Dahlias was revised, all those awarded Certificates of Merit at the Crystal Palace in 1895 being added. A suggestion that a list of Certificated flowers of the previous year's exhibition should be given in the annual report, with the analysis of the varieties exhibited, was accepted. The proceedings, which were of a cordial and business-like character, closed with a hearty vote of thanks to the Chairman.

**DIRECTORSHIP OF THE SANTIAGO BOTANIC GARDEN.**—We are informed by Mr. T. GREENES that he has been appointed to the directorship of the Botanic Garden at Santiago, Chili, he having entered on his duties at the beginning of the present year, and he requests that all communications for that Institute be addressed to him direct.

**CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The usual fortnightly meeting was held on Thursday, March 26, in St. Mary's Hall, Cheshunt, the number of members present being 175. NIEL MACKENZIE, Esq., presided. Mr. J. HUDSON, gardener at Gunnersbury House, gave an instructive lecture on "Stove and Greenhouse and Warmhouse Climbing Plants." A discussion ensued at the conclusion of the lecture. Mr. HUDSON having replied to various questions put to him, a hearty vote of thanks was accorded him on the motion of Mr. GEORGE PAUL, and seconded by Mr. W. GREENLEAF.

**THE PAST WINTER IN THE RIVIERA.**—A correspondent writing from the Riviera remarks of the past winter that it has been one of the most genial experienced for twenty years; there having been very few frosts, and none since the beginning of January, and no snow. No rain has fallen for four months, which makes gardening operations very difficult; nevertheless, the gardens are resplendent with flowers. For the last six weeks the air has resounded with the notes of the blackbird and the hum of the bees, which latter have been busy the whole winter through. In consequence of the check vegetation received last winter it is very little in advance of last season, but a good shower of rain would work wonders.

**PROPAGATION BY LEAVES.**—It may not be generally known that the Cape species of *Ornithogalum* may be increased by cutting off the leaves at the ground-level, and inserting them similarly to *Gloxinia* leaves. There is no necessity to use special preparations, but they may be stuck in at the edge of the pot in which the plant is growing. Young bulbs and radical fibres are found adhering to the leaf. They appear to be formed by the return of the sap which had nourished the leaf. Experience has proved that the leaves should be taken off while the plant is advancing in growth. Leaves may also be made to produce bulbs in *Hyacinthus corymbosus*, *Eucomis*, and some species of *Lilium*. *Extract from a note by W. Herbert, in "Gardeners' Chronicle," June 12, 1841.*

**THE ORIGIN OF HONEY-DEW.**—M. GASTON BONNIER recently laid before the Société de Biologie an interesting paper on "Honey-dew as exuded from Leaves, compared with that the Result of the Puncture of Aphid." From the *Comptes Rendus* the following particulars are taken:—

1. Although aphid and scale are the most frequent cause of honey-dew, honey-dews are found which have an exclusively vegetable origin.
2. The production of honey-dew by aphides may be maintained during the whole of the day and diminished during the night. Honey-dew which is a direct exudation from the leaves is, on the contrary, formed at night, and usually ceases during the day; its greatest abundance being at day-break.
3. The conditions which favour the appearance of

vegetable honey-dew are cool nights and hot dry days. Increase of moisture and darkness favour the production of honey-dew, if all other conditions are equal.

4. The exudation of sugary liquid from the stomata of the leaf can be artificially effected by plunging the branches and leaves into water and placing them in darkness in a saturated atmosphere. Under these conditions the leaves produce honey-dew, while leaves left on the tree do not form any.

5. While bees will collect any sugary substance, no matter what, if there is nothing else handy for them, yet they always prefer, when they have any choice, the richest source of supply. When honey-yielding plants are flowering freely, they desert the honey-dew, especially that formed by the aphides; they will take it, on the contrary, on days when there is a scarcity of honey-giving flowers.

6. The chemical composition of honey-dews is very variable. That of the honey-dews of vegetable origin approaches more nearly to the chemical composition of nectars than does that of the honey-dews produced by the aphides.

**NOVELTY IN CHERRIES.**—Those who will enjoy fruit fresh from the tree in the month of October, should plant the new Cherry, *Hochgenuss von Erfurt*, which, freely translated, is "Erfurt Delicious." It is quite a surprise when no Cherries are to be found in garden or market to see a Cherry-tree well loaded with fruit; and every one, says a writer in the *Oesterreichisch-Ungarische Gärtner Zeitung* of March 15, if he have a suitable spot in his garden, should plant a tree or bush of this variety. It is an excellent market gardeners' Cherry, as it is only the earliest and latest fruiting varieties which have the most high market value. The tree is a vigorous grower, with a round crown; and the foliage is large and dark green in colour; the fruit is rather large, of a shining light red colour. A peculiarity of the variety is, that ripe, half-ripe, and quite green fruits are found on the tree at one and the same time, so that ripe fruits can be gathered for a period of five to six weeks.

**PRICE OF FLORIST'S FLOWERS IN SAN FRANCISCO, CALIFORNIA.**—On February 8, I had occasion, writes a correspondent, to visit a number of florist's establishments in San Francisco, and took the opportunity to enquire the prices of cut flowers on sale for decorative and funeral purposes. The prices asked for cut flowers in this land of flowers astounded me. Double Violets in bunches, 4 inches across, were selling for 25 cents (1s.); Carnations, both cardinal and pure white, 75 cents (3s.) per dozen flowers; *Narcissus pseudo-Narcissus*, N. *Tazetta*, and N. *Tazetta aureus*, 75 cents per dozen stalks; N. *Tazetta papyraceus* was more abundant, and figured as low as 25 cents per dozen stalks. *Lilium candidum* is much used for decorations, and I was surprised to find that one could not get a dozen stalks, even with only one or two open flowers on each, for less than 5 dols. (£1). At the corner of Kearney and Market Streets, which is a rendezvous for Italian street flower-sellers, one could get pretty good *Narcissus pseudo-Narcissus* (single) for 25 cents per bunch of twelve, and Violets for 15 cents per bunch.

**MR. JOHN PAGE**, upon leaving the employ, recently, of the Marquis of LOTHIAN, K.T., whose gardener he has been during the last twenty-seven years, has been presented with many souvenirs by his fellow-servants and others who have known and respected him during many years.

**VINEGAR FROM HONEY.**—*The Production of Vinegar from Honey* is the title of a small pamphlet by the Rev. GERARD W. BAXTERS, who warmly recommends honey-vinegar in preference to malt-vinegar. The author claims for the former a delicious flavour and aroma, greater wholesomeness, and economy. Honey-vinegar can be made at home, so that its purity can be ensured. It affords a means of using up honey which is unsaleable, owing to discoloration or fermentation, and, if made in wholesale

quantities, would increase the bee-keeping industry. We advise housewives who are fond of making home-made preserves to try concocting vinegar from honey according to Mr. BANCKS' recipes. They can, if they please, add to it Celery, Clove, Raspberry, or any preferred flavouring.

**ROYAL BOTANIC SOCIETY OF LONDON.**—The following is the programme of the Daffodil Conference to be held April 14, under the auspices of the Royal Botanic Society of London, in the lecture-room and museum of the society. Mr. J. G. BAKER, F.R.S., F.L.S., of the Herbarium, Kew, will preside, and the chair will be taken at twelve noon. The following papers will be read:—Mr. F. W. BURBIDGE, M.A., F.L.S., F.R.H.S., opening address, on the "Past, Present, and Future of the Narcissi."

	The Cultivation of Narcissi by an Amateur.
Rev. E. S. BOURNE	1. Soil and situation. 2. Time of planting. 3. Supply of nourishment. 4. Time of lifting. 5. Some good varieties. 6. Culture in cold frames.
Mr. W. ROBINSON	The Hardy Narcissi, and their Artistic Use for Planting in Grass, &c. The Daffodil as an Exhibition and Decorative Flower.
Mr. J. D. PEARSON	Notes on Method of Treatment of Exhibition Biomes, Cutting, Packing, and Arranging. Suitable Vases, House Decoration. The pleasures and pains of Colour to an aesthetic mind.
Mr. C. W. COWAN	A few Notes on the Successes and Failures of Growing Daffodils in Midlothian.
Dr. CRAWFORD	Basal Rot, and the Conditions necessary for Healthy Culture of the Daffodil.
Mr. C. STUART	Description of the miniature Whitehall group of Daffodils and their origin. Remarks as to parents of the varieties, and how the crosses were effected which produced them. The opinions of eminent authorities on this group. Detailed description of a few of the more remarkable varieties; with flowers to illustrate, or paintings if the flowers are over.
Mr. J. ALLEN	Daffodil Hunting in the Pyrenees.
Mr. M. J. CAPARN	The Daffodil in Art.
Miss MARIE LOWE	The Daffodil in Decoration, Illustrated by Flowers and Paintings.

A show of Daffodils and other spring flowers will be held in the gardens on the same day.

**MR. J. R. JACOB.**—Some few years ago, Mr. J. R. JACOB, of Newport, Mon., Seed Merchant, compounded with his creditors for 7s. 6d. in the £. On the 7th ult., he invited his creditors to a dinner, at which he distributed cheques in payment of 12s. 6d. in the £ to complete 20s., remitting to those who could not attend. Such honourable conduct was considered deserving of some mark of appreciation, and on the 25th ult., Mr. JACOB was invited to a complimentary banquet, at which he was presented with a Silver Tea and Coffee Service, and an illuminated address on vellum.

**DIAMONDS AND PASTE.**—The newly-discovered Rontgen rays have been utilized in distinguishing real from imitation diamonds.

**PUBLICATIONS RECEIVED.**—*Leamington St. Mary's Cottagers' and General Horticultural and Industrial Society's Rules and Schedules for 1896.*

## STRAWBERRY FORCING.

WHATEVER fate may be in store for the new French Perpetual Strawberries, such as Louis Gauthier, so picturesquely introduced to English growers through representations of the parent plant, with its first and earliest-rooted runner still attached to it, this interesting object-lesson has suggested some considerations which may conveniently find expression under the heading of the waste of force. In the French woodcut we have an old Strawberry-plant of extraordinary fruitfulness, which is said to fruit in May and June, and one early runner still attached, though rooted to fruit through August and September. Now, it may be said, truly enough, that there is nothing specially novel in this. Any notable early Strawberry—say, for example, the Black Prince—

would do likewise if permitted, and strong parent plants would help support these later ones to fruit in the autumn, if desired. Just so; and this has often been done, but with variations which may make wide differences in the results. For example, the French woodcut only shows one runner to a plant, thus securing great concentration of force, which is one of the chief factors of success in this mode of culture. The French also seem to retain the connection between the parent plant and the runner throughout the season, which may pour additional vigour into the young plants for autumn fruiting. This is the more probable, as, from the enormous fruit crops on the parent plants in the early summer, the French growers seem to rely wholly on the young runners for the late crops rather than on a second crop from the old plants; hence the greater certainty of double supplies of food for the young plants through the retention of the runners until the end of the year.

Those familiar with the practice of rooting from one to three early runners from early-forced Strawberries, as a sure means of providing early runners for next year, or of supplementing a good second crop from the old plants in the autumn, also often left the lines of the runners intact until the end of the season, and no doubt such prudent diversions of vital forces not seldom prevented their loss, or converted them into profitable produce in the least space of time.

But apart from any such disputable ground there can be no doubt that English growers sacrifice an enormous amount of productive capacity annually by consigning their early-forced Strawberry plants to the rubbish-heap as soon as they have ripened their first crop of fruit. It is not too much to affirm that thousands and tens of thousands of fine plants are thus sacrificed every year. The practice of throwing away forced plants brimful of youth and vitality, had its origin in mistaken notions. It was long held that all forcing was necessarily a depleting and exhausting process, so much so, that by the time the first crops were gathered the plants were so weak as only to be fit for the rubbish-heap.

Why, what evil have they done? Most of the plants have yielded good crops of Strawberries; and in the doing of the latter, they have enlarged their size, and increased their capacity for future service. And all this as a sort of side product the plants were obliged to yield while ripening under the most favourable cultural and physical conditions their first crops of fruit.

Under such fostering, is it any marvel that the plants are found better, stronger at the close of their first campaign than at the start? They are mere babies as yet, seldom exceeding from six to nine months old. They have been liberally fed on the best soils and manures, fostered with moisture, strengthened with light and air, kept scrupulously clean. Under such favourable conditions, it was impossible for the plants to ripen the current crops and strong for the next, and this through the multiplication of crowns and the formation and maturity of early runners. For which of these distinguished services are our forced Strawberries consigned to the rubbish-heap? Let me say here that all the weaklings, the failures, and the over-strong barren plants should be destroyed at once. But surely such plants as I have described deserve a second or even a third trial.

The chief difficulty is safe storage for a time when removed from forcing-houses or shelves. Out of the heat, say of 65° or 70°, into the frost or the March winds, there would be a speedy arrestment of the fruitfulness of such plants. But where cold pits, the floors of orchards or Peach-houses abound, from which frosts and biting winds can be shut out, there need be no chilling check or any difficulty. The forced Strawberries need to rest awhile in safety, and the more profound the rest, the more prolific the blossom and prodigal the fruit in the autumn.

All Strawberries will not be equally successful in yielding a second crop of fruit within a year or fifteen

months of their runnerhood. But most of our early and mid-season varieties will do so readily under this simple and easy mode that I am now describing for the husbanding and utilising of the vital force that enables Strawberries to fruit twice within little more than a year.

Early in May, or so soon as all danger from injury by frost is over, the Strawberries should be planted out, say 2 ft. or 30 in., by 18 in. or 2 ft. apart. The soil should be good, the site warm, the plants watered home should the weather prove dry, and mulching for the protection of the fruit and the conserving of the moisture in the soil duly attended to. In some gardens a partially-shaded border or plot proves best, as autumnal sunshine is more scorching than that of summer. To succeed with this autumnal crop of Strawberries the plants must never be allowed to flag from the start to the finish. My largest experience has been with Black Prince, Kew's Seedling, Eleanor, Alice Maud, British Queen, President, Paxton, and Vicomtesse Hélicart de Thury. But we have now more modern varieties, probably better for this mode of culture, and the art lies more in the culture than in the constitutions of the plants. But what of the plants after their second crop in the autumn? Only this, that they are still more full of productive force than ever; and the finest crops in quality, and the heaviest in bulk, ever gathered by the writer have been from plants forced in the spring, fruited in the open in the autumn, and fruited once more in the usual way the following summer. And what next? why trenched in, but still in such strength and vigour as to afford by their decomposition a good manurial dressing to the land.

Before advocating for general practice maiden Strawberry plants for profit, I would strongly advise the adoption of this simple means of utilising the vital and fruiting forces so often allowed to run to waste in our forced plants. D. T. E.

## PLANT NOTES.

### DOUBLE-HYBRID POTENTILLAS.

POTENTILLAS generally are free-flowering, producing masses of bright-coloured blooms for many weeks in succession; the plants, moreover, are vigorous, thriving in any kind of soil, and almost any situation, for which reason they are better adapted for what is known as wild or wilderness gardening than most herbaceous plants. They flourish on artificial rock-work, outdoing in such positions, when the soil is deep and cool, rock-Roses in the matter of display. The advantage possessed by the latter where grouping is concerned is seen in the fact that rock-Roses have more light-coloured or white flowers, which certainly afford a better effect at a distance. The great improvement made in Potentillas, especially in the double-flowered crosses, is lacking in that one particular of white flowers; although yellow, rich orange, crimson, marea (some spotted, striped, or margined in various colours), exist amongst the newer forms, white is absent. Hence, however beautiful they are, it is desirable, when planting for contrast of colours, to add here and there a plant of the old single white and yellow *P. caulescens*, and the white-flowered *P. rupestris* and *P. speciosa*. Though I refer more particularly to a selection of double-hybrid varieties, it may be remarked that, including the double forms of *P. argrophylla*, two dozen and more good and showy varieties exist, from amongst which I make the following selection:—Wm. Rollinson, an old, but fine variety, of a mahogany-brown and orange colour; Alfred Salter, scarlet and orange; Vervaeana, reddish-yellow; Etna, scarlet; Louis Van Houtte, deep crimson; Chinios, yellow; and Haulet, very double, dark crimson. Planted in deep well-enriched soil, Potentillas grow with vigour, and being able to contend against aridity, the plants bloom throughout the best months of the summer; it is, therefore, important to secure the stems betimes in the spring and early summer, to have sufficiently strong stock. *William Earle*.

# A SUPPLEMENTARY LIST OF HYBRID ORCHIDS,

Continued from vol. xviii., third series, page 10; made up to March 14, 1896.

## GARDEN HYBRID CYMBIDIUMS.

OFFSPRING.	PARENTS.	RAISERS, ETC.
Eburneo-Lowianum	= Lowianum ♀ × eburneum ♂	Veitch
Lowio-eburneum	= eburneum ♀, Lowianum ♂	Jacobs
Winnianum	= giganteum × ..	Winn
<b>GARDEN HYBRIDS.—DENDROBIUMS.</b>		
Adraata	= Pierardi ♀ × superbum ♂	Veitch
Eoæas	= japonicum × crystallinum	Veitch
Ainsworthii	= aureum × nobile	Ainsworth
.. var. intertextum	= .. × ..	Veitch
Alcippe	= lituiflorum Freemani × Wardianum	Veitch
Audromeda	= × Leechianum × Cassiope	Chamberlain
Apollo grandiflorum	= nobile pulcherrimum × splendidissima grandiflora	Cypher
Armstrongii	= aureum × oobile coerulescens	Armstrong
Aspasia	= .. × Wardianum	Veitch
Astræa	= luteolum × crassinode	Cookson
Benita	= aureum × Falconeri ♂	Brymer
Bryan	= luteolum × Wardianum	Cookson
Burfordense	= Linawianum × aureum	Sir T. Lawrence
Cassiope	= japonicum × nobile album ♂	Cookson
Cheltenhamense	= luteolum × aureum	Cypher
Chlorostele	= Linawianum × Wardianum	Sir T. Lawrence
chrysoideus	= Findlayianum × Ainsworthii	Sir T. Lawrence
Clio	= splendidissimum grandiflorum ♀, Wardianum ♂	Sir T. Lawrence
Cordelia	= aureum × eousum leucopterum	Veitch
.. flavescens	= .. × ..	Veitch
Corningianum	= nobile × lituiflorum	Corning
Curtisii	= Cassiope × aureum	Sauder
Cybele	= Findlayianum × nobile	Veitch
Delleuse	= nobile Schroderiana ♀ × splendidissimum ♂	Baron Schroder
Dido	= Findlayianum × Ainsworthii	Sir T. Lawrence
Dominianum	= Linawianum × nobile	Veitch
Doris	= × Leechianum × japonicum	Cookson
Doris	= × Leechianum × japonicum (japonicum)	Cookson
Dulce	= aureum × Linawianum	Veitch
Edithe	= nobile nobilium ♀ × aureum ♂	Lee
endocharis	= japonicum × aureum	Veitch
eoumum	= × endocharis × nobile	Veitch
.. var. leucopterum	= .. × nobile	Veitch
Euterpe	= nobile × Wardianum	Lawrence
Euryalus	= × Ainsworthii × nobile	Veitch
Euryalea	= lituiflorum × Wardianum	Veitch
Findlayano-Wardianum	= Findlayianum ♀ × Wardianum	Ashworth
Gemma	= superbum Huttoni ♂ × aureum ♀	Winn
Harold	= Findlayianum ♀, Linawianum ♂	Cookson
Hebe	= Findlayianum ♀ × Ainsworthii ♂	Sir T. Lawrence
illustre	= chrysoxum ♀ × Dalhousieanum ♂	Veitch
Juno	= Wardianum ♀, × Linawianum ♂	Sir T. Lawrence
Keonsth	= Bensoniæ ♀, McCarthyi ♂	Cookson
Kingiano-speciosum	= Kingianum ♀ × speciosum ♂	Sir T. Lawrence
Leechianum	= aureum ♀ × nobile ♂	Cookson
Lucea	= Findlayianum × Ainsworthii	Swan
Lutwycheanum	= Wardianum × splendidissimum grandiflorum	Sir T. Lawrence
melaoniticum	= × Ainsworthii ♀ × Findlayianum ♂	Lutwyche
Mentor	= primulium × superbum	Veitch
Micans	= Wardianum × lituiflorum	Veitch
Murthianum	= oobile = Wardianum	Measures
Murrayi	= .. = albo-sanguineum	Cookson
Nestor	= Parishii ♀ × superbum anosum ♂	Winn
Niobe	= tortile × nobile	Veitch
Owenianum	= Linawianum ♀ × Wardianum ♂	Sander
Porphyrogastrum	= Huttoni ♀ × Dalhousieanum ♂	Veitch
Rainbow	= Findlayianum × Ainsworthii	Sander
Rhodostoma	= Huttoni × sanguinolentum	Veitch
Rueblingianum	= Ruckeri × nobile	Pitche
rubrum	= Leechianum × nobile nobilium	Cypher
.. grandiflorum	= splendidissimum grandiflorum × oobile nobilium	Cypher
Sandera	= oobile albiflorum ♀ × aureum ♂	Sander
Schoeiderianum	= Findlayianum × aureum	Holmes
Sibyl	= bigibbum × Linawianum	Cookson
splendidissimum	= aureum × nobile	Veitch
striatum	= japonicum × Dalhousieanum	Veitch
Thalia	= Ainsworthii × nobile nobilium ♂	Sir T. Lawrence
Vannerianum	= japonicum ♀ × Falconeri ♂	Vanner
Venus	= Falconeri × nobile	Cookson
Virginia	= japonicum × Bensoniæ	Veitch
Wardiano-aureum	= aureum ♀ × Wardianum	Veitch
.. japonicum	= japonicum × ..	Veitch
Wiganie	= nobile ♀, sigoatum ♂	Young
xanthocentron	= Findlayianum × ?	Sir T. Lawrence

## NATURAL HYBRID DENDROBIUMS.

bibratulo-ch'orops	= bibratulum × chlorops	
Donesia	= formosum × infundibulum	
melaophthalmum	= Wardianum × crassinode	
Pitcheianum	= primulium × nobile	
polyph'ebum	= Pierardii × Parishii	
Rofe	= primulium × oobile	
rhodopterygium	= Pierardii × Parishii	
Statterianum	= Bensoniæ × crystallinum	
Wattii	= infundibulum × flexuosum	
<b>GARDEN HYBRID DISAS.</b>		
Diores	= Veitchii ♀ × grandiflora	Veitch
Kewensis	= grandiflora × tripetaloides	Watson
Langleyensis	= racemosa × tripetaloides	Veitch
Premier	= tripetaloides × Veitchii	Watson
Veitchii	= grandiflora × racemosa	Veitch

## GARDEN HYBRID EPIDENDRUMS.

Delleuse	= xanthium ♀ × radicans ♂	Baron Schroder
Elegantulum	= Endresio-Wallisii × Wallisii	Veitch
Endresii-Wallisii	= Wallisii × Endresii	Veitch
O'Brienianum	= erectum × radicans	Veitch
Walliso-ciliare	= Wallisii × ciliare	

## GARDEN HYBRID LYCASTES.

Imeschotiana	= Skinneri ♀ × cruenta	Imeschot
Schoenbrunensis	= Skinneri × Scbillieriana	In Emperor of Austria's garden

## GARDEN HYBRID MASDEVALLIAS.

Acia	= abbreviata ♀ × Chelsoni ♂	Hincks
Amesiana	= Veitchiana ♀ × tovarensis ♂	Sander
Amoelia	= × Chelsoni × Reichenbachiana	Veitch
Cassiope	= triangularis × Harryana	Hincks
caudato-Estradae	= Estradae × Shuttleworthii	Veitch
Chelsoni	= Veitchiana × amabilis	Veitch
Courtauldiana	= rosea × Shuttleworthii	Veitch
Curlei	= macrura × tovarensis	Curle
Doris	= triangularis × racemosa Crossii	Hincks
Ellisiana	= Harryana × ignea	Veitch
falata	= Linden × Veitchiana	Drewett
Fraeri	= ignea × Linden	Fraser
Gairiana	= Davisii × Veitchiana	Veitch
Gelengiana	= Shuttleworthii × xanthina	Sander
glaphyrantha	= infracta × Barlesana	Veitch
Heathii	= ignea rubescens × Veitchiana	Heath
Henrietta	= ignea erubescens × Shuttleworthii	Ames
Hinckiana	= tovarensis × ignea	Hincka
ignea-Chelsoni	= ignea × Chelsoni	Ames
Jessie Winn	= tovarensis × Davisii	Winn
Kimbilliana	= Veitchiana × Shuttleworthii	Sander
Mary Ames	= ignea × Gairiana	Ames
McVittie	= tovarensis × Veitchiana	Stevens
Mensuriana	= .. × amabilis	Sander
Mundyana	= ignea aurantiaca × Veitchiana	Sander
Leda	= Estradae ♀ × Armini ♂	Hincks
Parlatoreana	= Barlesana × Veitchiana	Veitch
Rebecca	= ignea erubescens × amabilis	Ames
Rustonii	= .. Fchartii × racemosa Crossii	Hincka
Shuttryana	= Shuttleworthii × Harryana	Sir T. Lawrence
splendida	= Barlesana × Veitchiana	Natural hybrid
Stella	= Estradae × Harryana	Hincks
Veitchiano-Estradae	= Veitchiana × Estradae	Hincks

## GARDEN HYBRID MILTONIAS.

Bleuana	= vexillaria ♂ × Kerdii ♂	Bleu
.. var. nobilior	= .. × ..	Bleu
.. " virginialis	= .. × ..	Bleu

## GARDEN HYBRID PHAIUS.

amabilis	= grandifolius × tuberculosus	Veitch
Cooksoni	= .. × Humblotti	Cookson
Cooksoni	= Wallichi × tuberculosus	Cookson
Gravesii	= .. × grandifolius	Graves
hybridus	= grandifolius × Wallibii	Drewett
maculatus grandifolius	= .. × maculata	Veitch
Marthe	= Blumei × tuberculosus	Sander
Oweniana	= bicolor × Humblotti	Sander

## GARDEN HYBRID PHAIO-CALANTHE.

Arnoldi	= C. Regneri ♀ × P. grandifolius ♂	Sander
inquinus	= P. " × C. vestita	Veitch
irroratus	= P. grandifolius × C. Veitchii	Veitch
inspiratus	= .. × C. Masuca	

## GARDEN HYBRID PHALENOPSIS.

Amphitrite	= Sanderiana ♀ × Stuartiana ♂	Sander
Artemis	= amabilis × rosea	Veitch
F. L. Ames	= .. × intermedia	Veitch
Harriette	= .. × violacea	Veitch
intermedia	= Aphrodite × rosea	Veitch
Joho Seden	= amabilis × Luddemaniana	Veitch
Leda	= unknowno	Veitch
Ludde-violacea	= violacea × Luddemaniana	Veitch
Rothschildiana	= Schilleriana × amabilis	Veitch
Vesta	= Aphrodite × rosea leucaspis	Veitch

## NATURAL HYBRID PHALENOPSIS.

alcicornis	= Schilleriana × amabilis	Low
delicata	= intermedia × rosea	
intermedia	= Aphrodite × rosea	Veitch
.. " Portei	= Aphrodite × rosea	
.. " Brymeriana		
leucorhoda	= Aphrodite × Schilleriana	Low
speciosa	= Luddemaniana × tetraspis	
Valentini	= cornu-cervi × violacea	Low
Veitchiana	= Schilleriana × rosea	Veitch

## GARDEN HYBRID SOBRALIAS.

Amesiana	= xantholeuca ♀ × Wilsoni	Sander
Veitchiana	= macrantha × xantholeuca	Veitch

## GARDEN HYBRID THUNIA.

Veitchiana	= Marshalliana ♀ × Bensoniæ ♂	Veitch
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## GARDEN HYBRID VANDA.

Miss Joaquim	= Hookeriana × teres	Joaquim
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## GARDEN HYBRID ZYGOPETALUMS.

Clayi	= maxillare × crinitum	Clay
crinito-maxillare	= .. × ..	Rothschild
leucochilum	= Mackayi ♀ × Burki ♂	Veitch
pentachromum	= .. × maxillare	Veitch
Perrenondi	= intermedium × maxillare Gautierii	Peeters
Sedeni	= Mackayi × maxillare	Veitch

## GARDEN HYBRID ZYGOCOLAX.

Veitchii	= Z. crinitum ♀ × Colax jugosus	Veitch
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H. J. Chapman, Cambridge Lodge, Camberwell.



## HARDY FERNS.

To the student of our native Ferns, their various individualities, not merely of perfected form, but of the previous stages of development, present many interesting features, since although one and all of them go through that curious process of unrolling of their parts, which is one of the chief characteristics of the Fern family, yet each species does this in its own peculiar fashion. Later in the season, when the young fronds are rising amid a feathery host of unfolded ones, these peculiarities are less noticeable than when the first awakening breath of spring stimulates to growth the dormant crowns, and the firstlings of the season rise up in isolated prettiness to start the summer campaign.

From the crowns of the Lady Ferns, hitherto mere unsightly brown clumps, spring dozens of slender stalks, bearing their future fronds in tightly-picked balls at their tips, or it may be shaken out loosely, crozier-fashion, in their next stage of development. The Broad Buckler Fern, with darker green and bolder growth, is distinguished also by its almost black scales enveloping somewhat flattened balls from which the wide basal pinnae speedily assert themselves and show the species. The male Ferns are shooting up their tawny fronds, thickly clothed with dark-brown, somewhat fluffy-looking scales, and do not form a ball at all, the long, pendulous, crozier-shape appearing at once with only the extreme tip of the incipient frond remaining rolled up to match the symmetrical double row of incurved pinnae. The Shield Ferns, besides retaining a large share of their still green fronds, assert their originality at once by protruding their young fronds thickly decked with almost snowy-white scales, and subsequently develop these in a different fashion to their neighbours, the tips of the fronds falling backwards, and forming reversed croziers of remarkably pretty pendulous habit, the snow-white scales extending even to the tip, and adding much to their distinctive beauty. The Mountain Buckler Fern (*Lastrea montana*) can at once be recognised from its generic brethren by forming bright green balls, from which the tips of the reflexed pinnae protrude like *choucroute de frise*—a bunch of hooked points. *L. Thelypteris* (the Marsh Buckler Fern) does precisely the same thing; but they are not found together, the one demanding good drainage, and the other, as its name implies, preferring bog. The Hart's tongue, though sluggish in rising, is showing its white woolly crowns crowded with unopened fronds; while the Polypodies will be seen to be actively extending their creeping rhizomes, and sending up their new growths from every node and terminus. At this stage the Oak Fern (*P. dryopteris*) and the Limestone Polypody (*P. calcareum*) can be at once discriminated, by the former hanging out a pawnbroker's sign of three balls prior to forming its delicate triangular fronds, while the latter forms a short crozier instead; in the subsequent further development of the fronds of the various species, it is curious to note what variety is afforded even where the eventual form of frond and habit of growth may be extremely alike.

Leaving, however, this theme, and turning to its practical application, we grasp the fact that the growing season has commenced, and that therefore the time has now arrived to put our collections in order.

Just after the long rest of winter, Ferns—whether deciduous or evergreen—are in their most vigorous condition, and best able to bear the strain of transplanting or division. The new frondage being also in an incipient stage is not so likely to get damaged in these operations as when fully developed; nor is the drain upon the roots so severe as later on, when large areas of leafage demand their full energies for their support. At this time, too, the drying winds of March are over on the one hand, and on the other, the hot days of summer are still in the future, so that the plants after removal or division, have everything in their favour, and in a month's time will become well established, and show no signs of the operations they may have suffered.

Before giving a few hints as to division and

arrangement, we would here enter our annual protest against the almost exclusive use of our common British Ferns, i.e., the normal forms, for furnishing so-called hardy ferneries. In hundreds of these we find not only no varieties at all, but repetitions *ad nauseam* of only some six or seven species out of our native forty odd. The common Male Fern, Lady Fern, Broad Buckler Fern, Hart's-tongue, Polypody, and Shield Ferns covering the whole area, while here and there a specimen, often half-starved by drought, of *Osmunda regalis*, is supposed to give an air of rarity. Now, the whole of these (excepting, perhaps, the last), are as much out of place in a collection proper as our commonest wild-flowers would be in a choice garden; they are, indeed, the weeds and mere raw material from which Nature has fashioned thousands of far more beautiful forms which only figure in collections worthy of the name. At Kew there are many hundreds of these choice types, which have been given and bequeathed to the nation, and we are happy to say, handsomely lodged by the authorities there. A visit thither would afford a liberal education in the capacity of comparatively simple forms of vegetation to evolve others of very different type, some fantastic, some beautiful, but all replete with interest. A large majority of these are in trade hands, and can be obtained at small cost; all, with scarcely an exception, are as hardy and as easy to grow as the "weeds" in question, and yet, *mirabile dictu*, ninety-nine out of a hundred people are either absolutely ignorant of their existence, or so nearly so that due appreciation is out of the question. On the other hand, those few who do take up the study rarely fail to become enthusiastic, especially when they have reached the status of Fern-hunters and Fern-propagators, and have enriched their collection by original "finds" of new types, or improved varieties raised by themselves from spores. One striking fact in this connection is, that while our choicest flowers, fruits, &c., are the outcome of selective culture for many generations, slight grades of improvement being noted and accumulated time after time, nearly all our most striking Fern varieties have been found fully developed growing wild among the common ones whence they sprang. Many forms, it is true, have been improved by selective culture from these "finds," but the actual types, almost without exception, are Nature's unaided products.

As regards division of established plants, those of robust growth, such as the Lady Ferns, various species of *Lastrea* and the Shield Ferns, the individual crowns of which send up their fronds more or less *a la* shuttlecock, most of them in course of time form dense clumps, either by means of offsets at the side, or by a process of fission in the crowns themselves. These crowns can be divided, when old and well-developed, by lifting the plants and gently forcing or tearing them apart with the fingers, the independent bunch of roots attached to each then coming away intact; but with recently-formed crowns it may be necessary to sever the point of junction with a sharp knife, which should only be inserted just far enough for the operation to be completed as above, otherwise many of the interlacing roots will be severed at the expense of the vitality of the plant. Small bulbil offsets appear often in abundance at the bases of the old fronds, and it is best, if possible, to detach these bases with them by forcing them off with a blunt bone instrument. Bulbils on the fronds of Shield Ferns are best treated by severing the entire frond, pegging it down on open soil, keeping them close until established, and dividing them later on when rooted. Ferns, such as the Polypodies, Bladder Ferns, and others, which have creeping rhizomes from which the fronds rise singly, are easily managed; it is only necessary to sever the rhizome into portions bearing each a frond or two and a growing tip—these pegged down on to congenial soil speedily root and establish themselves. Hart's-tongues admit of easy division when more than one centre of growth has formed, a sharp knife being used to sever them. Curiously enough, every base of the old fronds of this species will

yield one or more plant, if cut or pulled off and inserted into soil under glass. It is, however, a month or two before signs of growth appear in the shape of small whitish nodules, generally near the eut edges. Spores sown now will yield nice little plants by the autumn, and will be much forwarded by a little extra warmth until the young plants appear. They should be sown on little nodules of clay or loam, inserted in open compost, the whole being sterilised by a copious drenching of boiling water prior to the sowing, otherwise worms and fungi will upset the crop. The pots or pans must be covered with glass, and kept in a moist place, as they should not require any watering when once sown. If they do, they must be watered from below by immersion, and not from above, as the least disturbance is fatal, and the water itself is apt to convey inimical germs of mosses, &c., which are likely to gain the upper hand. As most of the varieties show to much better advantage when grown as single crowns, we strongly advise division whenever possible. Those which begin by forming bulbil offsets on the side are easily kept to single crowns by removing these as they appear, the result being great additional vigour in the old crown, since it has only itself to support, and the youngsters do not compete with it when established. In time a sort of trunk is often formed, and then the tendency towards offsets decreases, and often disappears entirely. Those which multiply by fission are more difficult to deal with, as it may be a season or two before the crowns are sufficiently individualised to be parted. The small Ferns of caespitose or bunched habit of growth should be left alone to form good specimens, constant division simply spoils them, and their fronds in any case have plenty of room to display themselves. *Chas. T. Drury, F.L.S., F.R.H.S.*

## METHODS OF PROPAGATION.

(Continued from p. 393.)

Do not try to graft Roses on Black Currant stocks to get black Roses, a feat successfully performed by a blacksmith in the Weald of Kent—so they say! Many a time have I determined to go and see this wonderful Rose, but like poor Alphonse Karr, put it off till too late. This is the story as he tells it:—"I was told that the *Fraxinella* (*Dic-tamnus*) when in flower exhales so much essential oil as fragrance at night, that if a lighted candle were approached, the impregnated air would flash up like escaped gas. The *Fraxinella* was not then in flower, but I determined to try the experiment next season. Alas! each year something prevented my doing so, and now I have no garden, and no *Fraxinella* to experiment upon, so fear I shall die without clearing up this important fact."

Returning to the practical, let us learn the methods of Coniferous grafting, but remembering that, however successful this operation may be, grafted plants are never so satisfactory as seedlings, because they rarely make a perfect "leader" or central growing shoot, and symmetry is sacrificed; this is most marked in the Pines and Firs. *Thuias*, *Biotas*, *Junipers*, *Cypresses*, *Retinosporas*, with a few other allied species, may be usefully increased by grafting. The stock for the first two is the American *Arbor-vite* (*Thuia occidentalis*). I have found Lobb's variety answer well (*T. gigantea*). For the next two use the Red Cedar (*Juniperus virginica*); and for the Cypress family take *Cupressus sempervirens*, the funeral upright Cypress, all of which may be bought in nurseries at very reasonable prices as two or three-year seedlings. They should be potted for use as stocks, avoiding corkscrewing the roots, or allowing them to remain in the pots so long that the roots take that form. For the many fine varieties of Larch, as Kämpfer's golden form, introduced from Japan by Kämpfer as early as the close of the seventeenth century, use the common Larch as foster-parent. The other Larches are perhaps only botanically interesting, while the elegant weeping form of *L. europæa* is best increased by inarching or "approach grafting" in the open air, a process that will be noticed

\* *Le Retour du Jardin*, par Alphonse Karr.

later. The Ginkgo, known also as the Maidenhair tree, from its wedge-shaped, pedulous leaves, resembling those of the Maidenhair Fern, should be grafted on the Larch; as may be, allied species, such as the Dammar Pine, and probably *Taxodium distichum*, the deciduous Cypress, but the Dammar is not hardy, and only fit for the decoration of winter gardens or large conservatories.

For the true Pines, no stock is more handy and suitable than the Scots Pine (*P. sylvestris*). Here, however, a caution is necessary, for if potted into small pots for the purpose of inside grafting, the roots become cramped and assume the corkscrew-form, which, in some cases that I have known, caused severe stunting of the trees after some years of growth. Pot only those seedlings, therefore, as stocks which possess short fibrous roots, and do not twist any of these the more easily to get them into the pot, and in that manner initiate the corkscrew-twist. In March, take some of the established stocks, and having selected scions from the Pines, which should if possible be leaders you wish to increase, cut the stock about half through, and then make a tongue (as it is called) in the wood half-way down the cut. Prepare the base of your scion in the same way, leaving the growing point or bud intact, and then adapt the scion to the stock accurately, so that the cambium layer of each coincides; bind the two together closely with Raffia or worsted, and cover with prepared clay, and place the stocks in the dark under the staging of the pit for a day or two. Take them out after that lapse of time, and smear the union again with clay, plunging them in a close case in the propagating-house for a week or two, in which time a perfect union will have formed. Do not keep the young plants very moist, but occasionally sprinkle them with a fine-rose can. After gradually hardening-off the plants, they may be quartered out in the nursery bed, taking care to heap the soil over the point of union.

This method will serve for all the Pines, but the beginner will find the needle-like leaves interfere with his work. Do not roughly pull these off, but use a sharp pair of Grape-thinning scissors to remove them before using either stock or scion. *Experience.*

## INTERDEPENDENCE OF PLANTS AND ANIMALS.

(Continued from p. 393.)

"IN the savannah rises a great Eta Palma, perhaps 60 feet high, its mass of roots standing above the water as a mound, from whence proceeding the rough but bare stem to a height of 50 feet, where the great dome of fan-shaped leaves crowns its apex. Here are no rivals of its own kind, no bush ropes or smothering creepers, and hardly anything to dispute its claim as monarch of all it surveys. Even here, however, are signs of interdependence. Below the crown stand the remains of a hundred clasping leaf-stalks of different ages, their axils filled with decaying vegetable matter, in which revel the aerial roots of that unique Orchid, *Catasetum longifolium*. With ribbon-like, flexible leaves streaming downwards and great flower-spikes slightly bent outwards to greet the sunlight, this plant also appears to have no rivals; however, we want the Orchids, and must get them, and the only way to do this safely is by cutting down the beautiful Palm. We regret this necessity, and even go so far as to send one of the negroes (a well-known Cocoa-nut gatherer) to bring down a plant; but he gets started at a small gecko lizard, and with a cry of "A wood-slave bite me," comes down with nothing but one of the *Catasetum* bulbs, which he has hurriedly torn off in his fright. The poor little reptile could not injure him in any way; but as our specimens would be useless if torn to pieces, we resolve to cut down the Palm. At first the axe rings on the hard trunk, as if both instead of one were made of steel; but presently, as an entrance is made, the wood proves quite soft. Then the mighty prince of the vegetable kingdom, as Linnaeus would have called it, bends over, and comes crashing down, and throws up sheets of water and mud as it

strikes the surface of the swamp. We wade towards the crown, and begin feeling below for the *Catasetums*, and presently notice that the water is black with ants, which soon make their presence known most unmistakably by their virulent bites. However, we are not to be daunted by these pests, and soon manage to loosen an Orchid, bringing with it a nest of hairy spiders, the dreaded wood-slave, a little harmless snake, quite a number of cockroaches, and two or three beetles. We also discover that several plants have entered into competition with the *Catasetums*, including a small species of *Vanilla*, a few *Ferax*, and one or two *Genereae*.

Like an island in the sea, this Palm-crown stood far away from dry land, till it became a little world in itself, with carnivorous and herbivorous animals, and plants, all living, fighting, and killing each other, but still keeping up the balance of life. Although we are continually speaking of "the struggle for existence" and "survival of the fittest," few, it seems, are able to appreciate what these sentences mean; but to the naturalist in the forest, they are full of suggestions. If it were possible to have absolute peace throughout a world where there was no difficulty, sickness, or death, it could only consist with a dullness of which we can hardly have any conception. From the lowest plant to the highest animal all have to work hard, and get material to build up and keep alive those beautiful structures which we admire so much. Except a very few, all live by the destruction of others, and have to be continually trying to circumvent their neighbours to escape extermination. How exactly they are fitted to contend with adverse circumstances, is shown by the fact that so many survive; and, although in the long ages which have passed since life first originated on the earth, the destruction has undoubtedly been enormous, it must have been always of little importance in comparison with the survivals.

This is beautifully exemplified in a thousand ways. Here in the forest we see evidence of enormous developments having taken place in the past; and, what is of far greater importance, actually in progress before our eyes.

Some objectors to evolution have gone so far as to state that variation is mainly due to man's interference; but when it is considered that cultivation is applied for the purpose of perpetuating certain characters, and developing them at the expense of others, we see at once this cannot be true. Even the original divergencies which he utilises took place entirely apart from his influence, and however he may try to produce certain changes, he can never succeed unless the initiative has already been taken.

The examples we have just given are illustrations of the more active side of the great struggle, but a thousand others might be quoted where plants at first sight appear almost passive. Yet even here a grand work is always in progress, in every case more or less connected with the interdependence between one life and another. Without the tree the epiphyte or parasite could not exist as such, without the flower the bee would be starved, and without the numerous fertilising agents most plants would be unable to produce seeds. In temperate climates the woods are made up of two or three species—sometimes of only one. These blossom almost simultaneously, and their pollen floats upon the wind to long distances. Here in the tropics, however, things are different; the wind has little power over such a mass of foliage. Whether looked upon from above or examined carefully from beneath, the undulating roof seems perfectly still. The branches are rigid, the leaves stiff, and even the flowers thick in texture. There is nothing comparable with the Birch or Beech, much less the trembling Aspen. The changes produced by a sudden gust upon these trees are entirely unknown here, as are also those beautiful effects of light and shade which delight the painter and poet. It follows, also, that such yellow clouds of pollen as hover round the Pines are entirely wanting, there not being, as far as can be seen, a single wind-fertilised tree in the Guiana forest.

Being unable to utilise the air currents, the flowers

have had to look round for efficient substitutes, and these are found in the host of insects which hang in clouds over the forest canopy by night, and buzz around in swarms during the day. Even birds are utilised by some of the larger flowers, the pollen collecting on the bristles at the root of their beaks. Without living helpmates, many a tree would become extinct, therefore every effort is put forth to attract and induce winged creatures to render this assistance. The principal means to this end are colours and perfumes, the former for diurnal and the latter for nocturnal insects. Brilliant colours are of themselves sufficient to attract butterflies and bees; lurid and dull tints are usually accompanied by odours more or less disagreeable to our senses, but pleasant to flies. It might be suggested that in the one case the flowers are gaudy, because they are open to the fierce rays of the tropical sun, while the others are the contrary, on account of their blooming in the shade. But with the apparent capability of choosing between the ends of the branches, the axils of the leaves, and the trunk, all attain their object, whichever place they have selected. Here and there in the forest, we come upon a tree, the flower-stems of which originate below the canopy of leaves, and this appears so strange that we wonder why such exceptions occur, and what particular advantage is derived from this position. Except that here they are more in the way of the shade-loving insects, we know of no other reason, and must at least accept this provisionally. The Cacao is an interesting example, and it can hardly be considered as having degenerated, but rather as being most beautifully fitted to its environment." *J. Rodway, in 'The Guiana Forest.'*

(To be continued.)

## CULTURAL MEMORANDA.

### RICHARDIAS.

THE fine habit, rich green foliage, and large white or yellow spathes set well up above the foliage, cause these plants to be much employed for decorative purposes in the cool conservatory and the dwelling during the winter and spring, and there is scarcely anything of more use than plants of *R. aethiopicum*, if well grown in 10 and 6-inch pots. They will stand in good condition for several days without injury in a room, and the spathes when removed from the plants and arranged with their own leaves in vases are quite as effective and as lasting. The ease with which *Richardias* can be grown and increased by division, or by seeds, is another reason of their advance in favour. The seeds if sown on a gentle hot-bed, in pots of rich soil, and abundantly watered, soon grow and make rapid progress. The plant is very satisfactory when planted out in beds and borders under glass, and when well mauged in such situation it is seen to perfection, especially if the house is a warm one. They should always be kept free from aphides, which is best done by fumigation. The plant does not require any great degree of heat to have it in bloom during the winter until April, if proper attention be paid to its requirements after it has flowered; in fact, it should be grown well, and the bulbs matured well, and then rested by turning the pot on its side in a shady situation during the month of July. In August it should be re-potted if the soil be soured, or root-space is too limited, otherwise re-potting is not necessary every year; and those which are cultivated in 10-inch pots will stand and flower satisfactorily for several years with an annual top-dressing of rich soil and good drainage. When a *Richardia* has filled its pots with roots, manure-water ought to be liberally afforded during the growing and flowering season. Place them under glass early in the month of September, and in many cases the plants will begin to produce spathes without forcing in the month of November, and afford a succession of them throughout the winter and spring. The plants may be forced slightly if it is desired to forward the opening of the spathes by placing those that are showing spathes in a warm-house. *Richardias* should

never be placed under the shade of other plants. There are several beautiful varieties, but none with a scarlet spathe like *Anthurium Andreanum*, but there is hope that this will come in time. The variety *R. nana*, "Little Gem," is very useful for forcing in 3 or 4½-inch pots for use in table decoration, and it requires a little more heat than *R. æthiopica* to get it into flower. The beautiful species, *R. Elliotiana*, with yellow spathe and spadix, and dark green leaves, mottled with white, is a fine acquisition. *B. W.*

MALMAISON CARNATIONS.

Plants that are now showing their flower-buds may be greatly benefited by a little clear soot-water or Davies' artificial manure dissolved in the water when watering them, on two occasions in each week. The plants should receive every attention with regard to watering and ventilation; never keep them closed up, except in very sharp and severe weather. The spread of leaf fungus is ensured by the plants not being sufficiently ventilated, and having too much moisture about them. Green-fly may be easily got rid of by fumigation, and this should be done as soon as they make their appearance, it being the fly which causes the spot on the young leaves. Plenty of air is very essential to the plants in many ways; it induces good strong, healthy foliage, which is always a sign of good cultivation. Old plants generally show flowers first, and they will bear a little forcing if the flowers are specially required early, but the practice is by no means satisfactory. It is far better to wait if possible, and have a fine display of good flowers. I have had over 1000 well-developed blooms expanded at one time, and such a number made a grand display when arranged in a suitable house. I prefer cuttings rather than layers as a means of propagation, having found them do better in my experience. I strike them in a gentle hot-bed about the commencement of May. A bed is prepared for them of stable-manure and leaves, with about 3 or 4 inches of cocoa-nut fibre refuse in which to plunge the pots. Cuttings should be taken from two-year-old plants, as these are not worth keeping longer. The cuttings are nicked to the joint, and then inserted singly in small 60-pots, and they root very freely. When they are rooted, let them remain for a time in the bed, and give them more air. The lights may be taken off altogether, except when very wet weather prevails. Potting should be effected when they are sufficiently rooted, and the plants returned to a cold frame in a sunny aspect. By August they will be ready for their flowering pots, and this will give them every chance to fill the pots with roots before the short days come. Use a compost of one-half good loam, and the remaining half peat and leaf-mould, mixing with it a little soot and a sprinkling of Thompson's Bone Meal, with a like portion of sharp sand. *G. H.*

about 1629, as may be seen in some of our oldest trees when cut up at the saw-mill. It is also on evidence that the disease exists alike in trees grown from seed imported from the Tyrol, as well as in those of home growth selected from the healthiest of British trees. [It is indigenous to high alpine regions, and is found on trees there a hundred years old. *Ed.*] It has been further satisfactorily proved that the chemical properties of soils do not determine or settle anything regarding the disease, for sound trees are found growing identically on the same quality of soils as others, virulently diseased. What is said of soils may with equal truth be said of both altitude and exposure, for neither do high altitudes always produce diseased trees, nor low altitudes sound ones. Exposures in like manner determine as little as altitudes do, so far, at least, as regards the form of disease under consideration, namely, blister.

rapidly. The blister in the Scots Fir, *Peridermium Pini*, operates very much in the same manner as in the Larch, but attacking the bark of trees that are not older than twenty-five years, gradually growing round the stem, but more vertically till it ultimately stops in great measure the ascent of the sap, causing the death of that part of the tree above the wound, and the top breaks off by the next gale. [According to the teaching of R. Hartig, see the *Diseases of Plants*, translated by Professor Marshall Ward and W. Somerville, p. 172: "How the disease occurs, whether by infection through wounds, or abrasions such as are induced by insects, wood-peckers, hailstones, &c., remains for the present undetermined. The mycelium spreads by intercellular growth amongst the cells of the cortex and of the bast, from which it proceeds by way of the medullary rays into the wood to the depth of about

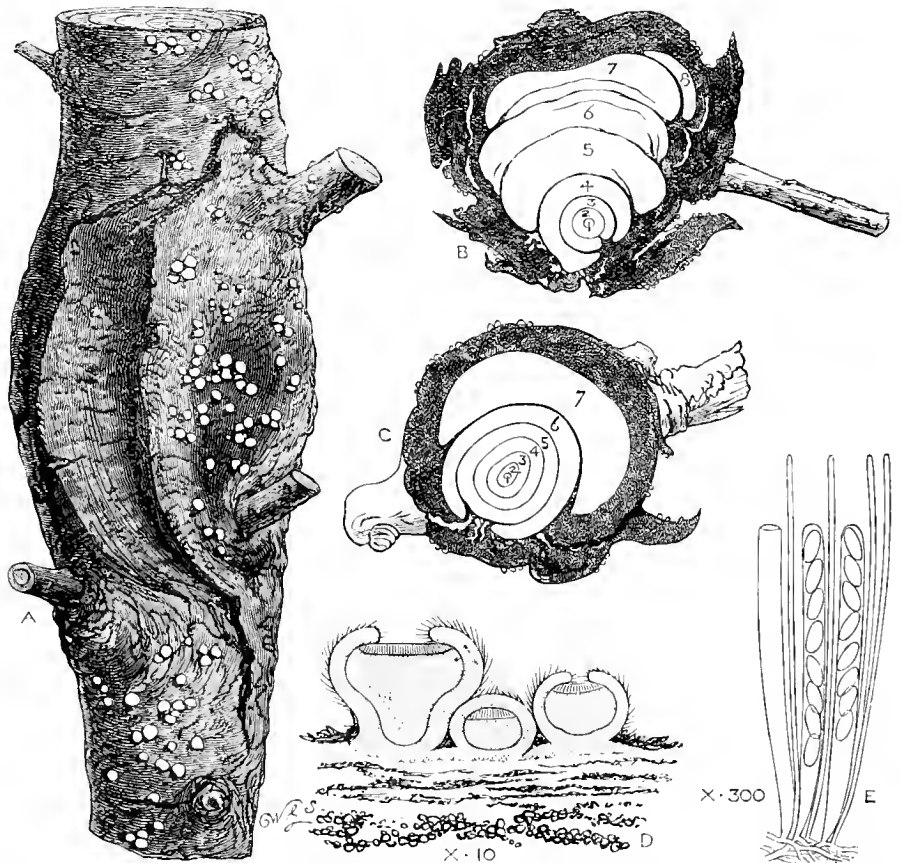


FIG. 64.—LARCH DISEASE.

A, Branch, with Peziza (nat. size); B, C, Sections, showing the annual rings; D, Section of Peziza (magn.); E, Asci, containing Spores (magn.) (See pp. 434, 435.)

HOME CORRESPONDENCE.

**THE LARCH DISEASE.**—I will briefly recapitulate some of the statements I have made in these columns and elsewhere from time to time, on this no less important than regrettable subject, the Larch disease. I may state, in the first place, a few of the points upon which I assume all foresters are agreed; secondly, those on which they differ; and thirdly, I will indicate the best preventive means to ward off attacks of the fungus, for I do not say there is, or ever will be found, a cure for it. The disease termed blister, caused by *Peziza Willkommii* (figs. 64, 65), is neither a root nor leaf disease, but essentially a bark disease, in the same sense as we speak of skin-disease in animals. Blister is not restricted or confined to any particular stage of growth or age of the plants, but is found alike in the nursery, in seedlings of a year old, and in the transplanted lines at any stage of growth. It is also found existing in trees of fifty years' growth, and probably also in trees twice that age. Blister is not confined exclusively to any particular locality, nor to one country more than another, but is found to exist less or more in all parts where Larch is growing. It is also evident that blister has existed in the Larch ever since its introduction into this country

Seeing, then, that this disease in the Larch is so general, if not universal, the two-fold question still further confronts us, "Why this disease exists (or is at least supposed to exist), alone in the Larch tree and not in the Scots Fir, or in any other species of the various common forest trees growing side by side with it?" Before arriving at any settled conclusion on this point, however, let us pause, and distinguish between things that though they resemble each other yet differ. It is true that Larch is, on the whole, more affected by blister than any other forest tree with which we are acquainted, but that does not prove that other species of trees are not less or more affected. On the contrary, we find a very aggravated form of blister in the Scots Fir woods and plantations, and rather more prevalent in the natural forests, especially in the Pine-growing districts of Deeside, Strathspey, and the Highlands generally, than in artificial plantations. What mean those red-topped trees conspicuously studded all over our great Pine forests? Let us examine them, and we shall find blister as the producing cause, operating slowly in some cases it is true, but in others with marked

4 inches. . . . The top of a diseased tree of Scots Fir is specially liable to die during a warm, dry summer, when the wood, having for the most part undergone resinous degeneration, is unable to allow sufficient water to pass to compensate for the rapid evaporation from the crown." Branches and twigs on old trees begin to die after the trees have been diseased for a few years. *Ed.*] The Beech tree, also, is very liable to blister, and though it operates in a way different from what it does in Conifers, owing to the absence of resin in the sap, yet the same producing-causes are at work in the one case as in the other. In the Beech tree of any age, but more generally in old rather than in young trees, the disease makes its first appearance in the form of a small hole or puncture in the bark, as if done with an instrument, from which the sap exudes less and more abundantly in an ioky colour. These wounds seldom occur singly, but several generally appear together within a square foot of bark surface. By-and-by, the bark around the wounds assumes a dark-brown colour, and becomes detached from the tree, and when it extends all the way round the stem

which it frequently does, then the tree is doomed. [The infection by *Nectria ditissima*, the species of fungus causing canker in the Beech, takes place by means of wounds, abrasions, &c. Ed.] The Ash tree often suffers from blister, in the same way that the Beech, Larch, and Scots Fir do, but in the Ash it operates in a somewhat different way from what it does in the Beech. It commonly takes the form of vertical fissures in the bark, and seldom extends horizontally round the tree. By this form of development it will be seen that it is not so fatal to the tree as if it extended round the stem instead of up and down it. Indeed, it has been mistaken by some for the result of a slit made by a knife rather than a disease. I have said it is generally in longitudinal scars extending up and down the tree, but not always so, for it also, though less frequently, assumes a rough protruding excrescence over the whole surface of the tree affected; but even in this latter form it is seldom fatal to the tree. We might also classify that form of disease in Apple trees which the gardeners term canker, amongst those enumerated, but as I intend saying something more about the Larch blister, and to point out both its primary and secondary causes, I shall in the meantime close these observations. *C. Y. Michie, Cullen House, Banffshire.*

— This scourge of the Larch, under certain conditions of climate, soil, and locality is now well-known to be the result of a parasitic attack of a small fungus, *Peziza Wilkommii*, indigenous to the same regions in the Alps as the Larch. According to Hartig, in his *Diseases of Trees*, p. 121 (the latest and best authority on the subject), the Larch blister has been in evidence on the trees in these regions from time immemorial. "It occurs, however, with marked intensity in damp muggy valleys in immediate proximity to lakes (eg. the Achensee in the Tyrol, &c.), though on plateaus it may also destroy a small tree here and there. Owing to the prevalence of air-currents, freely-exposed Asocarps never ripen on plateaus and valley-slopes. The Asocarps ripen only on those blisters which are situated at the foot of the stem close to the ground, or on blistered branches that are in contact with the earth. This is owing to the surrounding high grass sheltering the young Asocarps against air-currents, and so keeping them moist." So far as anything has been proved by careful investigation in this country, the prevalence, or otherwise, of the blister on the Larch has followed the same lines as are so admirably set forth in this work of Hartig's, which should be closely studied by every forester who desires to be a master of his profession. The work has been skilfully translated into English by Dr. Wm. Somerville, and revised and edited by Prof. Marshall Ward, which is sufficient warrant for its technical accuracy and its adaptability to the wants of British readers. In the autumn of 1894, the English Arboricultural Society issued a series of queries in a circular to its members in reference to the Larch disease (properly called Larch blister, to distinguish it from other fell diseases to which the Larch is subject), and received replies, more or less complete, to the sixteen questions asked in the circular from forty members of the Society. Those replies came mostly from foresters and other members of the Society residing in the northern counties of England, or north of a line drawn from the Humber to the mouth of the Cheshire Dee, and probably included the worst districts infested with the Larch blister to be found in the United Kingdom. The returns thus obtained were placed in the hands of Dr. Wm. Somerville, the translator of Hartig's *Diseases of Trees*, who gave the results in an able and exhaustive "Report," which was published in the *Transactions of the Society*, vol. iii, part iv., pp. 363 to 386. That report gives, in a clear and concise form, the latest information available to the public, on the prevalence of the Larch blister in the districts reported upon, and suggests many points of the greatest value to those interested in the successful culture of the Larch. It does not seem to be known, however, to some of your correspondents in the district; but your correspondent on p. 167, Mr. A. C. Forbes, contributed to that report, and is no doubt familiar with the Larch disease known as blister in all its varied aspects, although his reference to the supposed absence of the blister from the Larch in Ireland requires qualification. Being interested in the condition of the Larch grown in Ireland for the past thirty years, I am of opinion that there is no appearance at the present time that the blister is increasing, either in its virulence on the percentage of trees attacked, and in many districts it is so rare or non-existent, that the owners of Larch plantations and their

foresters stand in no dread of its spreading. They may not be fully posted-up in the advanced theories for the existence and the suppression of the blister; but their methods of planting the Larch, almost invariably in mixed plantations, and the teachings of their own experience, not to plant Larch on low-lying sour soil, and in muggy spots—aided possibly by a genial climate, and the comparative absence of heavy snowfalls, and severe or late spring frosts—have rendered their efforts thus far an undoubted success. An individual tree, on a small area in an unsuitable spot, may be found, up and down over the country, severely attacked; but from Cape Clear to the Giant's Causeway, the robust health and vigour of the Larch, and its freedom from blister, is well known to every forester in the country, as well as to the timber merchants, and is a frequent source of note and observation to intelligent travellers in the Green Isle. In view of the contemplated promotion

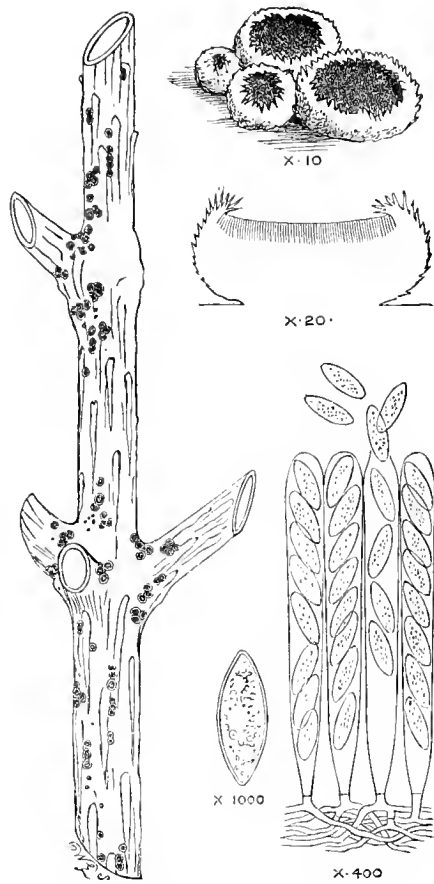


FIG. 65.—PEZIZA WILKOMMI: Cluster Cups magn. 10 diam.; Section of Cup magn. 20 diam.; Spore Capsules or Asci magn. 400; separate Sporidium, magn. 1000.

(See "Larch Disease," pp. 434, 435.)

by the Government of extensive planting of forest trees in Ireland, the comparative immunity of the Larch from blister is a source of much encouragement; and by taking advantage of the knowledge already gained by science and experience, there is little to be dreaded from the ravages of blister in Larch plantations, such as they suffer from so severely in many parts of Great Britain. Heart-rot is a more insidious evil in Irish Larch, and spoils the sale of many promising fellings; but heart-rot is not blister, and when the nature of it is as well known as that of the latter, it will possibly prove to be more easily avoided. In hot seasons the aphid, *Chermes Laricis*, does considerable damage in some parts of Ireland to the foliage of the Larch; but although the aphid attack is said to open the door to the ingress of the fungus causing the blister, it has not yet been clearly proved, in Ireland at least, that the *Peziza* attack follows the aphid, and plantations badly infested with aphid for a few seasons have shown no tendency to become blistered in after years. The spores of the *Peziza* may not have

been present; but the fact remains that the aphid-infested Larch escaped the attack of blister. A careful study by a capable man of all the conditions and peculiarities of the locality it is desired to plant, will go a long way to insure success in forest planting, and will greatly mitigate the disappointments arising from the failure of Larch, or any other well-known trees, if it cannot absolutely prevent them. *Laricis.*

— There appears to be as great a diversity of opinion on the origin or cause of the Larch disease as there is on many of the other mysterious diseases affecting the animal and vegetable kingdoms. Having had the privilege of a long life, and had something to do with the management of woods, I may be permitted to give the result of my experience. On looking back sixty years, I can remember the Atholl woodmen making remarks on the Strathord plantations. They alleged the Larches in that district were not thriving, nor were they in a very flourishing condition where more extensively grown near Dunkeld. The trees had become branchy, abnormally fruitful, and cankered-looking. In course of time the stems and branches presented the usual features of ulceration. Some of these plantations have long since been removed. It was deemed expedient to fell them, because they had ceased growing, and it was found on cutting them down that many of the trees were frush or pumped at the core, as well as ulcerated. The curious and unfortunate circumstance connected with the subject is, that notwithstanding the diseased condition of these plantations, seedsmen were in the habit of sending cone-gatherers to them every winter to enable them to stock their nurseries, and supply the market with degenerated plants; and I believe this shortsighted and culpable practice continues. It was in this way the *Larix*, a native, as is well known, of the continents of Europe and America, which thrived well on being imported into this country about 150 years ago, has had its constitution degenerated. From the healthy appearance of the old trees still standing, and the congenial quality of the soil and situation in which they have been grown, it is obvious that the then Duke of Atholl, and other early importers, took and acted on the advice of the Swiss, Germans, or from whomsoever the plants were originally procured; and it is equally apparent, whatever the true cause of dry-rot or ulceration may be, that later on, in after years, when Larches were more extensively cultivated, sufficient care and skill were not bestowed in selecting suitable ground for them. I knew the quality of the soil of the Strathord plantations referred to, from the fact of my having seen the adjoining lands drained and cultivated. The soil is generally a black or brown loam, on a hard retentive subsoil, and, as usual, the thinnest, poorest, and most moorish land was planted. On visiting the district when the diseased trees were in course of being felled, the forester assured me "the roots having reached the 'till' years ago, the trees were making no progress. On the contrary, they were dying, and the sooner they were cut down the better." From all this I think we may fairly and reasonably deduce that the constitution of this most useful tree, of which we have adopted the two best varieties, the white and red, has been seriously impaired, and that either sort is now rendered unfit for planting out, even in favourable situations, with any prospect of the trees ever attaining a profitable size. I can remember, away back in the fifties, when I had the charge of estates in Inverness-shire, a remarkable instance of the feebleness, or deteriorated physical vigour of the Larch. We had a fine genial spring, like the present, which brought all the early trees into leaf before the usual time. Among the rest, a very promising Larch plantation of fifteen years old, when, most unexpectedly, about the beginning of May, a severe frost set in, and continued for some days, with the most disastrous effect. The foliage, which was fully developed, became as brown as a berry, and while many of the trees were killed outright, the survivors seemed only to make a struggle for existence. The stems and lateral branches soon began to ulcerate, and the whole plantation showed unmistakable signs of being irretrievably ruined. On examining the trees, as I frequently did with the forester, I saw the action of the frost on the ascending sap had burst the bark at the usual points, and from which the resinous fluid flowed freely; and, subsequently, I observed the ulcerations were not free from insect life, but the forester and myself were of the same opinion regarding the presence of the parasites, viz., that they were the



effect and not the cause of the disease, and came there to feed on the vitiated sap exuding from the trees. Excuse me for taking up so much of your valuable space; and allow me in conclusion to say that I am confident there is no cure for this malignant disease, except by importing seed and plants from the natural habitat of the Larch, and choosing congenial soils for their growth. *L. Caputh.*

**THE SEASON.**—The forwardness of the season is very marked in this neighbourhood, and the gardens have the appearance of the end of April rather than March. I cut a small dish of Asparagus on March 26, and another March 28, from a bed in a very exposed position. *H. J. McDonald, North Gate Nurseries, Chichester.*

**THE ROYAL HORTICULTURAL SOCIETY'S RULES.**

—Are these rules on judging to be of any practical use to those for whom they are intended? This question—unless by the members of the committee—still remains to be answered. Previous to publication, the rules were reported by some members to have been so thoroughly cooked, as to suit the palate of the greatest dyspeptic, and calculated to be of the greatest advantage to judges, as well as to soothe the temper and control the feelings of the most discontented exhibitor. Hitherto there has been no demonstration of welcome or note of appreciation for the enormous and protracted labours of the leading lights in British horticulture. This is surely extremely ungrateful on the part of interested horticulturists after receiving such a boon. But most people, I daresay, after reading the code, are suffering the same disappointment I experience myself. Instead of a proper system of judging collections, where the greatest diversity of opinion exists, and to which marked prominence should have been given, we find the chief feature embodied in the code is a dissection of the parts or properties of specimen vegetables, plants, and flowers. To the various properties which sometimes reach half-a-dozen, an estimate of value is given. This must be very trying to the memory of a judge; or will he carry the code along with him? Having devoted a fair share of attention to this subject, I am of opinion that such a division is quite unnecessary, and that cultural and natural value alone should form the basis for the calculation of the merits of any article or collection, with a maximum standard for each element, and a fixed ratio established between the two. This would be on the lines indicated by "Judex," p. 242, in criticising the method of judging collections. On p. 304, "A. D.," who, I assume, is speaking for the committee, says, "The points placed against the different kinds of fruit convey not so much actual as relative value." I suppose cultural and relative is meant. Why not define the relative? which is invariably the bone of contention. There appeared in these columns last year, or the year before, a method of judging collections which I think is the best solution of the matter at present before the gardening public. In that system two columns were provided, one giving a maximum of cultural value, indicated by units, and the other relative value, recorded by decimals. The value of the latter being fixed, unless a small deduction requires to be made for an inferior kind or variety, cultural merit alone remaining as the main issue for a adjudication. If this system could be adopted and affirmed by the same authoritative enactment which brought these rules to light, a weight of doubt and responsibility would be lifted from the shoulders of judges, and exhibitors would know before staging that superior kinds or varieties and cultural ability would each be appraised at its proper value. *Ayrshire Lad.*

—As an exhibitor and judge of some years standing at the principal horticultural shows annually held in this country, I wish to endorse the remarks made by "Judex" (p. 242) on paragraph 50 of rules for judging, and to say that the reply which his remarks have elicited from "A. D." (p. 304) does not in the least affect the case as put by "Judex;" as it is not a question of what the gentlemen who formulated the rules for judging meant, but simply the meaning which the rules, printed for the guidance of judges, exhibitors, and schedule makers, convey. By way of illustrating the relative value of the best all-round examples of the several kinds of fruits and vegetables as set forth in paragraphs 50 and 72 of rules for judging, I should like to be allowed to select two collections of twelve kinds each of fruits and vegetables named in the paragraphs indicated, awarding the maximum number of points allowed to each dish in the four collections, with a view to eliciting the opinion of some of those writers who kindly bestowed so much of their valuable time with

a view to supplying useful information on the questions of "relative value of exhibits," and the making of the awards accordingly, as well as that of the exhibiting and judging readers of the *Gardeners' Chronicle*, in order that sound information and a good understanding may be arrived at on the vexed question before the summer shows begin.

FRUIT.		FRUIT.	
(1) Collection of 12 Kinds.		(2) Collection of 12 Kinds.	
	Points.		Points.
Muscad of Alexandria	10	Pine-apple	10
Grape	9	Madrasfield Court Grape	9
Black Hamburg	8	Melons	8
Pears	8	Peaches	8
Apples	7	Figs	7
Plums	6	Apricots	6
Nectarines	5	Strawberries	6
Gooseberries	5	Cherries	5
Oranges	5	Medlars	3
Corrants	4	Damsons	4
Blackberries	3	Filberts	4
Walnuts	3	Mulberries	3
Cob nuts	4		
	73		73
VEGETABLES.		VEGETABLES.	
(3) Collection of 12 Kinds.		(4) Collection of 12 Kinds.	
	Points.		Points.
Asparagus	7	French Beans	7
Long-pod Beans	6	Cauliflower	7
Broccoli	7	Celery	7
Potatoes	7	Tomatoes	7
Seakale	7	Onions	7
Leeks	6	Peas	7
Mushrooms	7	Carrots	5
Parsnips	5	Cabbage	5
Cabbage	5	Turnip	5
Brussels Sprouts (picked)	5	Vegetable Marrow	5
Savoy	5	Globe Artichokes	5
Endive	5	Beet-root	5
	72		72

Thus, according to the new rules for judging, the two collections of fruit and the two collections of vegetables appearing in parallel columns are placed equal in each case, notwithstanding the fact that the respective collections set out in the right-hand column are obviously superior to those enumerated in left-hand column. The "pointing" is certainly at fault, and should the like happen in practice, following the publication of the Royal Horticultural Society's *Rules for Judging*, it would undoubtedly afford very strong grounds for dissatisfaction being expressed on the part of exhibitors, seeing that according to the real relative value of the individual exhibits there is room for two collections between the two examples given above—that is, room for a second and third—if properly "pointed." Muscad of Alexandria, is properly enough accorded ten points in the code of rules. Foster's Seedling, Buckland Sweet-water, and Golden Queen should not be valued at more than eight points. Madrasfield Court should have nine points, and Black Hamburg one point less. The above refers to Grapes shown during May and four following months, and the following estimate refers to Grapes shown in October and following months: Mrs. Pearson (golden, and of Muscat flavour), nine points; Trebbiano and other whites not named above, eight points; Mrs. Pince's Black Muscat and Gros Guillaume nine points each, and eight points each to Lady Downes, Black Alicante, Gros Colmar, and Gros Maroc. A Pine-apple should be given two points more than Muscad of Alexandria Grape, namely twelve points. A Melon should receive a point more than Peaches, and the latter one more than Nectarines; and Pears should be given a point less than Nectarines. The four last-mentioned fruits are valued at eight points each in rules for judging (page 12), and in which Apples and Figs are accorded seven points each, and Apricots and Plums six points each. Surely Figs and Apricots are superior in every way to Apples and Plums, and the same may be said of Cherries as compared with Gooseberries, which are allowed five points each; and Medlars and Mulberries certainly deserve a point more each than Blackberries—two points being ample for the latter. In the matter of vegetables, Cauliflower is placed on a level with Broccoli. The former, it is stated in paragraph 73, is included in Broccoli, and for exhibition purposes is not distinct from it. This is not quite correct, since the one is quite distinct from the other in growth and quality of "flower"—there is, in fact, as much difference between them in point of growth and quality as there is between a climbing French Bean and a Scarlet Runner. The method adopted from page 16 to page 20 (inclusive) in showing how the number of points allotted to each of the thirty-two kinds of vegetables dealt with are made up is a good one. Although, singularly enough, quality is only accounted for in three cases out of the thirty-two; namely, Beetroot, Seakale, and Vegetable Marrows. Generally the points are made up in this

way—size and form, 2; fleshiness, 2; condition, 2; and colour, 1; total 7. For Runner and French Beans, and in one case—plants of Brussels Sprouts—"cropping qualities" are, in addition to the other conditions, allowed two points. *Pro bono Publico.*

**FORMING A HERBACEOUS BORDER.**—My good friend, Mr. Crump, does not approve (see p. 399) of planting bulbs in herbaceous borders, on the ground that they (the bulbs) are better planted in a border by themselves, adding "the reasons for this are obvious, viz., bulbs do best when left undisturbed for a number of years; whilst herbaceous plants should be mainly replanted once in two or three years. Moreover (Mr. Crump remarks), when the bulbs are in a dormant state, the workman's feet or spade come in dangerous contact with them." The only bulbs referred to in my note on forming a herbaceous border (p. 360) are "Snowdrops and Scillas," which I advised to be planted together with the Aubrietias in tufts from 3 to 9 inches from the edge." As a matter of fact, however, I grow various other kinds of bulbs in the openings between the herbaceous plants, such as Narcissus, Hyacinths, Tulips, &c., and with perfectly satisfactory results as regards both classes of plants. The bulbs have been deeply planted. Hence they are "left undisturbed" from one year's end to another. They do not in any way interfere with the herbaceous plants, and *vice versa*. None but experienced and careful workmen are allowed to work among the plants; and a five-tined digging-fork is used to plant the annual manurial dressing into the border. This implement being generally used in reducing over-grown plants to their proper dimensions, spades and careless workmen being rigorously excluded from the herbaceous borders. I may here remark that the Crocuses, &c. in the beds in our Italian garden have not been disturbed for nearly a quarter of a century, although the beds are manured and dug every year prior to planting for summer and early autumn effect. The bulbs are, or rather were, planted some 14 or 15 inches from the surface, thereby doing away with the labour of taking up and re-planting of the bulbs every year. Reverting to herbaceous borders, I should like to ask Mr. Crump what would there be in them in January, February, March, and April, to attract attention, were it not for the floral display then produced by bulbous plants? Why, a herbaceous border in spring without the aid of bulbs would be blank and very uninteresting indeed, when compared with one close by bright and fragrant with spikes of Hyacinths, consisting of flowers of various delicate and telling shades of colour, Narcissuses in variety, Tulips, &c. Perhaps at no time in the year are flowers out-of-doors so cheering and so highly appreciated as during the above-mentioned months. No doubt, Mr. Crump will be pleased to learn that my list of herbaceous plants include the species which he mentioned at p. 399, and a good many others besides. The plants named in my note, p. 360, were mentioned to illustrate the way in which herbaceous subjects should be arranged in planting, as much as owing to the fact of their being representative kinds and varieties of the very interesting and useful class of plants to which they belong. *H. H. W.*

**GARDENERS AND MACHINERY.**—It is difficult to understand Mr. Mawson's preference for the scythe over the more-modern implements which mechanical skill has placed at the service of the gardener. For my own part, I must confess that I consider the garden labourer who can manage a steam or other mechanical lawn-mower, to be certainly as cunning a workman as the one who can wield a scythe in a proper and effective manner. At the same time, I claim to know the respective merits of a church organist and of the man who turns the handle of a street instrument. I can claim also, I think, the ability to appreciate the difference in artistic value between a piece of hammered iron-work when good and a cast-iron substitute. No doubt Mr. Mawson is right in saying that real handicraft is pushed aside in modern days by the mechanical production of articles of daily use, but this is inevitable in view of the enormous demand; it does not follow, however, that the users of these things cannot distinguish between artistic and simple utilitarian work. I have the greatest respect for the landscape gardener's branch of horticulture, and will yield to few in appreciation of genuine artistic results therein. In fact, I look upon the out-door portion of a garden as the most enjoyable, and a well-kept pleasure-ground as affording more real delight than the best furnished glass-house. I would remind Mr. Mawson that gardeners have to attain certain results, and any means that enables them to do this in the quickest and best way will be welcomed by them; they have no time to waste on

studying the picturesque in workmen or implements. Scythe work, now-a-days, is slow and inferior compared with machine-work where any great quantity has to be done. I do not understand the application of the word "commercialised" in connection with the use of mechanical contrivances in gardens, nor do I see how a gardener's prestige, whatever that may amount to, can be lowered by such use. Private gardens are already "commercialised," in too many instances, in another way. *G. Don, Hawkhurst.*

## SOCIETIES.

### ROYAL HORTICULTURAL.

#### Scientific Committee.

MARCH 24.—A letter was read from Dr. Masters respecting the diseased Carnations submitted to the committee by Mr. Peters, in which he states that the leaves are damaged by a species of eelworm, and advises that the plants should be burnt, as there is no cure for them.

Dr. Russell reported that he is about to begin, conjointly with Mr. Wilks, the planned experiments on the coloration of Apples. Meanwhile, he has analysed and determined the ammonia in the soot which is to be used in these experiments, and found it to contain 4 per cent.

Mr. Colvill Brown, of Hextable, Kent, sent a specimen exhibiting a very remarkable interpenetration of a shoot of a Potato passing right through the substance of another Potato in an oblique direction. [This is probably due to the formation by the shoot of a solvent substance, which enables it to soften and dissolve the tissues with which it is in contact].

### READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

MARCH 23.—A paper on Roses was read by the Rev. ALAN CHEALES before a crowded meeting of the members of the Reading and District Gardeners' Mutual Improvement Association on Monday. The lecture was very practical in treatment and interesting, and was enlivened by witty sayings, poetry, and tales of the ardent and disappointed exhibitor. The subject was very appropriate, seeing that the National Rose Society, in conjunction with the Reading Horticultural Society, will hold their show at Reading in June next.

Mr. CHEALES commenced his paper by saying that it had long been his wish to make the acquaintance of the association, yet when he received the kind invitation from their secretary, it was with some amount of trepidation that he accepted the same, as he knew he would have to speak to practical men; still, he yielded to no one in his devotion to the queen of flowers, and he could give them an experience, as a grower and exhibitor, extending over thirty years. When he delivered a lecture on "Roses" before the members of the Reading Literary and Scientific Society, he devoted himself entirely to the literary and scientific side of the question, and not so much to the practical part; therefore, when coming to speak to practical men, he decided to treat the subject from a practical standpoint, thus his paper would really be "Rose Culture."

By desire he would divide his paper into two parts, so that discussion could take place at the middle and end, thus ensuring all points being thoroughly discussed. First, Roses in general. Preparing the ground, planting, protecting and pruning. Many valuable hints were given under the various headings, the following being specially worthy of notice. The ground should always be well prepared for Roses, as no other flower answered so readily to kind treatment. November was considered the best month for planting. Hybrid perpetuals would stand 20° of frost, and Teas 10°. Earthing-up was certainly the best protection for Teas. Hard pruning always gave the best results. For H. P.'s the last week in February he found the best time for these, and the last week in March for Teas. For climbing Roses the knife should be spared as much as possible.

The second part of the lecture was devoted to propagating, hybridising, and obtaining blooms for exhibition. The quickest results were obtained by budding, but attention should be given to the raising of cuttings and seedlings. A few years back France was to the front with seedling Roses, but latterly England has rapidly come to the front, and far outstripped her neighbours across the sea. Cuttings should be inserted in October, and if all went well they would make nice little plants for planting out the following June. Many valuable hints were given on obtaining Roses for exhibition purposes, syringing, and the best means of protecting from sun and rain. As to the best Roses for exhibition he would refer them to Mr. Mawley's annual audit in the *Journal of Horticulture*, but for the best six Roses for all purposes, three H. P.'s and three Teas, he would give them Maria Baumann, A. K. Williams, Mrs. John Laing, Maréchal Niel, The Bride, and Souvenir d'Elise Vardon. Reference was also made to hybrid Teas, which seems to be the Rose of the future; climbing Bourbon, Austrian Briars, Sweet Briars, Noisettes, Lord Penzance's Seedling Briars, &c. The lecturer concluded by strongly urging as many as possible to compete for the valuable prizes at the forthcoming Rose show, and trusted that Reading would do credit to the most

popular of flowers. A very interesting discussion took place, in which the Chairman (Mr. T. NEVE), Messrs. TURTON, BOWIE, WOLFFORD, J. MARTIN, T. MARTIN, LEES, &c., took part. The interest was greatly enhanced by the beautiful collection of flowers that were brought by the following members:—Mr. TURTON, Maiden Erlegh Gardens, Roses of various varieties, and Violets; Mr. BRIGHT, Whiteknights Park Gardens, a large bunch of Maréchal Niel Roses; Mr. Hobbs, gr. to W. B. WILLIAMS, Esq., Caversham, Maréchal Niel and Niphetos Roses; Mr. Lees, gr. to Mrs. MARSLAND, The Wilderness, Violets; and last, but not least, some grand specimens of *Primula obconica* by Mr. Townsend, gr. to SIR WILLIAM FARRER, Sandhurst Lodge. A hearty vote of thanks was accorded to the lecturer, and to those members who had brought the flowers.

### TORQUAY GARDENERS' ASSOCIATION.

MARCH 25.—There is every prospect of the flower-shows organised by the Torquay Gardeners' Association becoming permanent institutions. With the disappearance of the old horticultural society last year, the association tried the experiment of a Chrysanthemum show. The result established beyond dispute that there is room in Torquay for first-class exhibitions, and the association decided to arrange for two shows this year, of which the first was given on the above date. This was a great success, with three times the number of entries there were at the autumn show. The larger Bath Saloon never looked gayer.

Mr. F. C. SMALE, the hon. sec., planned the exhibits with excellent effect. Instead of massing all the groups as hitherto around the walls, he placed one of the most conspicuous, that sent by Messrs. BURRIDGE, across the centre of the hall, where, with towering Palms and beautiful flowers, it formed a capital centre-piece. On one side in the middle were the circular groups, and on the other the table decorations and specimen plants. Around the walls were arranged the great bulk of the exhibits, including the most noteworthy feature in the show, Mr. J. SNELGROVE'S fine group of rare plants. Among the plants were many choice Orchids. There were groups of these plants exhibited for competition by Miss LAVERS, of Upton Leigh, and Captain FANE TUCKER, the former easily meriting the 1st prize it obtained.

Torquay has been noted for the freedom with which out-of-doors shrubs flower in winter, as much as for its unrivalled climate. Consequently its exhibit of flowers by Mr. H. A. GARRITT, town gardener, was peculiarly interesting. There were about sixty flowers and shrubs represented in the collection. CURTIS, SANFORD & Co., of the Devon Rosery, were, as usual, represented by a large group. Mr. W. B. SMALE'S group occupied the whole of one end of the hall. There was a remarkable abundance and variety of bloom. R. VEITCH & SON, Exeter, sent down a large display of plants, including choice Orchids. There were also displays by BEACHEY, JENKIN & Co., W. ALLWARD, and HORN.

During the afternoon, and again in the evening, Mr. G. Lee, gardener at Upton Leigh, read an interesting paper on "Orchids: their Fascination and Romance."

Specimen Orchids, to illustrate the lecture, were lent by Miss LAVERS; and Mr. A. SHELLY of Tudor Lodge sent several delightful paintings of Orchids. *Extracted from Western Morning Times.*

### THE PEOPLE'S PALACE HORTICULTURAL.

MARCH 26, 27, 28.—This was the first of three exhibitions held annually by this rapidly growing Society, and proved in all respects most satisfactory. The exhibits consisted mainly of spring-flowering bulbous plants, and they were arranged upon tables in the spacious winter-garden, and formed an attractive foreground to the specimen-plants, evergreen and deciduous, in that building, the former comprising some fine Palms. The entries were quite numerous in most of the classes: there were as many as nine in the class for six Hyacinths, and the quality of the spikes showed a great improvement upon those seen last year.

It has been found necessary to group the exhibitors under two sections, the one comprising exhibitors who grow under the more favourable conditions, such as the outskirts of Victoria Park, and the more open and airy districts, and those who inhabit what is known as the congested districts, such as Mile End, Limehouse, Stepney, Poplar, Bethnal Green, &c. In both sections there exist classes for collections of plants to fill a certain amount of table space, and for flowering and foliage plants, of which some good specimens were staged. Hyacinths were numerous and effective; in the classes for single specimens of various colours, the entries averaged from fifteen to seventeen. Some remarkably well-bloomed Tulips were staged, Keizer's Kroon, Van der Neer, and Rosa Mundi being the favourite varieties; the blooms of the first-named were particularly fine in some instances. Narcissus were represented by well-grown and finely-bloomed examples of the Polyanthus type. Pots of Crocus and Scilla sibirica were also staged; also *Dielstra spectabilis*, *Astibe japonica*, Aurionias, Polyanthus, &c. There is a separate children's section, which produced flowering and foliaged plants.

In the Queen's Hall, Messrs. W. PAUL & SON, Waltham Cross, had a large table covered with boxes of cut blooms of *Camellia*, &c.; and Messrs. W. CURTIS & SONS, Highgate,

an imposing group of flowering and foliaged plants. The attendance of the public was good.

It may be added that a series of lectures of an elementary character on some aspect of town gardening, is given monthly, the attendance averaging 200 persons; and many questions are put to the lecturer. A social meeting likewise takes place once a month, to which the members are invited to bring any plants or flowers of interest, and it is also well attended. Altogether, the society is to be congratulated upon its success, and the impetus it has given to the growing of plants in a part of London not too favourable for gardening pursuits.

## FLORISTS' FLOWERS.

### AURICULA GOSSIP.

In the obituary notice of *Gardeners' Chronicle* for February 29, p. 275, is recorded the death of Mr. John Morris, an old fancier of the Auricula. One feels the loss of these old florists. I have held most interesting conversations with many of them specially bearing on the subject they had most at heart—the Auricula, and when the Auricula is mentioned in connection with these men, it is the "edged" varieties only which are meant. In my early days, the three leading growers were Richard Headley of Stapleford, Robert Trail of Aberley, N.B., and George Lightbody, Falkirk. I was personally acquainted with Mr. Alexander Meiklejohn, Mr. Chas. Jeffrey, and Mr. Peter Campbell. They thoroughly understood the requirements of each variety, and nothing pleased them better than to tell all they knew to younger fanciers eager for information. I bought many plants from Mr. Meiklejohn when I first started, but from my point of view he would generally repot them in over-rich compost, and added to this, a still richer top-dressing in February. There was nothing but frame culture to be seen in his garden at the Raploch, so that the full bloom did not usually come on until the early days of May. Mr. Meiklejohn had one of the largest collections of Auriculas, some 1500 plants, but I do not think he ever tried to raise seedlings. He, however, sent out two varieties produced by a neighbouring farmer named Kay: one, a fine grey-edge, Alexander Meiklejohn; and a dark self, Topsy. I well remember his remarks as we were walking over the bridge at Stirling to visit another grower's collection at the Bridge of Allan—"I am the happiest and man in Scotland." Mr. Peter Campbell's collection was a small one in comparison to Mr. Meiklejohn's, but he was a raiser of new varieties, and found much pleasure in enriching other collections besides his own. His greatest effort was raising what the fanciers termed crimson-selfs, Duke of Argyll and Marquis of Lorne. The two were raised from one pod of seed, I believe of Berry's Lord Lee, but the difference in the constitution of the two varieties is very remarkable. I bought a plant of each, and soon had fifty plants of the Marquis, but the Duke could scarcely be coaxed into growth, and I never was able to obtain an offset from it. Admiral Napier, a green-edge, was grown, and thought highly of for some years, but it is now never seen in a prize collection, nor any other of the late Mr. Campbell's varieties. I have raised some thousands of show Auriculas, and can boast of but one or two that holds a place in the best twelve, viz., Abbé Lizst and Conservative. Lightbody raised one that may well be admitted into the best twelve, Richard Headley. Trail is represented by Prince of Greens, a variety with the best green-edge of any Auricula. Headley, however, still holds the highest place with George Lightbody. Mr. Simonite, of Sheffield, has a high position with the Rev. F. D. Horner. Mr. Horner has raised the best self in Heroine; while to Mr. Read, a old florist, now no more, belongs the credit of obtaining the best white edge in Acme. One cannot think of the old florists without making some mention of their work, and it is very remarkable when we come to analyze this how few varieties of real merit have been handed down to us, showing that there is greater difficulty in raising good new varieties of Auriculas than of any other garden flower. But florists of the old school possess great patience,

and the failure of one season does not restrain their ardour in trying again on almost the same lines. "Hope springs eternal in the human breast," and the pleasures of anticipation is sometimes their sole reward.

THE CARNATION.

On p. 34 were given some remarks on the preparation of the soil for repotting, &c. The time has now arrived when re-potting should be commenced. The first thing to attend to is the arrangement of the plants, and if there are any losses to be made good, the same should be made note of at once. Most florists place their plants under umbrellas, beginning with the scarlet bizarres, and following on with crimson bizarres, pink and purple bizarres, purple flakes, scarlet flakes, and rose flakes. Then come the self-coloured and fancy varieties; the white-ground Picotees also follow in regular sequence, viz., red-edged, purple-edged, and rose-edged; and, lastly, the yellow-ground Picotees. Many private collections contain some hundreds of varieties, and if they were not carefully arranged and numbered in their classes, it would be difficult to find any variety at a moment's notice. The pots are washed and crocked carefully, and the drainage covered with some fibrous material. The soil should be pressed rather firmly around the roots, and two or three plants are put in 8 or 9-inch flower-pots, according to the size and vigour of the different varieties. The plants before repotting should be moist at the roots, and the soil that is used moderately so; no water will then be required for about ten days, according to the weather. If the weather is severe or heavy rains fall, the plants should be protected by glass-lights. The plants should be freed from green-fly by fumigating or dipping.

Tree Carnations now forming roots should be potted off as they require it. They must not be suddenly exposed to cold at first, for even the hardest plants will be injured if removed to a draughty greenhouse from a close frame in a forcing-house. It is best to effect the potting of young Carnations while still in the warm-house. It is in the omission to attend to such details of this work that so many failures occur. When the plants are established, gradually inure them to a cooler place; they do best in a garden-frame until the end of May, and after that time place them out-of-doors. They may be planted out in the open garden to be lifted in September or October, or be cultivated in pots during the whole season. *J. Douglas.*

MR. CHARLES LEDGER.

It is not generally known that we have still amongst us (at Kenmore, near Goulburn, New South Wales), Mr. Charles Ledger, famous in two hemispheres for the introduction into Java, after most perilous adventures, of the most valuable variety of Australian alpaca and other animals into New South Wales, only accomplished, like his previous venture, after much vicissitude and actual peril.

It falls to the lot of very few men, either in Australia or out of it, to have been the means of doing so much good to their fellow-men as Mr. Ledger has been able to effect by his introduction of Cinchona Calisaya, var. Ledgeriana. The old gentleman is still hale and hearty, and it occurred to me that this journal would be a particularly appropriate medium by which to remind our raisers of "new products" in New South Wales of the Cinchona enterprise, which, although forty years old, should be fresh in the memories of the present generation.

As regards the Cinchona, Messrs. Howard and Sons, the great quinine firm, wrote to Mr. Ledger quite recently—"It is not too much to say that it is entirely owing to the seed received from you that Java is now supplying the world with quinine. Some of the cultivated Bolivian bark is of quality equal to the Java bark from your seed, but it seems that the cost of cultivation is much greater than in Java."

To which Mr. Ledger remarks, in a note to me:—"The expenses of cultivation are not greater in Bolivia. It is the distance from port of shipment that causes greater extra expense than in Java. From where cut, the bark is carried on the backs of Indians out of the Monte at least 20 to 100 miles, then from 300 to 1,200 miles on doukeys or llamas to La Plas (city of 60,000 inhabitants); there it is put up in packets of 150 lb. net of bark, covered with half a bullock hide (no return allowed for hide when sold), and carriage to Tacna by mules, 285 miles, then 40 miles by rail for shipment at Arica. Export duty in my time, or up to 1853, 20 dollars per quintal of 100 lb."

Messrs. Howard & Sons again write:—"There is certainly no doubt of the importance to the Dutch plantations in Java of the seed supplied by you in 1865. Almost the entire supply of bark from Java is sold as Ledgeriana, and comes from that supply. The only complaint that they could make would be that it has turned out so rich that they are supplying too much for the world to consume. C. succirubra from India and Ceylon is rapidly becoming a thing of the past. English Government plantations apparently fail to propagate your seed to more than a very small extent, and a great deal of Ledgeriana, which is grown in Ceylon, is from Java seed. It is difficult to give exact figures, but the quantity of bark from your seed now produced per year cannot be far short of 10,000,000 lb."

Although infinitely less important to the world than the Cinchona venture, Mr. Ledger's alpaca expedition has rendered him better known to Australians, and the story of the alpacas is familiar to people who lived in Sydney thirty or forty years ago. *Agricultural Gazette of New South Wales.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	TEMPERATURE.				10ths Inch.	Ins.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 24, 1895.	BRIGHT SUN.
	ACCUMULATED.									
	Above (+) or below (-) the Mean for the week ending March 28.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 24, 1895.						
0	3 +	23	9 +	64 -	234	8 +	68	17.9	24	16
1	3 +	31	15 +	45 -	166	3 -	50	4.9	32	24
2	4 +	38	9 +	56 -	171	2 +	39	4.1	35	21
3	5 +	43	4 +	63 -	201	2 +	47	5.0	42	23
4	4 +	46	10 +	82 -	215	0 aver	45	4.6	39	21
5	6 +	54	0 +	77 -	201	1 -	41	4.4	52	23
6	2 +	27	9 +	76 -	175	0 aver	61	12.2	35	18
7	1 +	31	8 +	108 -	201	7 +	53	8.2	31	18
8	3 +	37	2 +	98 -	174	1 +	50	7.1	42	23
9	1 +	29	11 +	115 -	181	6 +	56	9.3	24	19
10	2 +	36	4 +	138 -	167	2 +	51	8.8	35	22
*	4 +	57	0 +	170 -	100	2 -	53	4.9	51	28

The districts indicated by number in the first column are the following—

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
- 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c. Districts—6, Scotland, W.;
- 7, England, N.W.; 8, England, S.W. 9, Ireland, N.;
- 10, Ireland, S. \* Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending March 28, is furnished from the Meteorological Office:—

"The weather during this period varied considerably from time to time, but was generally fine and warm during the earlier days, and unsettled, colder, and rainy towards the end of the week. Thunderstorms occurred at several of the English stations about the middle of the week.

"The temperature was again above the mean, the excess ranging from 1° in 'England, N.W.,' and 'Ireland, N.,' to 5° in 'England, E.,' and 6° in 'England, S.' The highest of the maxima were recorded either on the 22nd or 24th, when they ranged from 69° in 'England, S.,' and 67° in 'England, E.,' and the 'Midland Counties,' to 57° in 'Scotland, N.,' and 'England, N.W.,' and to 56° in 'Scotland, W.' The lowest of the minima were registered on the 27th or 28th, and ranged from 26° in 'Ireland, N.,' and 29° in 'Scotland, N.,' to 34° in 'England, S.,' and to 40° in the 'Channel Islands.'

"The rainfall was less than the mean in 'Scotland, E.,' 'England, S.,' and the 'Channel Islands,' and just equal to it in the 'Midland Counties' and 'Scotland, W.' In all other districts there was an excess, that in 'England, N.W.,' being large.

"The bright sunshine was rather less than the mean in Ireland and the north of Scotland, and only just equal to it in the east of Scotland; over England and the west of Scotland, however, there was an excess. The percentage of the possible duration ranged from 52 in 'England, S.,' and 51 in the 'Channel Islands,' to 31 in 'England, N.W.,' and 24 in 'Scotland, N.,' and 'Ireland, N.'"

MARKETS.

COVENT GARDEN, APRIL 1.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Azalea, p. 12 blooms	2 0-4	Orchids:—	
Azalea, 12 sprays...	0 6-0	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bun.	0 6-1 0	Odontoglossum	
Carnations, 12 blms.	1 0-3 0	crispum, 12 blms.	3 0-6 0
Daffodils, double,		Pelargoniums, scar-	
— doz. bunches...	3 0-6 0	let, per 12 bunch	4 0-6 0
— single, 12 bunch	3 0-6 0	— per 12 sprays...	0 9-1 0
Eucharis, per dozen	4 0-8 0	Pyrethrums, 12 bun.	2 0-4 0
Gardenias, per doz.	3 0-6 0	Roses, Tea, per doz.	1 0-3 0
Hyacinths (Romez)		— coloured, p. doz.	2 0-4 0
— 12 sprays...	0 4-0 8	— pink, French, doz.	4 0-12 0
— per doz. spikes	2 0-4 0	— yellow (Maré-	
Lapsageria, 12 blms.	0 6-1 8	chal), per doz.	4 0-9 0
Lilac, French, p. bu.	3 0-5 0	— red, per dozen	3 0-6 0
Lilium Harrisii, bu.	4 0-6 0	— Safrano,	
Lily of the Valley,		French per doz.	2 0-3 0
per doz. sprays...	0 6-1 0	Stephanotis, 12 sps.	6 0-9 0
Maidenhair Fern,		Tuberose, 12 blms.	0 9-1 6
per 12 bunches...	4 0-8 0	Tulips, various, doz.	0 6-1 0
Marguerites, per 12		Violets, 12 bunches	1 0-1 6
bunches...	3 0-6 0	— Parme, French,	
Mignonette, 12 bun.	4 0-6 0	— per bunch...	2 0-3 0
Narcissus, White,		— Gar, do.	2 0-2 6
French, 12 bun.	1 6-2 6	— Mimosa or Aca-	
— Various, per		cia, do.	1 0 2 0
12 bunches...	0 9-1 6		

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	5 0 12 0
Araucilias per doz.	6 0-9 0	Ficus elastica, each	1 0-7 6
Aspidistra, per doz.	12 0 30 0	Foliage plants, doz.	10 0-24 0
— specimen, each	5 0-15 0	Genistas, per doz.	8 0-12 0
Azalea, per plant...	2 0-3 6	Hyacinths, per doz.	6 0 10 0
Cineraria per dozen	6 0-9 0	Lilium Harrisii, per	
Cyclamen, per doz.	9 0-15 0	dozen pots...	18 0-36 0
Daffodils, per 12 pots	6 0-9 0	Marguerites, p. doz.	6 0-10 0
Dracena, each...	1 0-7 6	Mignonette, p. doz.	6 0-9 0
— various, p. doz.	12 0-24 0	Palms, various, ea.	2 0-10 0
Ficaria, various, doz.	9 0-24 0	— specimen, ea.	10 6-84 0
Evergreen Shrubs,		Primula sinensis,	
in variety, doz...	6 0-24 0	per dozen...	3 0-4 0
Ferns, small, doz...	1 0-3 0	Spiraeas, per doz.	8 0-12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Asparagus, 1st size,		Onions, Eng. cwt.	3 0-4 0
— per bundle	10 0-11 0	Potatoes, Channel	
— 2nd size, do...	3 6-3 0	Islands, per lb.	0 4-0 5
— (spruce), do...	0 8-0 9	Radishes, Channel	
Beans, Channel Is-		Islands, doz. bun.	0 10-0 10
lands, per lb.	0 10-1 0	Seakale, per punnet	0 9-1 3
— Madeira, p. bas.		Tomatos, English,	
(8 to 10 lb.)...	3 0-3 6	per lb.	1 3-1 6
Cucumbers, per doz.	3 0-4 0	— Canary Is-	
Mint, per bunch...	0 4-0 6	lands, per case,	
Mushrooms, per lb.	0 6-0 8	12 to 14 lb.	5 0-5 6
Peas, Channel Is-		— Canary, boxes,	
lands, per lb.	1 6 0 0	4 to 4½ lb.	1 3-1 9

There is no improvement in prices to date.

OLD POTATOS.  
Prices rule from 2s. to 4s. under last report. Trade generally dull. *J. B. Thomas.*

NEW POTATOS.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples from Nova Scotia, p. barrel	14 0-22 0	Pine-apples, St. Michael, each	2 6-4 6
Cobs, per 100 lb.	25 0-30 0	Strawberries, morning gathered	5 0-6 0
Figs, per doz.	8 0-10 0	per lb.	3 0-4 0
Grapes (Cape), lb.	10 10-1 0	— packed in bxs.	3 0 ...
— Gros Colmar, 1st quality, lb.	3 6-4 0	per lb.	3 0 ...
3rd quality, lb.	2 9-3 0	— seconds, per lb.	3 0 ...

SEEDS.

LONDON: April 1.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E. state that for the time of year an unusually small business is passing in field seeds. In fact, a spell of fine drying weather is now greatly needed, to enable sowing operations to be proceeded with. Meantime all descriptions of Clover and grass seeds are held at the low quotations previously noted. For Tares the inquiry is meagre. Rape seed keeps firm, but Mustard is neglected. In Peas and Haricots there is some slight improvement. The birdseed trade is featureless. Scarlet Runner and Canadian Wonder Beans are now extremely cheap.

FRUIT AND VEGETABLES.

BOROUGH: March 31.—Quotations:—Savoys, 4s. to 4s. 6d.; Cabbages, 2s. 6d. to 3s. per tally; Onions, 3s. 6d. to 4s. 6d. per bag; Carrots and Turnips, 2s. to 2s. 9d. per dozen bunches; Horseradish, 8s. to 10s. per dozen rolls; Apples, 4s. to 6s. per bushel.

SPITALFIELDS, March 31.—Quotations:—Broccoli, 6d. to 1s. per bag; Kale, 6d. to 1s. do; Parsnips, 6d. to 8d. per score; Parsley, 1s. to 1s. 6d. per dozen; bunch Greens, 1s. 3d. to 2s. per dozen; Rhubarb, 1s. 6d. to 2s. per dozen bunches; Leeks, 1s. to 1s. 6d. per dozen; Onions, spring, 1s. to 1s. 6d. per dozen bunches; Cabbages, 2s. to 2s. 6d. per tally; Seakale, 8d. to 9d. per punnet; Turnips, 1s. 6d. to 1s. 9d. per dozen bunches; Carrots, 1s. 9d. to 2s. do.; Turnips, per ton, 25s. to 28s.; Carrots, household, 2s. to 2s. 6d.; green Carrots, 15s. to 17s. 6d. do.; Apples, dessert, 6s. 6d. to 8s. per bushel; do., cooking, 5s. 6d. to 6s. 6d. do.

STRAFORD: March 31.—Quotations:—Greens, 1s. 3d. to 1s. 6d., loose; do., 1s. to 1s. 6d., bunches; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; do., 8s. to 7s. 6d. per crate; do., 6s. to 7s. 6d. per tally; Scotch Kale, 6d. to 9d. per sieve; Sprouting Broccoli, 8d. to 9d. per sieve; Turnip-tops, 9d. to 1s. per bag; Bestroot, 4d. to 6d. per dozen; do., 1s. 6d. to 1s. 9d. per bag; Horseradish, 1s. per bundle; Parsley, 1s. to 1s. 6d. per dozen; Rhubarb, forced 1s. per dozen; do., field, 1s. 6d. to 2s. per dozen; white Turnips, 1s. 6d. to 2s. per dozen; do., 1s. 6d. to 1s. 9d. per bag; Leeks, 1s. 6d. to 2s. per dozen; Spring Onions, 1s. to 1s. 6d. per dozen; Salad, 1s. 6d. per dozen; frame Cucumbers, 3s. to 5s. per dozen; Carrots, household, 20s. to 24s. per ton; do., ostle-leading, 20s. to 22s. do.; Parsnips, 4d. to 6d. per score; Mangolds, 12s. to 17s. per ton; Swedes, 10s. to 18s. per ton; Onions, English, 60s. to 70s. per ton; do., Dutch, 2s. 6d. to 3s. per bag; do., Bordeaux port, 4s. to 5s. 6d. per case; Apples, English cookers, 3s. 6d. to 5s. 6d. per bushel; do., Nova Scotian, 17s. to 18s. per barrel.

FARMINGTON: March 31.—Quotations:—Spinach, 1s. per bushel; Leeks, 1s. 6d. per dozen; spring Onions, 2s. 6d. per dozen bunches; Turnips, 2d. per bunch; Carrots, 2s. 6d. per dozen; Onions, 2s. per bushel; Mushrooms, 6d. per lb.; Tomatoes, 1s. per box (Canary); Cauliflowers, 1s. per dozen; Apples, 20s. to 25s. per barrel; Carrots, 20s. to 25s. per ton; Parsnips, 10s. to 15s. do; Rhubarb, 1s. 9d. to 2s. per dozen; do., forced, 1s. to 1s. 3d.

caused dark blisters; but these are so filled with sand as to render microscopical examination with high powers impossible. Thus far, no fruit has been found. Possibly a growing bulb, in a later stage, might furnish materials for identification. On some of the spots a superficial mould (Aspergillus?) has established itself, but would not cause the spots, as it is a saprophyte. The conidia are profuse, globose, and minute. Dampness is favourable to the development of fungi, so that when kept dry the growth is checked. It is doubtful whether any bulb can be saved after it is once attacked; some solution of sulphate of copper, or iron, or even Condy's fluid, might be tried. M. C. C.

NAMES OF PLANTS: R. Sharpe. Chionodoxa sardensis. — W. H. R. Rhododendron Falcoveri, perhaps. We cannot tell without the leaf.—Reader. 1, Kerria japonica; 2, Ornithogalum nutans; 3, Muscari botryoides.—G. K. 1, Andromeda calcinata; 2, Thuja Vervaeckiana; 3, Cryptomeria elegans.—Oakfield. Omphalodes verna.—Constant Reader. 1, Fumaria bulbosa; 2, Muscari botryoides; 3, Asarum europaeum.—J. M. C. 1, Pellaea rotundifolia; 2, Blechnum polyopodioides; 3, Lastrea decomposita; 4, Asplenium bulbiferum; 5, Selaginella caulescens; 6, Fittonia argyrea. We cannot name garden varieties of Camellias.—J. B., Kingston. Dendrobium Findlayianum.—A. B. 1, Lycaste Deppii. The yellow one is probably L. creuenta. 2, Cornus mas (the Cornelian Cherry); 3, Eupatorium Weimannianum; 4, Pteris hastata macrophylla; 5, Asplenium viviparum.—S. G. J., Sunderland. Dendrobium aggregatum.—H. B. That with orange in the lip is Dendrobium Wardianum, the other Dendrobium pulchellum, commonly called D. Dalhousianum.—J. C. Diosma ericoides.—Ten Years' Subscriber. The leaves are affected with what is known as "spot." Probably some errors or accidents in cultivation has caused it.—W. T. B. Zephyranthes Atamasco.—E. J. 1, Selaginella Wildenovi; 2, Colocasia atropurpurea; 3, Begonia Marshalli; 4, Begonia Louise Chretien; 5, Begonia Madame Anna Lowe; 6, Begonia sanguinea.—L. J. Marie Louise.

RICHARDIA: S. E. S. C. The production of a second spathe, or of a white leaf below the usual spathe, is not at all uncommon. We receive every season several specimens, and are surprised that our enterprising gardeners have not long ere this attempted to "fix the sport."

TOMATOES, MELONS, AND SEEDS: J. B., Chelmsford. If you have a continuous bed of soil, plant the Tomatoes at 2 feet apart, and the Melons in pairs at 3 feet apart, or even a little more. The seeds are those of some species of Gourd.

VINES: A. P. With very great care in lifting and root-pruning, doing these operations before the leaves fall, it might not be risky to force the Vines for early Grapes the same season; although, under ordinary circumstances, or if the Vines were in a very bad state at the roots, they should have been allowed to start naturally. You ought to cut off the bunches, and encourage as much leaf-growth on the Vines as can well be fully exposed to direct sunlight, and force them very gently. There is at present no balance between top-growth and root-growth. The border of the other vinery is in a bad condition, and you should clear off the wet stable-litter, lightly fork up the surface, and leave it exposed. In the autumn make an examination of it, and let us know the result.

COMMUNICATIONS RECEIVED.—Ties Fern, Madeira.—F. W. B.—C. W. S., Boston, Mass.—F. M.—R. J. L.—J. E. H.—C. J. C.—D. T. F.—H. M., Paris.—C. Y. M.—J. Haddon & Co (the murene shall be tested).—R. M.—J. W. McH.—B. & Son.—H. W. R., Singapore.—W. L. Y.—W. K.—F. C.—H. O. C.—W. H. W.—J. B. A.—C. F.—R. D.—A. D.—C. C.—J. J. W.—R. J. L.—G. N.—Messrs. Sutton & Sons.

SPECIMENS, PHOTOGRAPHS, ETC., RECEIVED WITH THANKS.—W. Bull.—F. W. B.—Mr. J. W. McHattie.—Mr. J. Weathers.—Messrs Sutton.—Sir E. F.—F. M.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, increased to the extent of more than 90 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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Made in all sizes, from 10 to 24 inches.

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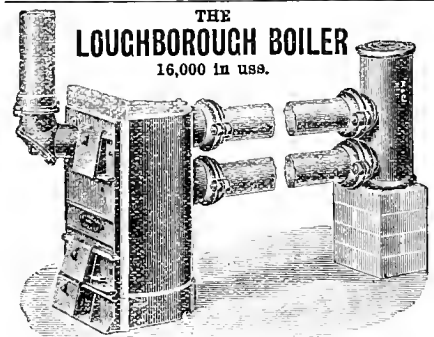
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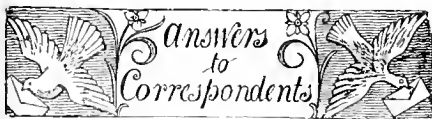
The Pioneer of cheap, simple, and effective heating for small Greenhouses.

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EUCHARIS GRANDIFLORA: C. N. M. The bulbs are failing to flower owing to their being too tightly packed in the pot, with the consequent lack of nutriment. In June, shake out the bulbs, and repot the largest in several 8-inch pots in rich sandy loam (manure can always be afforded in the liquid form); stand in a temperature of 70° or 80° with shade when the sun shines, keeping them close till growth begins. In September place them in a cooler house, affording rather less water; and in November keep them somewhat drier, but never dry. This is the treatment of bulbs required to flower in the winter. The small bulbs should be potted up by themselves, receiving identical treatment in the summer as the bulbs of flowering age, and be kept gently growing always, only partially withholding water in winter.

GLOBE THISTLE: J. B. The vernacular appellation of species of Echinops.

INJURED ROSE-LEAVES: Roses. Probably the work of the Rose-sawfly.

LILIUM AURATUM: Incog. Lilium. The crown of your bulb of Lilium is attacked by some fungus, which



# THE GARDENERS' CHRONICLE

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Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

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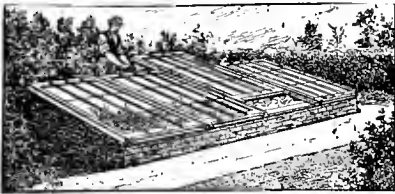
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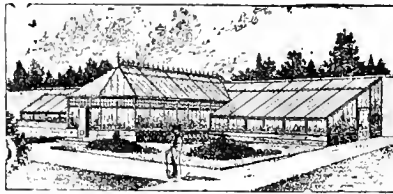
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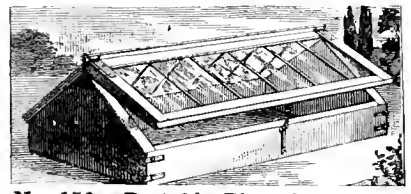


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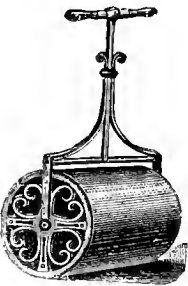
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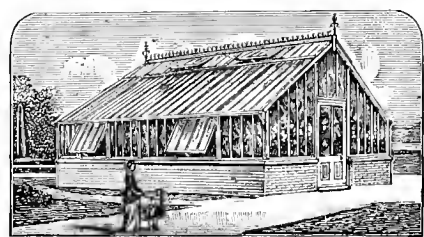
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Mr. C. LACEY, late Foreman, Berkeley Castle, Gloucestershire, as Gardener to E. HEDLEY, Esq., Burghopside Hall, Lancaster, Durham.

Mr. ALFRED BARNES, for the past six years in the Orchid Department of the Right Hon. J. CHAMBERLAIN, M.P., Highbury, Birmingham, has been appointed Gardener and Orchid Grower to Major-General A. H. HUTCHINSON, Cwthorpe, Bourne-mouth.

Mr. E. H. MUSTOW, late of The Grange, Bishop's Stortford, as Head Gardener to the Earl of AYLESFORD, Packington Park, Coventry.

Mr. D. MAY, for three years Outside Foreman at Philiphaugh, Selkirk, as Gardener to A. COCHRANE, Esq., Abbotshill, Gushields.

Mr. JNO. PAGE, who has been Gardener for the last twenty-seven years to the Marquis of LOTHIAN, K.T., Monteviot, Jedburgh, N.B., has been appointed Superintendent to the Roman Catholic Cemetery, Mount Vernon, Liberton, Edinburgh.

Mr. DINWOODIE, as Gardener to the Marquis of LOTHIAN, K.T. Monteviot, Jedburgh, N.B.

Mr. W. STEPHENS, late Foreman at Latimers, Chesham, as Gardener to the Right Hon. Lady ELA RUSSELL, Chorley Wood House, Rickmansworth.

Mr. E. H. MUSTOW, late of The Grange, Bishop's Stortford, Herts, as Gardener to Lord AYLESFORD, Packington Hall, Coventry, Warwickshire.

Mr. F. J. TOMS, until recently Foreman at The Gardens, Breakspears, Uxbridge, as Gardener to H. GRANT, Esq., Sudbury House, Great Clacton, Essex.

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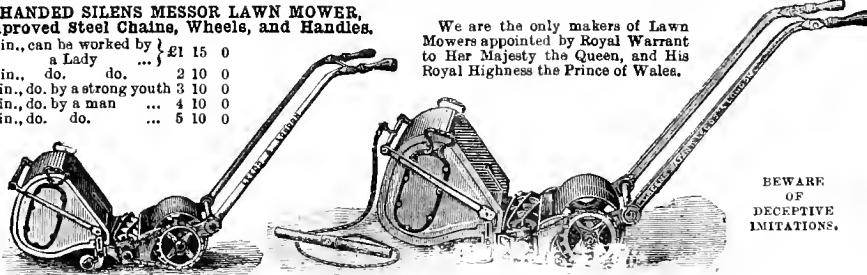
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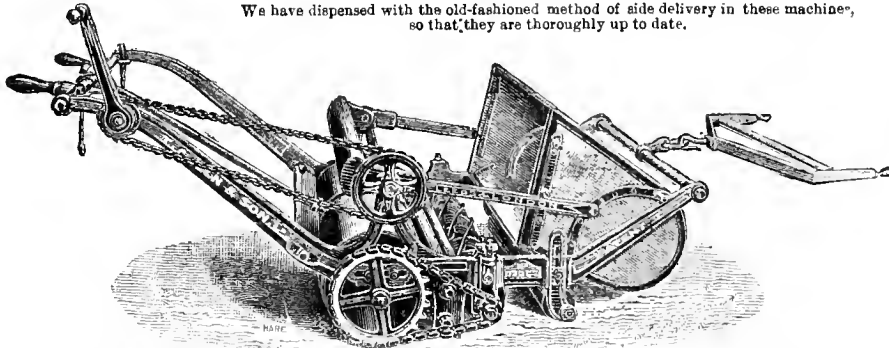
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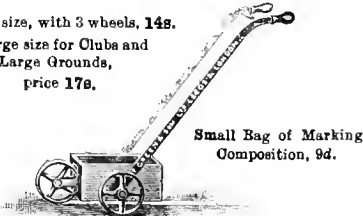
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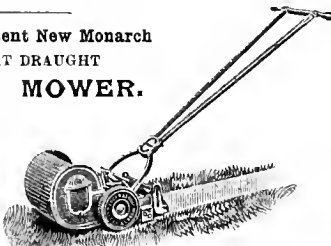
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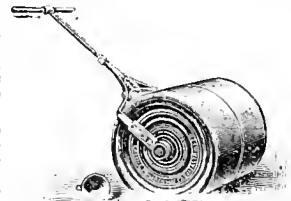
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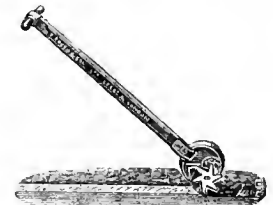
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ESTABLISHED 1841. No. 2885.

No. 485.—Vol. XIX. { THIRD SERIES. }

SATURDAY, APRIL 11, 1896.

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## CONTENTS.

Antirrhinum ... .. 465	Larch disease ... .. 466
Apples and Pears, special prizes for dessert varieties of ... .. 462	Larches, American ... .. 465
Asters and Zinnias for bedding... .. 454	Narcissi at Totley Hall... .. 465
Aucuba japonica in berry ... .. 465	Nitrate of soda, the present use of ... .. 459
Benevolent Institution, Gardeners' Royal ... .. 463	Orchids at W. Vanner's, Chislehurst ... .. 452
Birds, wild, and protection ... .. 455	Palm fronds, drying ... .. 462
Book notices—	Perfumes, action of light and moisture on flower-plants, new or noteworthy—
Botanical Magazine ... .. 462	Cecygyne Rumphii ... .. 462
Le Chrysan l'Émèe à la Grande Fleur ... .. 456	Posoqueria longiflora ... .. 465
Bulbs in herbaceous borders ... .. 464	Rhododendron exoniense and others ... .. 454
Carnation 'in Auvernia, the ... .. 464	Roses and their cultural requirements ... .. 461
Chinese Primrose, the old Double White ... .. 453	Societies—
Cineraria, a fasciated ... .. 463	Antwerp Royal Horticultural ... .. 462
the allies of the ... .. 460	People's Palace Horticultural ... .. 462
Cecygyne flaccida, a malformed flower of ... .. 462	Royal Botanic ... .. 462
Colour in Apples ... .. 465	Royal Horticultural ... .. 466
Comifer grafting ... .. 463	York Florists ... .. 462
Farmers and fruit culture ... .. 465	Steam lawn-mower ... .. 464
Flowering shrubs ... .. 465	Stemaria Fischeriana ... .. 455
Forestry ... .. 456	Trees and shrubs ... .. 451
Freesias ... .. 457	Trumpet Daffodils in the Landes ... .. 454
Gardenias ... .. 457	Week's work, the ... .. 458
Herbaceous border, forming a ... .. 465	Flower garden, the ... .. 458
Hoptoun House and gardens ... .. 453	Fruits under glass ... .. 459
	Hardy fruit garden ... .. 459
	Kitchen garden, the ... .. 459
	Orchid houses, the ... .. 459

## ILLUSTRATIONS.

Cineraria seedlings, common ... .. 457
Grafting, methods of ... .. 463
Prunus Pseudo Cerasus, a single-flowered form of ... .. 467
Senecio multiflorus ... .. 455, 461

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ACERS, AZALEAS, 3000 SACRED LILIES, LILIES in variety, 12 RETINOSPORA NANA, and 12 Fancy Porcelain PUTS, received direct from Japan; also 2 large AZALEA INDICA ALBA, 4 O A. MOLLIS, 150 A. INDICA, 150 RHODODENDRONS, 24 PALMS, and 24 DRAECENAS from the Continent.

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50 lots of well-grown ORNAMENTAL STOVE and GREENHOUSE PLANTS, TUBEROSES, BEGONIAS, GLADIOLI LEMOINNI HYBRIDS, CALADIUM ESCULENTUM, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY NEXT, April 15, at 12 o'clock. On view morning of Sale, and Catalogues had.

Wednesday Next, April 15.

SPECIAL SALE OF CHRYSANTHEMUMS, RANUNCULUS, PÆONIES, HERACROUS PHLOXES, IRIS, CYPRIPEDIUM SPECTABILE, CARNATIONS and PICOTEES, DAHLIAS, HARDY CLIMBERS, BEGONIAS, LILIUMS in variety, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY NEXT, April 15, at 12 o'clock. On view morning of Sale, and Catalogues had.

Wednesday Next, April 15.

30 AZALEA MOLLIS, 100 A. INDICA, and 50 RHODODENDRONS from the Continent; 50 lots of STOVE and GREENHOUSE FERNS and PLANTS, HARDY BORDER PLANTS and BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY NEXT, April 15, at 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, April 17.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Hugh Low & Co. to sell by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, E.C., on FRIDAY NEXT, April 17, at Half-past 12 o'clock precisely, an importation of CATTLEYA DOWIANA,

in the finest possible condition, plants being beautifully plump and leafy, with eyes quite dormant. This Gorgeous Cattleya has not been imported so far many years, and is extremely difficult to find in any quantity. At same time will be offered large importations of BURMESE DENDROBIUMS,

Chiefly formosum giganteum, nobile, and Wardiaaum giganteum Lowii.

SPECIALLY LOTTED TO SUIT LARGE BUYERS. Also a fine importation of LÆLIA ELEGANS, just received. On view morning of Sale, and Catalogues had.

Friday Next, April 17.

CYPRIPEDIUM VILLOSUM, CYP. new species, DENDROBIUM HILDEBRANDT, D. JAMESIANUM, VANDAS, &c., from Mr. J. W. Moore, of Bradford; 100 lots of ESTABLISHED ORCHIDS, and ORCHIDS from Mr. P. McArthur.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, April 17, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, April 17.

(As fully advertised in the Gardeners' Chronicle of April 4.) Collected by Consul F. C. Lehmann, of Popayan, the well-known botanist and Orchid collector.

The contents of 25 cases of CATTLEYA TRIANELI, POPAYAN VARIETY. The grandest and richest in colour, and the widest in variation of any form of Cattleya labiata. The importation is in splendid condition, and may be said to be the first really successful one from the locality, the plants from which were rendered famous by the noble varieties which flowered out of the small lot gathered by Consul Lehmann in 1882.

Among the importations are several marked and described, white and other varieties, which are particularised in the catalogue from the letter of advice which may be seen at the Auction Rooms. The long journey and costly freight renders it improbable that an opportunity to purchase this fine Cattleya will occur again for some time, and buyers are earnestly requested to attend and inspect the plants for themselves. Also a few lots of ERIOPHIS RUTIDOBULBON, CATTLEYA SPECIES, with red bulbs and leaves of the texture of C. Lawrenceana and some other Orchids, together with 250 DISA ORANDEFLORA SUPERBUM, the finest brilliant scarlet greenhouse terrestrial Orchid, a few of the blue DISA LONGICORNU, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY NEXT, April 17, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

ICKWORTH PARK, BURY ST. EDMUNDS. CLEARANCE SALE OF STOVE, GREENHOUSE, and BEDDING PLANTS, GARDEN IMPLEMENTS, &c., by order of A. H. Wood, Esq., whose Lease of the Estate has expired.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by AUCTION, on the Premises, Ickworth Park, Bury St. Edmunds, about 4 miles from Bury St. Edmunds Railway Station, on THURSDAY, April 23, at half-past 12 o'clock, the whole of the well-grown STOVE and GREENHOUSE PLANTS, also about 100 Orchids, 5000 Geraniums, 400 Fruiting Strawberries, about 100 lots of Garden Implements, 3 Mowing Machines, Lights, Frames, Tanks, Garden Engines, and numerous other items.

May be viewed day prior to the Sale. Catalogues may be had of Mr. H. COSTER, Head Gardener, on the Premises, and of the Auctioneers and Valuers, 67 and 88, Cheapside, London, E.C.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO., Ltd.,

Have just received large and splendid Importations of:—

ODONTOGLOSSUM ALEXANDRÆ, FINEST PACHO TYPE. ODONTOGLOSSUM CORDATUM, a grand lot. ODONTOGLOSSUM NEBULOSUM, a splendid lot.

CATTLEYA LABIATA AUTUMNALIS, a large and grand importation of the finest type. CATTLEYA CITRINA, a grand lot of large-bulbed plants.

DENDROBIUMS, in great variety, and in grand condition. CYPRIPEDIUMS, in variety, and in grand condition. SOBRIALIA MACRANTHA, from the district from which the Company have imported the pure white form.

LÆLIA ANCEPS, in splendid condition. LÆLIA AUTUMNALIS, in grand condition. And many others.

Descriptive and Priced Catalogues post free, on application to the Company—

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SOUTHPORT.—TO BE SOLD, a valuable OLD-ESTABLISHED NURSERY; owner retiring. Apply, J. HATCH, Estate Agent, Southport.

FOR SALE, NURSERY and FLORISTS' BUSINESS.—1 Acre of Land, 8 Glasshouses; 99 years' Lease, 84 years to run. A reasonable offer accepted. R. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vinerias, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Root. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Nurserymen and Florists commencing Business. HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

GARDEN VINERIES, &c., in Stirlingshire, TO LET, consisting of Five Extensive Grape Houses, and Three Tomato Houses, with about Five Acres of Garden Ground. The Grape Houses are well stocked with the finest kinds of Grapes, and the Garden with Strawberries, Currants, and other small Fruit, and Rhubarb. First-class stock of Tomatos, Palms, and Pot Plants, to be taken at valuation. In addition there may be Let extensive Rhubarb Forcing-houses, with about Five Acres of Ground in Rhubarb. Railway siding adjoining, and Station within easy distance. Apply to JOHN & W. K. GAIR & GIBSON, Writers, Falkirk.

FOR SALE, Cheap, 28-inch LAWN MOWER (Shanks), in good repair. Apply—GEO. BOND, The Grove Gardens, Streatham, S.W.

FOR SALE, 20-inch GREENS LAWN MOWER.—Only 3 months' wear; good as new. What offer?—A. WATERS, Barrow Gurney, near Bristol.

BELL'S PANSIES and VIOLAS a specialty. —Only the best kept for Massing or Exhibition. Fifteen Prices in two years. Send for List.—Netherwitton, Morpeth.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Maiden Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Highest Market Prices. Prompt cash.

ASPARAGUS.—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH and CO., Nurserymen and Seed Merchants, Worcester.

EXHIBITIONS.

BIRMINGHAM BOTANIC and HORTICULTURAL SOCIETY. (Founded 1829.) A DAFODIL (NARCISSUS) SHOW will be held in the Botanic Gardens, Edgbaston, on THURSDAY and FRIDAY, April 16 and 17, 1896. Entries close on Monday, April 13. Schedules can be obtained from the Curator.—Mr. W. B. LATHAM.

ABBEY PARK, LEICESTER.—The ANNUAL FLOWER SHOW and GALA will be held in the above Park on TUESDAY, August 4, 1896. For Schedules and particulars, apply to Mr. JNO. BURN, Hon. Secretary.

LIVE SPHAGNUM MOSS, green, picked, and squeezed, 5s. per bag. Large Rockery FERNS, assorted varieties, 8s. per 100.—JOHN BYRNE, Fellside, Kendal.

STRONG PLANTS and CUTTINGS of CHRYSANTHEMUMS to be cleared cheap. Prices on application.—CHIPPERFIELD, Florist, Hampton Hill.

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STRONG, perfectly healthy CUTTINGS of RASPALE GERANIUM for Sale, 3s. per 100, 25s. per 1000. Carriage and packing free for cash with order. ARABIN, Belmont Nurseries, Portswood, Southampton.

ROOFED CHRYSANTHEMUM CUTTINGS.—Lady Fitzwigram, 5s.; Mrs. Hawkins, Vivian Morel, 4s.; Lady Ganning, Madame De granage, 3s.; Autumn struck Yellow Marguerites and Ivy Geranium, Madame Crousse, 5s. per 100. Cash.—MEW, Florist, Earlswood, Surrey.

CABBAGE PLANTS, Early, Late, Savoy, Green, 2s. per 1440, prepaid. Prize varieties of Cabbage, Onion, Sprout, Cauliflower, &c.; Shallots, Seed Potatoes (Sharpe's Victor, &c.). All Scotch, grown by Scarlett, Musselburgh. Write SCARLETT, Market Street, Edinburgh, for Price List.

Double White Chinese Primulas. G. B. FISCHER, High Street, Clapham, begs to offer (bushy) stock plants of the above at 40s. per 100; strong young plants for potting on, 25s. per 100, packing included.

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BEGONIAS of the newest and most superb type, including many rare varieties, Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s. B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

Seed Potatoes. H. AND F. SHARPE are now offering their selected Stocks of all the best varieties of SEED POTATOS, at greatly REDUCED PRICES, to clear out.

Special quotations on application. SEED GROWING ESTABLISHMENT, WISBECH.

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BOUVDARIAS.—Strong rooted outtings, clean, and healthy, of Vreelandii, P. Cleveland, P. Goffield, Alf. Neumar, Priory Beauty, and Hogarth, fl. pleno, in variety, at 10s. per 100, packing free. For cash only. H. MARSHALL, Barnham Junction, Bognor.

MORTIMER'S PRIZE MEDAL DAHLIAS.—Strong, healthy plants of Show, Fancy, Cactus, and Pompon, in all the very best varieties, 4s. per dozen. CATALOGUES containing all the best novelties, on application. S. MORTIMER, Swiss Nursery, Farnham.

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All the above packed free for cash with order. THOS. BAKER, Manager, Blandford Nursery, Upper Teddington.

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Violas, Pansies, Herbaceous and Hardy Plants, Camas, Dahlias, Delphiniums, Hollyhocks, Iris, Paeonies, Violets, &c.; Fuchsias, Bouvardias, Alceolaris, Heliotrope, Lobelia, Musk Ferns, Palms; Pelargoniums: Show, Regal, Ivy, Zonal, Bedding, stores, small pots, 5-in. pots; Strawberries, in small pots; Ivy: Gold, Silver, Green, in variety. SHUTTLEWORTH, Limited, Fleet, Hants.

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Myatt's Early Asleaf, Kidbey or Colossal, 1s. peck (14 lb.), 6s. 6d. cwt.; Early Puritan, 1s. peck, 7s. cwt.; Up-to-Date Saxoniens or Soowdrops, 1s. 3d. peck, 8s. cwt.; Reading Giants, or Sutton's Abundance, 10d. peck, 8s. cwt.; Imperator, 10d. peck, 8s. 6d. cwt.; Bruce, 7d. peck, 4s. cwt.; Magnum Bonum, 6d. peck, 3s. cwt. Bags, 3d. each extra. Sent by rail on receipt of cash. KENNELLY, Smithfield Market, Birmingham. Special Terms, Farmers and Seedsmen.

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Tree or Perpetual Blooming. "REGINALD GODFREY." Without exception the finest and most profitable salmon-pink-coloured variety in existence. All the largest and most important Covent Garden growers are replacing Miss Joliffe with this. The blooms are very large, of good form and substance, strongly perfumed, and very freely produced. Strong Plants in 60's, 1s. each, 8s. per dozen. From "stores" by the 100, greatly reduced prices to the Trade.

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Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.

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Well furnished and well budded, with from seven to twenty buds, consisting entirely of the reliable hardy kinds; the majority being of THEIR OWN ROOTS, they are without doubt the best Rhododendrons to commence.

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All the most beautiful varieties, varying in height from 1½ to 3 feet; the plants are covered with buds.

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GOOD strong plants raised from carefully selected seed. All transplanted. Canterbury Bells, 3s. per 100. Hollyhocks, choice mixed double, 2s. 6d. per dozen. Scarlet Lychnis, 3s. per dozen. Lupinus arboreus, 3s. per dozen. Pansies, Emperor William, 6s. per 100; purple, yellow, white, bedding (separate colours), 4s. per 100; best mixed strains, 6s. per 100; Bath's Empress strain, 7s. per 100. Polyanthas, gold laced, 6s. per 100; choice mixed, 4s. per 100. Sweet William, mixed double, 4s. per 100. Viola, Rue Bell, 5s. per 100. Myosotis, Cliveden varieties, blue or white, 2s. 6d. per 100. Pyrethrum, 2s. per dozen. Rocket, purple or white, 3s. per 100. Antirrhinum, Tom Thumb, 1s. per doz.; mixed, 9d. per doz. Cash with order. Fees on rail. P. BOULTON, Beechenla Nursery, Swanley.

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Strong Plants, in 3-in. pots, ready for repotting.

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With large round flowers, stiff, erect habit, brilliant colours, best that money can buy. SINGLES, for POT-CULTURE and EXHIBITION.

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LARGE DECORATIVE PALMS.

LATANIA BORBONICA, In 12½ inch pots, 3 to 4 feet high, and 5 to 6 feet across.

KENTIA FOSTERIANA, In 7 and 8 inch pots, 3 to 4 feet high.

Heights above pots, not including pot. Fine symmetrical, well-balanced plants, well-grown, and in vigorous health. Prices on application.

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BORDER CARNATIONS, strong layers, well rooted. Also Double White PRIMULA CUTTINGS, cheap to clear. Apply—GEO. DRABBLE, Kettoo Hall Gardens, Stamford.

NEW CACTUS DAHLIAS.—Miss A. Jones, Miss A. Nightingale, Valkyris, &c. Price on application. The best Show, Cactus, and Pompon varieties, from 4s. 6d. per dozen.—Catalogues from J. T. WEST, Tower Hill, Brentwood.

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The Handiest, Most Convenient, and Effective Syringes ever produced. It gives a CONTINUOUS Stream of over 30 feet with use of jet, or will cover a large area with a splendid fine spray, with the rose attachment. It is fitted with 5 feet of suction hose, thus preventing any stooping by the user, and it has received the highest praise from horticulturists.

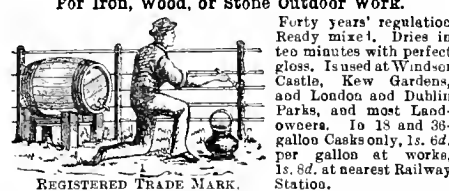
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H. & S.'s BLACK VARNISH, For Iron, Wood, or Stone Outdoor Work.



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TENTS! I SAY!! TENTS!!! I have purchased 5000 Government Tents (40 feet circumference, scarcely used. Complete with poles, pegs, and lines; cost £5 each. I will send any number, carriage paid, for 26s. each, cash with order. ANDREW POTTER, Melbourne Works, Wolverhampton.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.



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A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ten, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.

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Exceeds all others in General Fertilising Properties and Staying Powers.

It promotes a rapid, healthy, and robust growth to plants generally.

It is a clean and dry powder, with very little smell. The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

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Insoluble Phosphate ... ..	35.74 per cent.
Soluble ... ..	83
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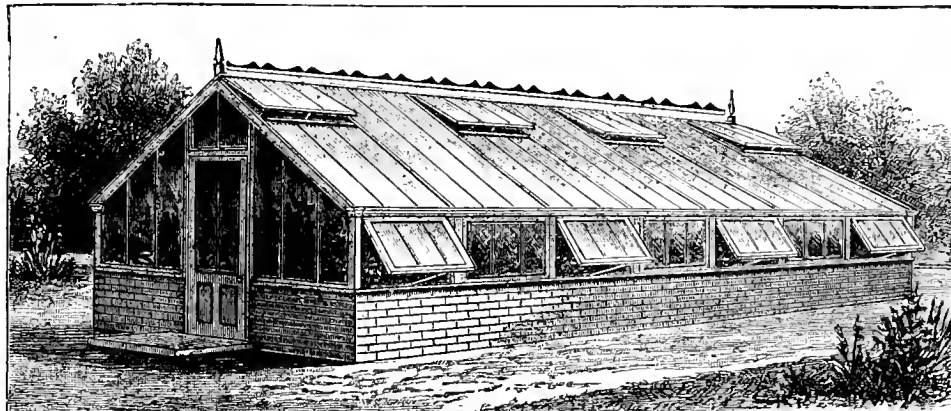
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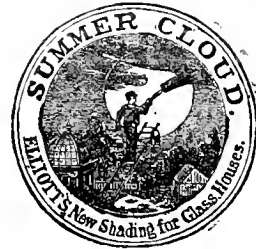
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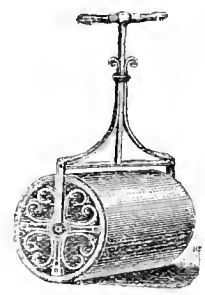
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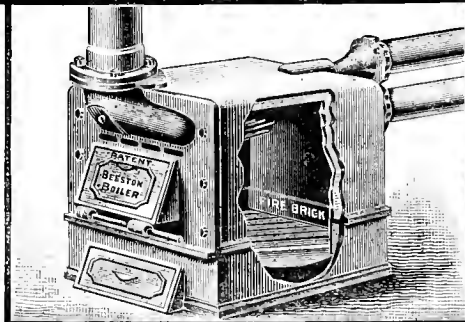
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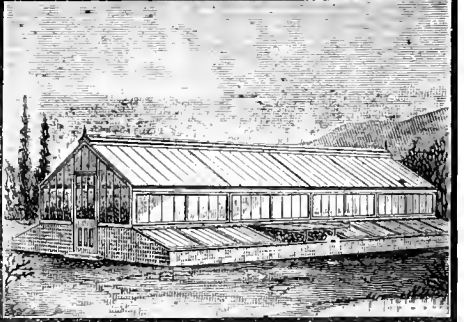
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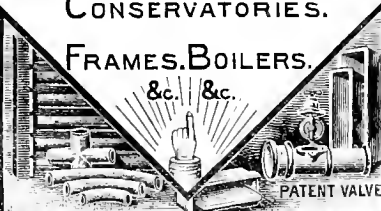
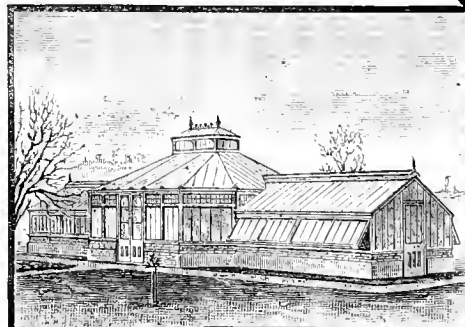
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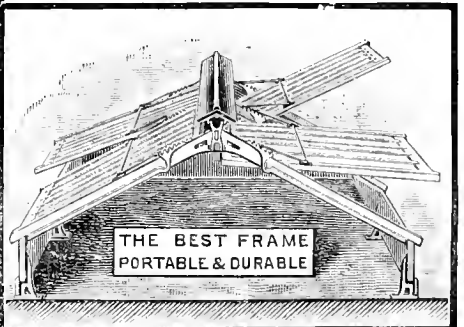
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SATURDAY, APRIL 11, 1896.

## TRUMPET DAFFODILS IN THE LANDES.

DURING a recent visit to Biarritz, I succeeded, not without difficulty and expense, in seeing *Narcissus maximus* growing in a spot in which it is probably indigenous. It is seven or eight years since we heard that this variety had been collected wild, and several hundred bulbs were distributed by a dealer in Biarritz, and found their way to England, but the place where they were collected continued a secret. About four years ago, whilst I was at Biarritz, an old woman appeared, whom I did not then see, with a large basketful of flowers of *N. maximus*. No one knew where she came from, or where she was gone to; but before I left for England I had succeeded in tracing her, but was prevented by bad weather from visiting the habitat of the bulbs. In that summer she sent me about 200 collected bulbs, which I planted at once, and they grew so rapidly that before winter they were more than 1 foot high and in bud, but the severe frosts which followed killed nearly all. These which survived proved to be the true variety *maximus* of a very fine strain. This year I was resolved to visit their native spot, but twice, about the first week in March, with a relation who resides at Bayonne, I searched the indicated neighbourhood, inquiring of every native we met. Some had never heard of such flowers, others directed us to double *Telemonius* in cultivated grounds; but as our guide had failed us, owing to wet weather, our search was fruitless. The third time we insisted that she should start with us from Bayonne station. The dreary district of the Landes consists of wet marshes and endless woods of Pinaster, with many low hills on which villages are built and vineyards cultivated. It is thinly populated, and has few attractions, except for shooters of wild fowl. Here and there woods of small cork Oak vary the prevailing Pine-woods, and there is besides a good extent of unplanted waste land. In this district our guide, who dealt in herbs, old china, Anemone flowers, and so on, told us she knew of four spots, several miles apart, in which these large single Daffodils grew. We could only visit one of them in a day, so selected the nearest to a railway station. It is a few miles from Dax, towards Pau. We obtained with difficulty and at a high charge, a small baker's cart, and still smaller pony, and four of us, closely packed, started under the old woman's guidance. We passed several vineyards in which the double scarlet *Anemone hortensis* was flowering in profusion. This is protected as a profitable flower, and as it carries well, is sent in large quantities to the towns. Single Daffodils seem to be held in no esteem either in



those parts or elsewhere in France, except amongst English visitors. Hence we saw Double Telemionius and Double Incomparable (Butter-and-Eggs), cultivated for their flowers in many of the peasants' vegetable grounds, but no single Daffodils. In one part we passed through a wood, entirely open to the road, and with very thin undergrowth, which was quite carpeted with the Daffodil, known as pallidus præcox, flowering unmolested. The common Primrose also grows in profusion by the roadside in many places. After driving five or six miles our guide stopped us, and led us up a woody hill, marching at such a pace in her wooden sabots, that we could hardly keep up. About half a mile from the road, we went through a hedge of Bramble and Smilax into a piece of rich pasture, where on a bank before us, perhaps 100 bulbs of *N. maximus* were growing thinly scattered about. The woman told us that she had found all the four places quite accidentally, and that the others were more nearly exhausted of their contents than this. I do not see any reason to doubt that the bulbs are native; the fact that they are not, and probably never have been, looked upon as valuable for their flowers, makes it unlikely that they were introduced, and the scattered way in which they grow makes them seem neglected. It is probable that closer search might discover many spots in this vast district where the same variety grows.

After looking into the botanical works of Loiseleur, De Candolle, Godron, and others, I find it so difficult to identify the varieties of Trumpet Daffodil which they describe as native in France, that I no longer attempt it. *N. major* is a term very loosely used by them, and would, perhaps, include *maximus*, even if any line can be drawn between these two varieties as at present known to dealers. I have had from different parts of the country near Bayonne several forms of *N. major*, some with the mouth of the trumpet partly recurved, so as to come near *maximus*; but I have never succeeded in finding any of them growing wild. The statements of the peasants who collect them are utterly unworthy of trust. I have heard that the wild parts of the Basque country near Hasparren contain these large self-yellow flowers, but I have little doubt that they might be found in parts of the Landes. One peculiar feature about all these lowland Daffodils in France is the uncertainty of their distribution. Here and there a wood may be found quite full of *N. pallidus præcox*, whilst twenty neighbouring and similar woods may be searched without seeing one.

The citron Hoop Petticoat should also be mentioned as a native of the Landes. On unreclaimed, wet, heathy land, not wooded, it is common from the Spanish frontier nearly to Bordeaux, becoming scarcer further from the coast, the eastern limit being, I believe, Bagnères de Bigorre. This is the extreme limit of the species in Europe. No other variety of *N. Bulbocodium* is found outside the Spanish Peninsula, except in North Africa. This citron-coloured *N. Bulbocodium* is still found in profusion close to the town of Biarritz, and in spite of the digging up of thousands for the English bulb market, seems still to flower in undiminished numbers.

I have remarked above that English writers on Narcissus have assigned limits to *N. major* which certainly were not intended by the French or Spanish botanists, and have suggested that the large self-yellow coming near *N. maximus* in form, is probably to be found in the Landes.

I have never seen anything like either major or maximus (as we now understand those names) from Spain or Portugal, all the trumpet Daffodils from those countries having distinct characters. Nor are the varieties mentioned known in any part of the Pyrenees as Mountain Daffodils. I have had from Northern Italy a form very like the *N. major* of English writers (*Bot. Mag.*, t. 51), but most of the self yellow Daffodils of Northern Italy are nearer the type known as *spurius*, and the prevalent large Daffodils of that country which Mr. Dammann, of Naples, distributes under several names, are two-coloured, like the princeps or single Telemionius of our bulb dealers. *C. Wolley Dod.*

## NEW OR NOTEWORTHY PLANTS.

### CEOLOGYNE RUMPHII, LINDL.

It is, I think, quite as interesting to re-discover a long-lost species as to find a new one, and in many cases more so. I was delighted, therefore, to get hold of what is evidently *Cœlogyne Rumphii*, Lindley, a species based on a drawing and description by Rumphius in the *Herbarium Amboinense*, vol. v., p. 106, t. xlviil. Lindley himself did not know the plant, and was enabled to describe it by extracting some notes from Rumphius, which are so written that his description is misleading. I had seen, some years ago, numerous dried specimens in the Buitenzorg Herbarium, and was surprised we had not got the plant in cultivation. After urging all the collectors I knew of who were visiting its home to seek for it, I received this year from Mr. Pereira, collector for Messrs. Sander, a plant which he had brought from Amboioa, somewhat suggestive of *Cœlogyne speciosa*, which, however, on flowering, proved to be new to me; and on comparing it with Rumphius' figure and description, I found that it evidently is the long-lost *Cœlogyne Rumphii*.

The pseudo-bulbs are oblong, more or less four-angled, about 4-inches in length, and about 1 inch through; but they vary a good deal in form, as they do in most of the species. The leaves are very large, being 1 foot or more in length, and about 5 inches across, obovate, rather stiff in texture, of a deep-green colour, with many strong nerves. The flower-spike arises out of a tuft of sheathing leaves close to a pseudo-bulb. It has a long wiry peduncle, longer than the terminal leaf which is borne by this shoot, i.e., about 6 inches long, and ending in few-flowered racemes. The flowers are large and pretty, and generally they open singly, but sometimes two of them open at one time. Unlike those of many other species of *Cœlogyne*, they last for a long time—for some weeks even in this damp and hot climate. The bud is wrapped in a lanceolate-acuminate green bract, which falls off before the flower opens. The sepals are  $1\frac{1}{2}$  inch in length, lanceolate-obtuse, and keeled, and of a pale green-apple colour; the petals narrow, linear, curved back so that their points meet behind the flower, and they are also of a pale-green colour. The lip is longer than the sepals, and pandurate in shape. The lateral lobes have short, curved points, and are beautifully mottled and spotted within with Indian-red, the spots showing through on the outside as a light-red reticulation. The terminal lobe is much broader transversely, oblong, emarginate, and pure white. On the disc between the lateral lobes, are the three usual keels, which are rather low, and truncately toothed, the edge being of the beautiful crimson colour that one sees on the lip of *Dendrobium cruentum*. The keels run on to the isthmus forming the base of the terminal lobe, and there are often noticed one or more additional short crests on the isthmus outside the longer ones; and in one flower I remarked these crests appeared on one side of the flower, but they were absent on the other. The crests on the lips of *Cœlogyne* are, however, often unequal in number and form, and in some species I have seen them differ in almost every flower. The column is stout,

with a large, almost entire hood, projecting far beyond the white conical anther. Its lower part is pale green, passing into orange on the hood, and on the face towards the lower part are many red streaks and spots.

The plant appears to me to be as nearly allied to *C. speciosum*, Lindley, as to any other, and is charming, and is likely to be popular with Orchid cultivators, flowering readily, whilst the flowers are both handsome and enduring. A stock will be ere long in the hands of the gardeners. It will be noticed that there are some slight discrepancies between this description and that of Rumphius; and the chief one is, that he describes the inside of the lip as "fusco variegata," but in the Dutch translation this is "bruin gespikkelt," which fairly well suits the plant. He also mentions that it looks like a flying hornet, but I must admit that the resemblance is remarkably obscure. In some respects the plant resembles *C. Micholitziana*, Kraozlin, *Xenia Orchid.*, iii., t. 256, which, however, appears to have a callus covering the whole disc of the lip, and no keels (a most unusual arrangement in *Cœlogyne*), and a very small bilobed hood to the column. *A. N. Ridley, Singapore, March 4, 1896.*

## ORCHID NOTES AND GLEANINGS.

### ORCHIDS AT W. VANNER'S, CHISLEHURST.

THIS collection is unique in the many rare varieties it now contains, and under the skilful cultivation of Mr. Robbins, the gardener, the plants are a very healthy lot. Amongst many that are in flower, and others that look very promising, are—*Brassavola glauca*, *Cattleya Trianaei* Robert Measures, *C. Vancneriana*, *C. Arnoldiana*, *C. Keinastiana* (very beautiful), *C. Prince of Wales*, *C. insignis Sanderi*, *C. maxima*, *C. Lawrenceana*, *Calanthe Regnierii*, *Cypripedium Lecoedi* (very chaste), *C. grande*, *C. Calypso*, *Oakwood* variety; *C. pulchellum*, their own hybrid; *C. creon superbum*, *C. Lathamianum*, *C. Chamberlainianum*, one epike has been in flower for sixteen months; *C. Measuresianum*, *C. politum*, and a very distinct variety of *Cypripedium montanum* type, one out of an importation of Mr. Sander's, the whole of the flowers spotted with purple, with a deep band of white round the dorsal sepal, and a very pale pouch. There were to be remarked plants in bloom of *Cymbidium chameo-Lowianum*, *Dendrobium luteolum*, *D. velutinum*, *D. nobile nobiliss.*, true, flowering freely; *D. Wardianum* and *crassinode* in profusion, and the pretty *D. Dominicanum*; *D. Cooksoni*; *Dendrochilum glumaceum*, very fine; *Lælio-Cattleya Fowleri*; the beautiful *Odontoglossum Arthurianum*, which received a First-class Certificate at a recent meeting of the Royal Horticultural Society; *Odontoglossum Andersonianum* with branching spikes; a very fine *O. Humeanum*; *O. Wilckeianum*, a very special variety; *O. luteo-superbum*, *O. ramosissimum*, *O. Uro-Skinneri*, *O. gloriosum*, *O. Rossi majus* in fine types, *O. Roezlii*, and *O. R. album*; the curious *Restrepia elegans* (Karsten); *Oncidium Marshallianum*; *Phaius Cooksoni* and *P. Marthæ*. *Masdevallias* are just coming into flower, including, amongst others, *M. Heathii*, *M. Schroderiana*, *M. Bull's-hood*; and the brilliant *Sophronites grandiflora*, flowering very freely. *John Carrill.*

### THE OLD DOUBLE WHITE CHINESE PRIMROSE.

IT is a matter of surprise that in few private establishments are seen any of the old double white *Primula*. Its decorative usefulness as a plant, and its capacity to produce abundance of flowers, useful for button-holes, &c., should be sufficient to recommend it. It is thought by some who have not been successful in their cultivation of the plant, that it is difficult of management, its propagation being especially troublesome. Like everything else, however, when properly understood, these obstacles are easily overcome. In March the old plants should be moulded up

with decomposed leaf-soil and sand, Cocoa-nut fibre or powdered charcoal, in order to encourage new roots before the plants are divided up. At the end of April or early in May, I pull all my old plants to pieces, and in doing so take care to preserve as many fibrous roots with the healthiest young growths as I can. They are then placed in small and large 60-sized pots, according to the strength of the offsets. The soil used for potting consists of finely-sifted loam, leaf-soil, and sand. The plants are potted firmly, and they are then placed in a cold frame facing south. Here they are plunged in Cocoa-nut fibre; but had I a propagating-case in an intermediate-house, this would be preferable. They are then given a watering through a fine rose, and kept close, being shaded from the sun, and lightly belowed

during the summer months in the brightest part of the day, say from 10 o'clock to 3.30. Close the frame at nights, and if the weather is cold, cover with mats. By the middle of September, the plants should be taken into the greenhouse, and placed on a shelf or light position near the glass, and early in November the successful grower will be well repaid for the little extra attention bestowed upon them by seeing good specimen-plants full of flower, which they will continue to produce until April. Nothing is better as a stimulant than a little weak soot-water, given them once a week, when the pots have become full of roots; it assists them greatly. That the above cultivation suits the requirements of the plant I think is proved by the specimen which has been sent to the Editor along with this article. I had a

monumental work, *The Silva of North America*, we learn that the species usually grows on dry, gravelly uplands, but sometimes in rich alluvial soil along river bottoms, &c. It is apparently confined in a wild state to the Southern United States, and is found most abundantly, and attains the largest size in the region west of the Mississippi River. It grows to a height of 40 or 50 feet, with a trunk rarely 2 feet in diameter. The wood is hard, compact, and unwedgable, and is employed for hubs of wheels, &c. There are three nice specimens in the Kew Arboretum, one of which is not much below 30 feet in height. *Geo. Nicholson, Royal Gardens, Kew.*

### HOPETOUN HOUSE.

THE princely residence of the Earl of Hopetoun is charmingly situated on the Firth of Forth, 5 miles west from Dalmeny, and about a dozen west from Edinburgh. The beauty of the route thither is enhanced by the undulating woods of Dalmeny Park, the seat of the Earl of Rosebery, while on the other side of the Forth the eye catches a glimpse of the stately mansion of Lord Elgin. It appears that the delightful district through which we pass is the ancestral home of three of the most distinguished contemporary Scottish noblemen, and this forms not the least interesting of the reflections by which we beguile our two hours' journey along the Queensferry Road. At Dalmeny we suddenly came in full view of the Forth Bridge. The old ferry, associated with the name of so remote a personage as Queen Margaret, has given place to the most marvellous of modern bridges, which, in three bounds, spans the mile and a half of water between the north and south shores of the Forth. Passing through South Queensferry, which contrasts in its quaint old-world aspect with the modern giant of steel and masonry overlooking it, we soon come in sight of a noble gateway, flanked by a chain of massive pillars, and premonitory of the elegance and splendour of the architecture of Hopetoun House. A stately avenue, which opens out into a broad park, brings us face to face with one of the finest mansions in Scotland.

The gardens are charmingly situated on the two slopes of a gentle glade, through which meanders a small stream. Staying for a little to take a general survey from the top of the north slope, the eye is drawn to a very fine collection of Cedars, Abies, Scotch Firs, and other trees, which form a suitable background to the smooth lawn stretching in front of a row of Peach-houses. This collection of Coniferous trees is otherwise remarkable as containing one of the original *Pseudotsuga Douglasi* imported into this country. Beyond this grove the eye catches a fine glimpse of the deer park, with Midhope Tower, the remains of a mansion of great antiquity, crowning the summit of the rising ground. Groups of stately Oaks and Beeches further diversify the view.

Turning now to inspect the houses, a range of six vineries, each 42 feet long, is entered, the Vines consisting of Black Hamburgh, Muscat of Alexandria, Lady Down's Seedling, &c. The Muscat-house was being cleared of the Vines in order to be renewed with Muscat of Alexandria. The earliest Hamburgh-house was started, and gave a promise of a fine crop. Several specimens of the Guava, *Psidium Cattleyanum*. This unexpected meeting with an old friend, to be followed later by similar surprises, is explained by the fact that the Earl of Hopetoun was, during the past six years, the popular Governor of Victoria. Not the least valuable of the trophies brought or sent home by his Lordship and Lady Hopetoun are several rare specimens of Australian trees and plants, which now form a special feature of Hopetoun gardens. Before leaving this range, we noted the last bloom of a large collection of Chrysanthemums, besides a capital lot of Azaleas and other spring-flowering plants.

The next range is devoted to the culture of Peaches, Nectarines, and Figs, which bore an excellent crop last year. The promise for this season, to judge from those already started, is reassuring. The same signs of tidiness and neatness are apparent here, and



FIG. 65.—THE WIAHOO, OR WINGED ELM: *ULMUS ALATA*.

over-head with the syringe each bright morning. In about a month most of them should be making roots, and consequently a little air is given them to prevent them becoming drawn. The plants must be carefully watched in order that no damping of the foliage may occur, or the plant may succumb. All decaying foliage must be promptly removed, and a little powdered charcoal applied where the union is broken. At the end of June or early in July they should be moved into the pots in which they will flower; the strongest plants will require 5½ or 6-inch pots, and the smaller ones 4½ inch. Use fairly rich but light material, as given before, with the addition of a little fine peat, soot and bone-meal. Place them back in a frame facing south, and give them close attention in the matters of airing and watering; the latter must never be done unless the plants really require it. They will require a light shading of tiffany or hexagon netting

batch of sixty plants, most of them as well flowered. *J. Mayne, Bicton.* [The plant received from our correspondent was an excellent one, large in size; it was remarkable no less for its abundant healthy foliage than for the very uncommon wealth of flowers it possessed. Ed.]

### THE WIAHOO, OR WINGED ELM.

*ULMUS ALATA*, the subject of the present note, was, according to Loudon, introduced to this country in 1820. It is, however, far from common, although the species, either in its summer garb or in its leafless winter condition, is decidedly attractive. In winter, of course, the extraordinary development of cork on its branches is most conspicuous. The neat habit, and the Hornbeam-like leaves, render the plant a desirable one for planting as a single specimen on a lawn. From Professor C. S. Sargent's

the large variety of spring-flowering plants with which the range is also ornamented, is equally thriving and effective.

We next inspect a greenhouse filled with a fine lot of useful flowering specimens. Another contains a remarkably good collection of Carnations, worthy of remark both on account of their vigour and size. The stove is beautifully arranged with *Dracenas*, *Crotons*, *Pandanus*, variegated *Ferns*, *Anthuriums*, and a charming collection of stove climbers festoon the roof and sides. The Palm-stove is furnished with magnificent specimens of *Kentia*, *Phoenix*, *Erica*, &c., and includes some rare varieties of Australian *Ferns*, *Orchids*, &c. The contents of the forcing-house—*Daffodils*, *Lily of the Valley*, *Azaleas*, *Hyacinths*, *Freesias*, *Cinerarias*, *Cyclamens*—are equally indicative of intelligent management and successful culture. A range of frames, which next absorbed attention, contains many hundreds of Strawberries in pots, *Chrysanthemums*, &c., all in the best condition. A lean-to house, containing *Stephanotis floribunda*; and in one of the sections a large collection of *Pelargoniums* well deserved the time spent in it. The inspection closed with a stroll through the conservatory, with its effective assortment of Palms, *Ferns*, *Acacias*, *Richardias*, *Azaleas*, &c., and including two very fine specimens of the Staghorn Fern.

The inspection of the gardens was completed by a pleasant saunter over the lawns of the flower-garden, arranged in designs which must make the spot both attractive and effective in the summer season. The vegetable garden adjoining is replete with large collections of the hardier fruit trees, the excellence of whose quality has become a proverb. The walls afford shelter for Peaches, Plums, Pears, and other fine kinds.

From the gardens we passed into the park to inspect its many venerable sylvan treasures, and to admire at frequent intervals some delightful vista through the trees. Hopetoun is famous for its Cedars, and we did not go far before becoming aware of the fact. There in a glade, not far from the house, stand two hoary specimens which excite our admiration for the space of a quarter of an hour. One of them is stricken by decay; but the other, at the age of 300 years, has attained a height of 90 feet, and is 22 feet in girth. Here are a few statistics which will reveal more than a description, but which can hardly be called exceptional here. A *Picea Morinda*, grafted on the Norway Spruce in 1826, was 10 feet high in 1837, and now measures between 80 and 90 feet. A grand Beech is 112 feet in height, and 14½ feet in girth, yet you might find scores that might almost venture to dispute his pre-eminence. An Oak 103 feet high, and 11 feet 10 inches in diameter is hardly, you insist, entitled to take rank as the superior of his many peers. The views through these groups on sea, hill, and dale on the Forth and the Ochils, and Stirling Castle, with the furrowed brow of a rugged Ben afar off, are glorious, even in the dense atmosphere of a winter day.

The Pinetum affords a study of a large variety of Pines, &c., in fair condition. *Pinus Cembra*, *Cedrus atlantica*, *Pattoniana*, *Cryptomeria*, *Pinus Lambertiana*, *Tsuga nobilis*, *Tsuga Mertensiana*, *Abies Nordmanniana*, *Sequoia gigantea*, *Pinus Koraiensis*, *Thuya*, *Cupressus*, &c. A rocky in the middle contains some interesting specimens, found in the neighbourhood. Thence we continue our stroll into the lower deer park, which flanks the winding shore of the Forth, and which is overlooked by Lord Hope's walk—a charming promenade, with a far reaching view.

Hard by is the former site of Abercorn Castle, which lends a title to the Duke of that name, whose broad acres contrast with the circumscribed spot from which the titular dukedom is derived. By this time we are nearing the house, admiring the magnificent lawn that slopes away from the west front into the woody vista beyond, and stopping to take a look at several promising Cedars planted by royal visitors to Hopetoun, including the Shah, the kings of Saxony and Denmark, the Prince and Princess of Wales, &c. *Edina*.

## FOREIGN CORRESPONDENCE.

### RHODODENDRON EXIMIUM AND OTHERS.

Will you kindly allow me a little space in your paper to clear up a doubt as to *Rhododendron eximium*? The discoverer of the plant—Nuttall—gives in the *Journal of Botany* for 1853 an exact description of the plant, but had not seen the flowers. My plant, which flowered for the first time in 1889, had rose-coloured flowers, twenty-six corollas (twelve to eighteen, Nuttall), and fourteen stamens. The habit was exactly like that of *R. Falconeri*, but the leaves were more woolly on the under-side; and the colour of the corolla blush-coloured. I believe it to be a rose-coloured variety of *R. Falconeri*. Last year I saw in an exhibition a plant under the name of *R. eximium* with woolly leaves and rather white flowers. Would some of your learned correspondents kindly express an opinion concerning this matter? There are here about 100 heads of flower of *R. Aucklandi* now opening. A plant of *R. niveum* has just flowered, the colour being, however, of a much deeper shade of lilac than the plant figured in Curtis's *Botanical Magazine*, and the corymbs having about thirty flowers. *R. campylocarpum* is very much like the figure in Hooker's *Sikkim Rhododendrons*; and Delaney's *R. decorum* is just opening five heads. Last, although not least, the red *R. argenteum*, a small grafted plant, is flowering with two large trusses. Is this to be considered as a variety of *argenteum* or as a species? *O. P., Lehenhof, Austria.*

### ASTERS AND ZINNIAS FOR BEDDING.

GREAT improvements have been made in Asters during recent years, and many distinct and beautiful strains may now be obtained; but to have the plants in perfection, good cultivation is needed. The treatment they sometimes receive—that of being planted in small patches amongst hungry herbaceous plants, does not meet their requirements, or afford much idea of their beauty. In the flower-gardens proper they have not taken a leading place, although I have seen them, together with other half-hardy annuals, making a gorgeous display when extensively used as substitutes for *Pelargoniums*, &c., killed during a severe winter. They appear to me, however, to be best seen when planted in isolated beds, more especially when standard *Fuchsias* or similar subjects are thickly dispersed amongst them to break the somewhat even surface of the heads of bloom.

Some of the best varieties for bedding purposes are *Victoria*, which grows from 1½ to 2 feet in height, and which may be purchased in at least twelve distinct colours; three of the most beautiful and which harmonise pleasingly, being light blue, white, and rosy-carmine. *Emperor* and *Veitch's Bedding* are equally beautiful, free-flowering varieties, growing compactly, and measuring about 1 foot in height; while *Dwarf German* and *Dwarf Bouquet*, which are 8 inches in height, are excellent subjects for forming edgings to beds of taller Asters, or to borders of miscellaneous plants.

There need be but little difficulty in raising a stock of Asters, and for this reason, and because they have not to be wintered under glass like most kinds of bedding-plants, they are valuable to those persons who possess small gardens and few appliances. The first half of the month of April is a suitable time for sowing the seeds of these plants, and no place is better than a mild hot-bed (one that has done service for raising early Brussels Sprouts and Cauliflowers), and for this purpose a layer, 3 inches thick, of finely-sifted light soil should be placed on the bed, and the seeds sown in shallow drills drawn 3 inches apart. The frame should be kept close, and shaded till the plants come up, which will be in about ten days, after which time air should be admitted more or less freely on favourable occasions, and increased as the season advances. Mats or similar protectors should be used on the lights on cold nights. As soon as four rough leaves have developed, the plants must be pricked-out in frames, and if a thin layer of old Mushroom-dung,

covered with 2 inches of light soil, be spread on the bed, the plants will come away with good balls when lifted for planting in their summer quarters. At this stage, attention to watering and hardening are the chief requirements; the lights being left off entirely towards the end of the month of May, excepting in cold or very wet weather. Early in June the plants should be hardy and robust, and in fit condition for planting out.

As has been intimated, the Aster requires liberal treatment; their beds should therefore be deeply dug, and well enriched with decayed manure, and when planted upon poor soil, light sprinklings of nitrate of soda, applied in showery weather, form an excellent fertiliser for them, and greatly increase the vigour of the plants and size of the flowers.

*Zinnias* are remarkable for the beauty of the colours of the flowers, some of the crimson and yellow varieties being especially brilliant. Like the foregoing, *Zinnias* are well adapted for planting in isolated beds, but choice should be made of sunny situations, the *Zinnia* flowering more profusely in full sunshine. Generally the cultural details given for Asters apply to these plants, but as they make very rapid growth when young, the seed should not be sown before the last week in April. The double varieties are very popular, although the single ones are probably the more vivid in colour. Large double-flowering varieties, which grow about 2½ feet in height, are excellent for planting in large beds; and dwarf Pompon and double-flowered dwarf varieties, and *Z. Haagiana imbricata*, possessing very bright yellow flowers, are effective in small beds. *Thos. Coomber.*

### TREES AND SHRUBS.

#### MAGNOLIA CONSPICUA.

THIS, the Yulan, or Chinese White Magnolia, is now (March 28) an object of great beauty on the terrace of Gunnersbury House, Acton. It is a very fine specimen, and, I should think, quite 30 feet in height, and regular in growth; the spot in which it is growing is naturally well drained, because the ground near falls away abruptly to the ornamental water, which is on a considerably lower level; but the position, though sheltered on the east, is yet open to frost and west winds. Large as the specimen is, it is very prolific of its large, fragrant, white, tulip-shaped flowers, and if they are cut when about two-thirds developed, and placed in water in a room, they will open out and expand their petals until they become almost horizontal, while they retain their pleasant fragrance. It is not to be wondered at that Mr. Hudson always looks with great pride upon the fine example of this Magnolia, but not unmixed with concern, for frosts tear the snowy petals, and blustering winds rend them, until much of their beauty is defaced. *R. D.*

#### SPIREA THUNBERGI.

THIS Japanese species is the first of the long list of *Spiraeas* whose flowers add so much to the attractiveness and interest of our gardens from the end of March right up to October. It is a dwarf plant, distinct enough to be easily recognised amongst the somewhat embarrassing crowd of *Spiraeas* now in cultivation. It is not often seen more than 3 or 4 feet high, the twigs being thin and wiry, and the leaves small and linear-lanceolate. The flowers are pure white, and although individually small, are produced in such abundance as to transform the twigs into slender arching sprays of snowy blossom. Like most of the *Spiraeas*, it requires a rich, moist soil, and prefers a position fully exposed to the sun. It can be readily increased by means of cuttings put in during the late summer. *H. J. B.*

#### FOSYTHIA SUSPENSÆ.

THE most beautiful hardy flowering shrub of March is undoubtedly this Chinese plant. Nothing can be finer than the glorious cloud of yellow blossom that it carries now in such a graceful way on long thong-like branches. Whether planted as an isolated mass on a lawn, or rambling in an unpruned way over an arbour or against a wall, it is most effective. The only place in which it does not show to advantage is

in the too common mixed shrubby, starved and uncared-for, where it can only, by an effort, thrust its slender shoots above the crowd. Such treatment of a shrub such as this is disgraceful. Last week has seen it in its fullest beauty, and at Kew it was displayed in a variety of ways. It gives a yellow glow to the Director's office, one of the lodges is partially draped with it, and in several instances one sees it as an isolated mass on the lawns, sweeping the turf with its flower-laden shoots, and in one instance half a dozen bushes of it rise from a brilliant blue carpet of *Chionodoxa sardensis*, which is seen hundreds of yards away.

While speaking of *F. suspensa*, I should like to elicit information from any readers as to whether there is any real distinction between the Forsythia named in catalogues as *F. Fortunei*, as I have not

flowers. Highly interesting as well as beautiful is *F. intermedia*, which seems to be a genuine cross between *F. suspensa* and *F. viridissima*, as it possesses intermediate characters in growth and flower, being more erect and stouter in branch than *F. suspensa*. I know nothing of its origin, but it is by no means common, as I have only seen it in the Kew collection. W. Goldring.

SEQUIOIA GIGANTEA PENDULA.

Certainly one of the most curious of all Conifers is the subject of the present note. It cannot be described as ornamental, at least when of large size, though young specimens are sufficiently curious and distinct to warrant more than a passing notice. In Mr. Lane's nursery at Berkhamsted there is a specimen fully 20 feet high, and a number of others

PLANT NOTES.

STERNBERGIA FISCHERIANA.

Flowers and foliage of this species of Amaryllid, whose bright yellow flowers are about 2 inches across when expanded, come from Mr. C. G. Van Tubergen, Jun., of Zwanenberg, Haarlem, Holland, who says of it:—"This pretty plant, which was introduced by me from Armenia, is much hardier than *Sternbergia lutea*, from which it also differs by producing its flowers and its foliage in the spring-time. It is a nice addition to the stock of spring-flowering bulbs, being a perfectly hardy plant, bright in colour, and distinct in appearance."

DO WILD BIRDS NEED PROTECTION?

DOUBTLESS, those readers of the *Gardeners' Chronicle* who are students of natural history, have perused with something akin to amusement that portion of Mr. Leach's contribution on bird protection in the issue of January 18, where he describes kingfishers as being destroyed by the score in a certain locality during severe weather. Since my bird-nesting days these birds must have radically changed their habits to assemble in such numbers; and my experience gained, by-the-by, in the very locality from which your correspondent writes, was that so far from being gregarious, kingfishers like magpies are not gregarious, but they are met with singly or at most in couples. Still, the fact of their existing in such numbers as inferred by him precludes their immediate extinction, and from personal observation I believe that the kingfishers have considerably increased during the last twenty years. The advertisements culled by Mr. Leach are, doubtless, from the *Bazaar, Exchange and Mart*, the only paper in which birds are advertised systematically, consequently the process of extinction is more superficial than real. From an educational point of view nothing can excel a well-filled case of the rarer species well mounted in positions resembling those occurring in Nature, affording object-lessons to students which no verbal description or well-executed print could convey.

Many will agree with Mr. Leach as to the desirability of imparting a knowledge and love of bird and plant life, in our schools, particularly in town schools; but the most practical method of doing this is, however, a question not readily answered. Only a few weeks since an advertisement appeared in the *Gardeners' Chronicle* for an instructor in botany for one of the South London schools (evening classes). I enclose for your inspection the form to be filled in by applicants for the appointment, which commences, you will observe, at the munificent pay of half-a-crown per night. Little wonder if (apart from the smallness of the pay, which is such that an ordinary labourer would refuse to accept) our school teaching proves abortive, when a teacher is expected to have his erarium filled with the multitudinous subjects mentioned therein, and in which the successful applicant apart from botany, is apparently expected to be proficient. Many of the rarer species of birds are either denizens of a warmer or colder climate than our own, as the case may be, or being birds of passage only spend their time with us when the close season is in force. The laws at present existing should, if properly and impartially administered—which they are not—amplify most the exigencies of the case. The superabundance of our Acts of Parliament introduced by faddists offer excellent subjects to foreigners inclined to criticise and ridicule English manners and customs. In France, every owner of land, however limited in extent it may be, is a "sportsman," and harmless useful little birds are butchered in a manner unknown here. Since gun-licences came into force, almost all our wild birds have materially increased, and only to instance larks and plovers, which exist in prodigious numbers in many parts of the country, particularly the eastern counties and along the south coast. There is, therefore, no sound reason why they should not form part of our food supply in the



FIG. 67.—SENECIO MULTIFLORUS SEEDLINGS. (SEE P. 460.)

yet been able to satisfy myself on the point. I recently asked a nurseryman if there was a difference. "Oh, yes," said he, "*F. Fortunei* is a much more robust grower;" but I have not been able to mark the difference. Sir Joseph Hooker once thought that there was a difference between individuals of *F. suspensa* in the relative length of the style, some flowers being pin-eyed, others thrum-eyed. Mr. Hemsley does not even mention *F. Fortunei* in his *Synopsis of the China Flora*, so I think it must be only a garden name, and if so, it should be suppressed in catalogues, as it leads the unwary to purchase what probably they already have.

*F. viridissima*, though without the elegance of *suspensa*, is nevertheless a beautiful shrub, quite worthy of a place, even when *F. suspensa* is in the same garden. It is of more erect growth, and has rather larger, and sometimes a more plentiful crop of

from 5 to 6 feet high. As seen from a distance against the sky-line the old tree has a very singular appearance, the long, pendulous, and irregularly produced branches imparting an outline such as one rarely sees, unless associated with an isolated specimen that has for long been stranded on an exposed mountain side. Young trees are far more shapely and pleasing in outline, and though they cannot be described as ornamental, yet they are so very distinct, that their presence in the park or garden is quite desirable. In all the specimens I examined, the branches sprang out directly at right angles to the main stem for a distance of about 3 inches, then turn abruptly downwards parallel to and close to the stem for in many instances a space of 4 feet. The foliage is quite normal, and one of the cones I picked off was 1½ inch long, by fully 1 inch wide, and placed on a branch-like footstalk hardly three-quarters of an inch long. A. D. Webster.



same manner as partridges, pheasants, wild ducks, &c., to the killing of which Mr. Leach makes no objection. Again, many species of birds, on account of their immense numbers, have to be treated as vermin, and kept under by the gun or otherwise, or in some localities it would be impossible to obtain any fruit worth mentioning.

The absence of insectivorous birds in the immediate neighbourhood of London is principally caused by cockney sportsmen, who assemble in numbers, particularly on a Sunday, on nearly all open waste lands within easy distance of town, and blaze away at any and everything clad in feathers, in oblivion of the fact that a law exists against this wanton destruction, which, however, is never enforced—the penalty being, I believe, £1 for firing off a gun on the Sabbath. The scarcity of birds of the genus *Turdus*, for instance, is the principal reason why plants of the Cabbage family are so difficult to keep clean and bring to perfection during the summer months, owing to the swarms of caterpillars which infest them at that season. Thousands of useful birds are annually destroyed by these gunners, which would, were they spared, really prove a benefit to the whole community. S. S.

### THE TRADE IN SIAMESE TEAK.

For a long time past the use of Teak has been increasing in Europe, the well-known strength and durability of the wood recommending it for a number of useful purposes. It is interesting, therefore, to have some facts from Her Majesty's *chargé d'affaires* at Bangkok, on the condition of the Teak trade and forests in Siam. Mr. de Bussen says, according to the Customs' figures, that Teak was exported in 1894 to the extent of nearly double the value of the figures for 1893. In 1894 the quantity exported amounted to 57,719 tons, valued at £160,000, and the figures for 1895, it was calculated, would far exceed these. Large sums continue to be invested in renewing leases of forests, and acquiring new leases. The number of logs now floating down annually to the duty-station of Cheinat, on the Menam, 100 miles above Bangkok, is about 72,000. Up to three years ago the number was only 45,000 or 50,000, falling in the floating season of 1891-92 as low as 12,000.

Taking only regular shipments in vessels of European build, the following are the best statistics obtainable:—In 1894, 37,090 tons were exported, as compared with 24,550 tons in 1893; the values being respectively £113,657, and £88,464. In the last two years Bombay has taken a greater quantity of Siamese Teak than England, but the quality is very inferior, representing the surplus of the saw-mills after all the best Teak they can produce has been shipped to Europe. In bulk, however, the figures stand as follows:—In 1893 England took 5700 tons, and Bombay 8400 tons. In 1894 England took 13,000 tons, and Bombay 15,000 tons, or according to one estimate as much as 17,000 tons. Hong-Kong takes 6000 or 7000 tons annually, and Singapore about 2000 tons. A demand is growing in Saigon for Siamese Teak, 390 tons of which went there in 1894. A French Government Commission is now negotiating for the purchase of 1300 tons in Bangkok for shipment to the Toulon dockyards, *via* Saigon. It seems, therefore, that France does not share the prejudice of the British Admiralty against Teak from Siam, much of which grows on the same hills as the highly-prized Maulmeiu Teak, being floated down in one direction or the other according to the water-shed.

Various opinions are entertained as to the extent of the deforestation which is being caused by the growing exports of Teak from Siam. The Siamese forests, however, are said to have suffered less than those of the Burmese Shan States, having, indeed, been worked a much shorter time. Provisions for replanting are contained in the new form of forest lease introduced last year, but they are irksome and inefficacious, and the Siamese Government is now endeavouring to secure the services of an Indian forest officer of experience to advise them upon the whole question of forest management.

## FORESTRY.

### HEDGE-ROW TIMBER.

THE prevalence of hedge-row timber is a most characteristic feature of an English landscape, and gives it, when viewed from a commanding position, the appearance of a continuous forest. This class of timber owes its origin to various causes, and among them, planting is perhaps the least common. The most probable cause of its existence is to be found in the condition and treatment of farm hedges in the south of England. Left to grow pretty much as they like for a number of years in succession, they form narrow thickets, beneath which seeds of all indigenous plants find refuge. In this way they act as nurseries for the more common trees and shrubs, the seeds of which are carried by birds or the wind from neighbouring trees. The most common of our hedge-row trees, the Elm, requires no agencies of this kind to distribute it, as the suckers thrown up from the root soon form a young colony round the parent tree, which, as a rule, grow straighter and faster than seedling plants would do. When these hedges are eventually cut down, which may occur once in ten years, or when they become too thin and bare at the bottom to prove efficient fences, many of these seedlings and suckers are left standing, for no other reason, probably, than that instinctive respect for a young tree which lurks in the rustic mind as well as elsewhere, but which respect, we regret to say, is not always paid to it in its after life.

The advantages of hedge-row timber from an æsthetic point of view are manifold, but the agriculturist looks at them from a different standpoint. To the breeder and feeder of live stock, hedge-row timber is probably more beneficial than hurtful, affording as it does shelter from strong sun, and cold and driving rain, and few stockowners care to be entirely without it. But to the cultivator of arable land, hedge-row trees are an undoubted nuisance, by preventing crops from ripening evenly, robbing the soil, and blocking the drains with their roots. In arable districts, therefore, such trees should be reduced in number as far as possible, and in any case it is worth considering whether they might not be judiciously replaced by small clumps, whenever these can be placed out of the reach of cattle, or without interfering with cultivation—for a tree in a hedge intended to act as a fence is as much out of place as a bull in a china-shop, and it is impossible to get really good hedges under the shade of trees. Few things look worse than those combinations of trees, thorns, posts, and rails, dead and living Brambles, barb wire and sheep-hurdles, which represent hedges in a thickly-timbered country, and few things more futile than an attempt to keep cattle between them for any length of time; but on most farms there are patches of ground in the corners of fields which, with very little additional fencing, might be utilised for the growth of ornamental or useful trees without interfering in any way with the legitimate use of the ground, or the growth of the hedges. A tree which seems especially suitable for places of this kind is the false Acacia (*Robinia Pseudo-Acacia*), whose merits have been more appreciated on the Continent than with us. Its ornamental character has made it particularly popular as a wayside tree, and county and district councils might, when they have finished their foot-paths, do worse than plant a few of these trees along them for shade to the traveller in the heat of summer. As a farmer's tree it has no equal, for when grown closely, it quickly produces useful poles, and no timber is more durable when used as a fencing-post. It succeeds well on light sandy soils, reproduces itself freely from suckers, and its prickly shoots render it an excellent hedge-plant. Alder, Willow, Poplar, &c., are also useful trees for planting up odd corners about the farm which are too wet for ordinary cultivation, while Hazel might be grown on drier spots; in fact many, if not all, of those commonly occurring waste corners, which usually act as weed seed-depôts on a farm, might be profitably planted up without going to any appreciable expense in so doing. A. C. Forbes.

## BOOK NOTICE.

LE CHRYSANTHÈME À LA GRANDE FLEUR. Par Anatole Cordonnier. (Published by the author, Bailleul, Nord, France.)

WE have frequently considered it to be a somewhat remarkable circumstance that while here in England we have had a large number of cultural treatises published on the Chrysanthemum, in France, where so much has been done to improve the flower, its literature has in a large measure been almost neglected. There are, it is true, a few French authors who have written upon the subject, but viewed from the exhibitor's standpoint, the new work which is now under notice is the only one worthy of the name of a book. Mr. Cordonnier is an able and enthusiastic cultivator of the famous flower from the far East, he thoroughly understands its cultivation, has practised it with success, and now, like the English champion, Mr. Edwin Molyneux, gives the public the benefit of his long experience in all its details.

Unlike many horticultural writers, Mr. Cordonnier does not confine himself to a dry technical method of imparting his information, but here and there lapses into pleasant chatty moods, and more particularly so, perhaps, in the early part of his book. But he does not allow his pen to run away with him, for the first part of *Le Chrysanthème à la Grande Fleur*, occupying more than half the entire work, takes the reader through a vast amount of practical work, in which propagation by cuttings, by seed, composts and manures, bud-selection, re-potting, waterings, and many other matters are fully dealt with in their turn. The second part is devoted to select lists of the best varieties suitable for producing big show blooms—a mode of cultivation not understood in France until recent years, but one very ably demonstrated by the author in 1887, on the occasion of his Fête des Fleurs at Roubaix. Since then other growers, notably Mr. Ernest Calvat, have shown French Chrysanthemum fanciers the potentiality of the flower, and it is safe to affirm that this style of cultivation is now better understood and more widely practised in that country than ever. In the concluding portion of the book Mr. Cordonnier travels over much ground, interesting to French grower and English alike. Among the subjects are the Chrysanthemum in England and in France, new varieties, foreign shows, floral committees, &c.

Considering that the book has been written for continental readers, it is not within our province to criticise the cultural matter, because in no plant do climatic influences play a greater part in ultimate success or failure than in the Chrysanthemum. As a literary production, Mr. Cordonnier's work may be pronounced a distinct success, for it is got up in good style, is neatly and clearly printed, is well illustrated, both in the text and with inserted plates, and is comprehensive in its scope. The price at which it is published, two francs, is very moderate, and should ensure a large sale to the author. The book is dedicated to Mr. Harman Payne, the Foreign Secretary of our National Chrysanthemum Society.

### FARMERS AND FRUIT CULTURE.

THE improved system of fruit-growing adopted by individual growers is, I dare say, most countries where fruit-growing is promising, might be made to serve as examples to be inspected by neighbouring farmers under the lead of suitable persons. The permission for inspection would doubtless be readily obtainable, and if it be done twice between July and early in October, in relation to earlier and later sorts respectively, the ocular demonstration of size and quantity produced would go further than any theoretical teaching, some points of which might be enlarged on *in situ*.

Acres to be selected for the most favourable results in fruit-growing should, for Apples, have a south-west aspect by preference, or as near thereto as practicable, a gentle slope being best of all, with natural shelter to some extent. An owner would soon have proof of the difference between an older orchard with

perchance a northern slope, and the results in a few years of the selection of acres as indicated.

The proof would be promptly apparent that it was worth while to sacrifice other crops to these requirements in order to insure a first-rate Apple-crop, which in such situations would even result in such years as 1879, when, for instance, Lord Suffield Apple did well, although Beetroot grown alongside of it was a failure.

The bountiful advice tendered for the attainment of success has not, so far as I have seen, touched with sufficient emphasis on the system of planting pyramids and bush Apple trees in the most obvious way. There is so much clay to contend with in these parts and elsewhere, that the very idea of

in the issue of February 1, should not deprecate it as he does, for he appears to exaggerate the labour of removal of every other tree to fresh acres when growth will have become too close. Nor would the accident of Celery requiring earthing-up in September be the right time to root-prune, the most valuable portion of a crop having yet to hang for another month. Also the removal of soil from under fruit trees for earthing-up Celery seems too rough and ready a method. If "W. P. R." would adopt the proper plan of root-pruning for each tree to be removed, about the end of October, one year before the transplanting operation, there would be no loss of crop at all to speak of, provided he sees the removal of each tree to fresh quarters done very

to secure regular crops of a strictly limited assortment, so as to enable the grower by careful grading of quantities of a variety on which, along with packing in boxes or cases, instead of bushel-baskets, so much depends the matter of price, as was ably insisted upon by Mr. Monro in his remarks in your issue of January 25. Of course, some trees may even then require to be occasionally root-pruned later on, and some varieties more than others, for the principle of root-pruning is too well recognised as of a first importance to be ever again neglected by the fruit-grower.

The style of planting recommended, and forming mounds, would include the placing of the trees on ground previously slightly shaped to that inclination, and for the roots to descend from a slightly-raised centre; the completion of the mounds, in covering the roots, to result in a difference of, say, 12 to 18 inches between the base of the stem and the lowest point between it and the nearest trees.

This style of planting will enable the postponement of draining the ground, which may be considered when crops meet the expense if it be at all required. Another item is the saving of manure, which will under the described favourable conditions be almost absolute (except in very dry years with a good crop growing), as a mulching, or on very poor soil.

Economy in the pruning of the trees is also a matter for consideration, the best preventative of too free growth being a full crop of fruit. Varieties like Lord Suffield, that never fail except, perhaps, through frost destroying the bloom, prune themselves so thoroughly that the pruning-knife is hardly ever wanted. "A. D.," who so well says what a pity that Mr. Monro's remarkable papers should not be read by every grower, might have his own contributions to your paper with advantage placed alongside of Mr. Monro's to stir up the slumberers. When farmers have recognised, as they appear to be now doing, that for quality of dairy produce they must needs compete with the foreigner on the basis of improved methods abroad, they may be hoped to realise that fruit culture and delivery in the best marketable form is only another link in the chain of their various pursuits that make up the elements of average success, any one of which the farmer neglects at his peril.

Pears, of course, in bush and pyramid form, would be grown similarly; and if there be the advantage of a good old wall of southerly aspect, let Peaches and Nectarines, as a safe crop, be added, one tree between each pair of piers, planting the choicest of the late varieties of Pears, trained gridiron fashion, one on each pier only.

Other contributions to your paper are constantly repeating the best selections of sorts and varieties for all purposes, so there is no need to enlarge on this subject. *R., Forest Hill.*

## CULTURAL MEMORANDA.

### GARDENIAS.

Those plants which have been raised this spring should be encouraged by warmth and moisture to make strong healthy growth, taking out the points of the shoots twice at the least, so as to induce bushy, well-furnished heads. Cuttings may still be struck, which will give fairly good plants for flowering next spring. It is well to remember that the more the shoots are stopped, the more numerous the flowers and the smaller their size, so do not stop a plant more than thrice in one season. A good kind of soil for Gardenias when grown in pots, consists of peat, sand, a small quantity of finely-broken charcoal, and fibry loam, nothing being sifted before use. *W. Markham.*

### FREESIA REFRACTA ALBA.

I have found the following method of culture very successful during several years, and having procured a good strain, I find it an advantage to propagate one's own stock, as most of the imported bulbs are not so satisfactory, either in regard to the colour of the flowers, or time at which they may be expected



FIG. 68.—COMMON CINERARIA SEEDLINGS. (SEE P. 460.)

"digging a hole" in which to plant a tree is the contrary of what is necessary in connection with clay and success. Certainly, trench the ground deeply where possible, and placing, where clay is near, your trees on the trenched or dug surface, and covering the roots with the top-spit, well chopped up, taken from between the tree-sites, transforming the acres into gentle undulations, so that every tree shall grow on the top of a small mound. The lighter the soil, the less does this become a requirement, although in all cases the effect of sunshine on the slopes round each tree, striking the mound's surface as nearly as it can be made a right angle, will have a great influence in promoting the growth of roots, and consequently on the crop.

Planting closely to start with is an economical principle, which "A. D.," in your paper of January 25, is right in maintaining; while "W. P. R., Preston,"

expeditiously, gives each fair root severed a clean cut with a sharp knife, in order to induce fibrous root growth. By thus producing at home what he cannot thus favourably buy, well-prepared trees with the least possible injury to crop prospects, he removes a serious drawback to which he alludes.

A more comprehensive view should be taken of the selection of the site on the lines of a manufacturer in starting with a plant to be gradually quadrupled in the most economical way by adapting his first instalment to the final limit. Fruit growers do likewise! and choose, say, 5 acres to plant first, the remaining 15 acres to be added after the original plan of the whole site, as best adapted for his acres. The removal of half the number of trees to adjoining acres will be a mere trifle in relation to this "making of the tree" transferred for good, as is well pointed out by "A. D.;" and thus for twenty years and more

to bloom. To obtain flowers in January, I pot up a batch of bulbs in July, and when doing so use the following compost: two parts fibrous loam, one part leaf-soil, a little powdered cow-manure, and a liberal sprinkling of sharp sand. Seven to nine bulbs, according to size, are placed in a 5-inch pot, and it is regarded as essential that the bulbs be kept well under the soil. If the soil be at all dry, they are thoroughly watered, and then placed in a spot where they may be protected from heavy rains. A slight covering of cocoa-nut fibre or other material is put over them to prevent evaporation, and when the growths are seen above the soil, they are removed to frames and kept fully exposed in order to get them strong and as hardy as possible. About the end of September they are put on a shelf in a greenhouse as close as possible to the glass. A temperature of 50° will be as much as they require. As soon as the flower-spikes appear, it is an advantage to give them a little fire-heat; and when the weather is favourable, an abundance of air. Feeding by means of some kind of fertiliser and clear foot-water should be commenced as soon as the pots are well filled with roots. Light and frequent applications are much better than larger doses. Stake them early to prevent any from damage by bending them over just above the surface of the soil. When the flowering period is past, return them to the shelves, and give them a liberal treatment with plenty of manure-water until the foliage begins to ripen and become brown, when the amount of water given should be gradually reduced, until the stems have died quite down, when they may be stored away in their pots, and kept free from drip until potting-time again. Freesias, like other bulbs and corms, should not be kept very long in a dry state, or they very much deteriorate, and blooms of a weak quality are the result. *A. Hurst.*

## VEGETABLES AND VEGETARIANS.

ANYTHING that will be of assistance to the market-gardener at home is worth consideration in these columns, and in all other journals really "racy of the soil." Mr. Glenny, market gardener, of Barking, has been insisting that keepers of vegetarian (and other) restaurants in London—and the number of the former is increasing—do not make sufficient use of the heaps of wholesome toothsome fruits and vegetables brought to market for the benefit of the purchaser and consumer, and the profit of the producer. The restaurant-keeper does not come to market sufficiently early; but somebody else must if the good parcels disappear before the City buyer comes on the market-place. So it comes to pass that oatmeal, peas-pudding, maize flour, lentils, &c., made up in many disguises, figure on the menu; whilst fresh vegetables, fruits in season, easily procurable at low rates—see our market reports—are ignored, because it seems the buyer is not up with the sun, and so early on the mart. Mr. Glenny specially notes the absence of mealy Potatoes from the table of the vegetarian's dining saloon. *Certes*, they are now, and long have been, wonderfully cheap; and it has too often been a pitiful sight, the carting home again from, say, Spitalfields Market of high-class green stuff—lacking buyers, and this in face of the fact that not half enough vegetables are consumed in families, for often their preparation is "over much of a bother." Complaint is made of the market salesman that he does not care to take charge of small parcels for disposal on commission. Mr. Glenny is of opinion that they are not in favour of putting on their stands, say, ten dozen bunches of Parsley, or Sage, Mint, Marjoram, or Thyme, of early Radishes, spring Onions, &c.; but we know that this does not hold good everywhere, for we could point to men who are not above selling the quantities recorded, but even much less. And we have been told that a fairly good trade is done in forwarding to the suburbs—well, on the way back to the market gardens!—1-cwt. and 2-cwt. sacks of nice mealy Potatoes, the aid of Carter, Paterson & Co. and of other carriers being called in at a cheap rate. Of course, if "the fruit that

grows at the root" can be so easily and cheaply distributed from the London market centres, so also can many other things—the "Stores" people know all about this, and profit by the knowledge. On the whole, much as the spread of vegetarian produce has done for the public health and the market-gardener, it would be easy to do more by the increased demand for fresh vegetables day by day. But, however much may be done in this way, it is doubtful if more could not be done by increasing the number of markets, both "formal" and "informal;" and here the County Council should step in, for in attending to this sort of business they would certainly relieve the streets of the metropolis of much of the traffic which now so loudly calls for street-widening and which entails enormous charges on the rates. Mr. Glenny and market gardeners might do worse than turn their attention to this aspect of the question of vegetarianism!

## THE WEEK'S WORK.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**MISCELLANEOUS WORK.**—Arrangements for the planting of the flower-beds during the ensuing season should be completed. In most instances a fair idea may now be formed as to the number of plants that will be required, and when this is known, by looking through the various plants already propagated, it will be seen in which cases special efforts must be made to obtain the requisite number. *Lobelia* and *Pyrethrum* may be grown in sufficient quantities to make good the losses among other kinds of edging plants, the former being quickly grown, and capable of affording a display of colour in a short time, and the latter being comparatively hardy, will need little care after the plants have been pricked out into boxes or frames. A little seed might even yet be sown in some sheltered spot out-of-doors, for plants from late-sown seed very frequently are useful for odd beds, generally left until last. Flower-beds that have been unoccupied during the winter and spring months may now be planted, with various hardy edging and other plants that are used for the summer bedding, such as *Cerastium*, *Herniaria*, *Sedums*, *Pansies* and *Violas*, dwarf *Antirrhinums*, *Antennaria*, *Lysimachia*, &c. This will leave the frames now occupied by them available for other things.

**HARDENING THE PLANTS.**—Preparations should be made for hardening-off bedding *Pelargoniums*, *Verbenas*, *Marguerites*, and other plants. If ordinary frames cannot be had, some means should be provided by erecting rough-made wooden or galvanised iron shelters, over which mats or dressed canvas sheeting may be placed during rough or inclement weather. Turfpits are frequently made up for the same purpose, and the plants sufficiently protected by the use of odd lights and other coverings. Those who fortunately possess plenty of frame-room will be spared this extra trouble.

**CUTTINGS** of tender kinds of bedding plants may still be put in, and rooted cuttings be potted off. Canas that have commenced to make growth may now be divided and potted up. Afterwards place them in a warm house for a few days until root-action is commenced. Pot *Abutilons*, *Ricinus*, *Solanums*, *Eucalyptus*, and other sub-tropical bedding plants, so that they may be of good size before being hardened off. Cuttings of zonal *Pelargoniums* now being propagated should be inserted singly in thumb-pots, and when they have rooted let them be potted on into 2½-inch pots. Bedding *Begonia* should be kept growing in moderately warm pit or frame for another fortnight or three weeks, after which more air may be given. Seedlings should be pricked off as soon as they are large enough to handle, and be kept in a warm house or frame over a hot-bed.

**SOWING ANNUALS, ETC.**—Many kinds of annuals may now be sown in the open borders, and those intended for the production of flowers for cuttings should be sown in patches if possible. These are *Mignonette*, *Virginia Stocks*, *Candytuft*, *Scabious*, *Sweet Sultan*, ornamental grasses, *Coreopsis*, *Eschscholtzias*, *Larkspurs*, *Lupins*, *Bartonia aurea*, *Cornflowers*, *Godotias*, *Double Clarkia*, *Gypsophila*, annual *Chrysanthemums*, *Everlastings*, *Sweet Peas*, *Sunflowers*, &c. Most of these are best sown in shallow drills, at a distance apart, varying according to the growth of each variety. Cover the seed lightly with

fine-sifted soil, and if the soil that is drawn out of the drill be left, it will afford some slight protection to the young plants. *Asters*, *Stocks*, *Zinnias*, &c. that have been raised in frames should be pricked-off as soon as they can be handled, using a light rich compost, in which the plants will root freely.

**GLADIOLUS.**—The borders, having been prepared as advised in a former Calendar, these may now be planted about 3 to 4 inches deep, and about 1 foot apart. Place a handful of sand at the base of each corm, which serves not only as a medium for the roots, but keeps the base of the corm drier, and largely prevents rot. Stake the plants as soon as they are sufficiently high, and mulch the border with half-rotted manure.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

**IXORAS AND EUPHORBIAS.**—Where there is convenience, I would recommend a good quantity of *Ixoras* to be grown for winter blooming. My system of culture is as follows: Each year, at about this season, we strike two or three dozen cuttings. Only three or four varieties, as *Pilgrimi*, *sanguinea*, and *Prince of Orange*, are grown. *Pilgrimi* is the freest bloomer, I would, therefore, advise a larger quantity of this variety. Cuttings taken now and grown on through the summer, and repotted into 4 or 5-inch pots at the end of July, will make excellent plants. Pinch the shoots while young, so that the plants may be bushy and dwarf. A few good trusses of bloom may be got from each plant the same season. If late bloom is wanted, it is much better to keep only tolerably young plants; with the exception of half-a-dozen specimens, none of our plants are kept more than three years. A compost of good peat and silver-sand is one in which they do best. A good batch of cuttings of *Euphorbia Jacquineiflora* should now be struck and rapidly grown on to supply bloom during the winter. Use 3-inch pots filled with silver-sand, and insert several cuttings in each. They will soon root if given bottom-heat, and they should then be potted singly into thumbs, and shifted again as soon as they have filled the pots with roots.

**GREENHOUSE RHODODENDRONS** being of slow growth, attempts are made by some growers to hasten the plants by keeping them in heat. Such is not the case, however, and in most cases it leads to the plants becoming unhealthy. A cool greenhouse is the proper place to grow them successfully. Immediately the plants have done flowering, those requiring a shift should be re-potted. If the plants are healthy, these pots may be a size or even two sizes larger than the present ones, and the roots are so very fine that they are easily injured if an attempt is made to reduce the balls. Use two parts good peat (as used for *Ericas*), one part loam and coarse clean silver-sand. Make the soil very firm, and for a short time keep them a little warmer, but the atmosphere should not be dry. Much care is necessary in watering for some time until the roots push into the new soil. Spraying with the syringe twice a day is more beneficial to the plants than root waterings at this stage of growth. Specimens planted out in rockwork, along with tree *Ferns* and *Camellias*, grow very well and bloom freely.

**THE STOVE** should be carefully ventilated by day when the outside conditions are favourable, neglect to do so resulting in weak growth. The first started batch of *Gloxinias*, if coming into flower, should be removed to a cooler house, particularly if they are going to be used in room decoration later. Others may be repotted and grown on under general conditions of warmth and moisture. *Achimenes* if grown in pots, will need in most cases, some kind of support for their stems, but those in baskets look best when allowed to hang over the edge of the baskets, putting supports only to those stems that are situated in the middle. Weak liquid does much good to *Achimenes* during the season of flowering.

**HIPPEASTRUMS.**—These bulbs which are showing for flower, may have assistance from some artificial manures, I prefer Clay's, in the amount of one teaspoonful to each flower-pot. Any bulbs that have finished flowering, should be kept growing so long as the foliage shows no sign of maturing, except in the case of those bulbs which are almost evergreen, and these should have the quantity of water reduced after a reasonable time has been allowed for growth to be made. Bulbs in flower will be better if they are removed to the conservatory or other cool house, shading them from the sun so long as the flowers remain on them.

## THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

If the work has been pushed forward, according to recommendations in previous Calendars, there will not be much stress at the present time. It is very important that the protection of opening blossoms should have first attention, though it is not necessary or advisable to apply a covering, except when frost is probable, or there are cold winds and rain. The advantage in the use of curtains over fish-netting for the protection of fruit-buds upon trees on walls is now very apparent. Where the former is used, the trees, when ready for disbudding, are easy of access, but in the case of the latter it is difficult to move about between the trees and the netting. Peaches and Nectarines will now be sufficiently advanced in growth to require attention in the matter of disbudding. It is better to take away any surplus growths while very young, at which time they part easily from the branches; while if left longer, a sharp knife will be required to remove them, in order to prevent injury to the bark, which may result in gumming. If the trees have filled their allotted space, the points of the leading shoots should be pinched out at the third leaf, and all the young shoots emanating from the fruiting wood, with the exception of two at the base, should be rubbed off. Effect the work gradually by going over the trees several times at intervals of two or three days, removing a few shoots each time. If the tree is well furnished with wood, only one of the two shoots left will be required, and that one should be chosen which is in the best position for laying in, to take the place of the one now fruiting. In the case of younger trees, more shoots will require to be left for the extension of the trees, and these should be trained in at about 15 inches apart, sufficient lateral shoots being left to cover the intervening space between the main branches when nailed in at about 4 inches distance from each other. When the fruits are well set, commence to thin them by first removing all those which are badly placed, and afterwards remove those that do not appear to be swelling up so freely as some others. Where there are two fruits together, take away the smaller and worse placed one, gradually reducing the number of fruits until only a few more are left than will be required for a good crop; and as some of the fruits may fail to stone properly, sufficient should be left to allow for any loss that may take place from that cause.

## THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Lurford, Dorking.*

**CATASETUM, MORMODES, AND CYCNOCHES.**—For some unaccountable reason these species have for a long time been greatly neglected, but they are now gaining in favour with specialists and amateurs. There were some species which were more neglected than others because they were ear-marked as being nothing more than botanical curiosities, and having therefore no use as cut flowers; while *Catasetum tabulare*, *C. Bungeodtii* and its several beautifully distinct forms, *Cycnoches chlorochilon*, *C. pentadactylon*, *Mormodes Hookeri*, *M. Rolfei*, *M. pardinum*, *M. lunatum*, *M. l. eburneum* and its spotted varieties which have a decorative value, some of which have very fragrant flowers, are much grown. It is remarked that these species and varieties do not possess the vigour usual to them in their native country, and the chief cause of this loss of vigour is usually traceable to the insufficient maturation of the pseudo-bulbs. Many of these species are commencing to grow, and they should be shaken out of the old compost, have dead roots and decayed parts cut away, which will allow of each pseudo-bulb being freed from all mealy-bug and scale. *Mormodes* and *Cycnoches* may be grown with success in pots or shallow pans, but baskets of teak are more satisfactory than either for the *Catasetums*. Afford plenty of drainage, and press the materials together with moderate firmness. The compost should consist of equal parts of peat and sphagnum-moss for the robust species, and chopped sphagnum-moss, with a moderate quantity of small crocks mixed with it, for those of weaker growth. The *Mormodes* should be placed at the warmest part of the Cattleya-house; while the other species, which thrive best in stronger heat with a large amount of sunshine, should be suspended near the roof of the East-Indian or Dendrobium-house. A good deal of care in affording water is necessary till the plants have become re-established; and when in full growth

water should be copiously supplied to them, providing the materials get quickly dry.

**EULOPHIA AND CYRTOPODIUM.**—Other Orchids which are making new growth are species of deciduous *Eulophia*, *Lissochilus*, and *Cyrtopodium*, and should any of these require more root-space, the present is a good time to disturb the roots. Pot them in the compost recommended for *Calanthes*, and as soon as new roots push from the base of the young growth, place the plants in the warmest house in a light position. As with *Catasetums*, &c., so with these as regards affording water.

**PERISTERIAS.**—Plants of *P. elati* and *P. Lindenii* starting to grow should be placed in a house a few degrees warmer than the one they are now standing in, and receive generous treatment.

**ANGULOAS.**—The various *Anguloas*, as *A. Ruckerii*, *A. Clowesii*, *A. eburnea*, and *A. uniflora*, will now be throwing up their flower-spikes and young breaks, and should be stood in the warmer, shadier part of the intermediate-house. No re-potting should be done in the case of these species before the flowers are cut and roots emerge from the young growths. For the present, afford sufficient water to keep the materials slightly moist.

## THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Deepmore, Maidenhall.*

**THE MAIN CROP OF CARROTS.**—The ground for this important crop should have been autumn-trenched, and left rough all through the winter. It should now be stirred with a fork or hoe, and broken down; and if of a dry and light nature, it should be trampled evenly all over, and a good dressing of soot and wood-ashes applied. Having then raked the land, drills about half an inch deep, and 12 inches asunder, should be drawn, and the seeds thinly sown therein. Fill-in the drills with the feet, then roll the bed with a wooden roller, and once more rake it over in a line with the drills. When roots are required for show purposes, and the land will not grow such, holes 15 inches deep, made with a dibber, may be filled with finely-sifted sandy loam and a small quantity of soot and wood-ashes, pressing it down firmly, and sowing three or four seeds on each. For general consumption the so-called intermediate varieties are the best; and where the soil is of no great depth the short or stump-rooted varieties only should be grown, such as *Early Nantes* and *Scarlet Model*, and others of that class.

**ASPARAGUS.**—The plants raised from seeds sown last year will be fit for planting when the shoots are about 6 inches high. New plantations may therefore be made within a week or two of the present time, enough land being planted to meet all the requirements of the establishment for forcing and cutting in the open. For beds to last a number of years, flat planting is preferable, as raised beds entail much labour, with no advantages worth consideration; the land having been prepared some months ago, should be caught when in a workable state, and drills drawn at 18 inches apart. The plants should be planted in these drills at 18 inches apart in alternating fashion. An alley 2½ to 3 feet wide should be allowed between every three rows for convenience in gathering the crop, clearing, &c. Where blanched heads of large size are required, 3 feet space may be given between the rows, but in a general way the lesser distance suffices. When planting shallow drills should be drawn to mark the lines, but a sloping trench should be chopped out with a spade on both sides, deep enough that when the edge that is left is levelled down for setting the plant upon, the crown shall be slightly elevated, and about 3 inches under the surface. In planting, spread out the roots, cover with fine soil, making it moderately firm with the hand, and give each a small stake before finally covering in, to which the growth should be loosely tied when high enough. If holes are dug out for each plant, these should be of an uniform depth, and large enough to hold the roots without cramping them, which should slope downwards somewhat from the crown to their extremities. Plants which are intended to be forced should have the crowns planted from 12 to 15 inches apart each way, and be treated in all respects like those in the permanent beds. The heads of *Asparagus* which have pushed through will need protection from frost, for which purpose some litter may be scattered over them; or if they are liked in a blanched state, some light soil may be used instead.

**POTATOS.**—The planting of the sets may be carried on till the end of the month, the late varie-

ties being the first planted, and the earliest left till the last. To secure a change of seed it is good practice to plant a few rows for seed purposes in the field, to be used in the garden the following year. Medium-sized whole sets about 3 ounces in weight should be chosen in preference to cut tubers. Small sets yield a relatively poor crop, and should not be used. If the soil is light, the sets may be planted in holes made with a dibber; otherwise drills should be drawn about 5 inches in depth, and the sets laid in them 12 inches apart. Charred earth is valuable for scattering over the sets before covering-in. Strong-growing varieties need 2½ to 3 feet space between the rows, but for Ashleaf varieties and others of moderate growth 2 feet is sufficient space. If Brassicas are to be planted between the rows of the latter, a 3-foot space should be afforded.

## FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**THE EARLIEST PEACHES AND NECTARINES.**—When by the rapid swelling of the fruit it is seen that the stoning period is past, the night temperature may with safety be raised to 65°, shutting up the houses early in the afternoon with sunheat. Continue to syringe the trees twice a day till the fruits begin to ripen, when it should be discontinued. The early varieties, *Waterloo*, *Alexander*, and some others, should be carefully watched in this respect, the fruits ripening off very quickly. If the least trace of red-spider be remarked, apply an insecticide forthwith, it being a very important point of practice to have the foliage quite clean before the syringing is stayed for a time. Water should be copiously afforded at this stage, sometimes using warm weak liquid-manure to the borders, but in the case of young trees growing too vigorously, water only should be afforded. Young trees may be cropped more heavily than trees which are aged and in good bearing, and such cropping will tend to check too exuberant growth. Attend to the tying-in of shoots, and remove leaves or draw them aside from the fruits when the former obstruct the light.

**SUCCESSION-HOUSES.**—Trees whose fruits are about to form the stone should be guarded against any sudden check to growth as might occur from draughts of cold air during the day, or a too high temperature at night. For the present a warmth of 55° to 60° at night, and from 65° to 75° in the daytime, and a few degrees higher by sun-heat, will suffice. Should mildew show itself, flowers-of-sulphur should be used against it, the hot-water pipes being also painted with whitewash in which sulphur is mixed. Spraying with Killaright is also effective against mildew. Against aphides, the trees should be lightly fumigated on two or three consecutive nights. When mildew is remarked on the leaves, more air and less atmospheric moisture should be afforded. Trees that were started in February and whose fruits are swelling freely will require constant attention in regard to disbudding, but not removing any great quantity of shoots at a time. For directions regarding this operation I refer my readers to earlier calendars. The thinning of the fruits should also be proceeded with. Let the afternoon syringing be done when the house is closed, and early enough for the foliage to get dry, or nearly so, before nightfall. On rainy or dull days afternoon syringing may be dispensed with. Trees in bloom should be afforded an abundance of air on all favourable occasions, and in mild weather ventilate them slightly at night. If blossoms are very abundant, it will be advisable to thin them, particularly those upon the undersides of shoots. The blossoms set pretty freely at this part of the season, if the branches be tapped daily, or the bees have access to the house. If the late houses are heated, it is an advantage during cold and sunless weather to apply heat, affording a small amount of ventilation at the top of the house, but not raising the temperature above 45° at night, and 50° to 55° by day.

**NITRATE OF SODA.**—At the Balloon Society meeting, held on Tuesday, March 31, a paper was read by Mr. ARTHUR ROBERTSON, of Mining Lane, on "The Origin, History and Uses of Nitrate of Soda." Discussion followed, and the opinion expressed was that the annual export from Chili of 1,300,000 tons would be largely increased as agriculturists awoke to the advantages derived from its use. Mr. ROBERTSON contended that the general public do not know of its usefulness in the cultivation of vegetables, flowers and fruits.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

**Letters for Publication,** as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

**Illustrations.**—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

**Local News.**—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

**Newspapers.**—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, APRIL 11—Royal Botanic Society meet.

SUNDAY, APRIL 12—Brussels Orchidéenne show.

TUESDAY, APRIL 14 { Brighton New Horticultural Society show.  
Royal Botanical Society Daffodil conference and exhibition (two days).

WEDNESDAY, APRIL 15 { Durham, Northumberland, and Newcastle Botanical and Horticultural Society show (two days).

THURSDAY, APRIL 16—Linnean Society meet.

## SALES.

MONDAY, APRIL 13 { Azaleas, Greenhouse Ferns and Plants, Hardy Plants, &c., at Protheroe & Morris' Rooms.

TUESDAY, APRIL 14 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 15 { Palms, Palm Seeds, Tuberoses, Begonias, Acers, at Protheroe & Morris' Rooms.

FRIDAY, APRIL 17 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—48°.

WHILST the origin of the garden Cineraria is still a moot point, it is of interest to collect information concerning the allied species, and to put on record the characteristics of those specimens which come nearest to the cultivated forms. From this point of view we are glad to be able to lay before our readers the following communication from Mr. R. I. LYNCH, the Curator of the Cambridge Botanic Garden, who has also obliged us with the specimens from which the accompanying illustrations (figs. 67—69) were taken:—

*Senecio multiflorus*, D.C.—For the re-introduction of this handsome species we are indebted to Mr. WALTER GARDINER, F.R.S., who presented seeds to the Cambridge Botanic Garden after visiting the Canaries about two years ago. They were gathered in Gran Canaria, near Monte de los Laureles, in the direction of S. Brigida and S. Mateo, which lie to the south-west. The character of the plant is well shown by the accompanying plate (fig. 69), which has been prepared from specimens growing in the Cambridge Botanic Garden. On the left is shown the habit of a young plant just commencing to flower, and producing lateral branches, which, later, grow up, and form a lax mass of inflorescence about 3 feet or more

across. A typical inflorescence, which might be that of a branch, is shown in the centre of the plate, and considering the spread of the ray-florets, bright lilac in colour, with a darker disk, it can be understood that the plant is highly effective, though not precisely from a florist's point of view. Without doubt, however, the plant may readily lend itself to valuable results in hybridising. Our stock was raised from seed sown in May last, and the first flowers were open shortly before Christmas. This species is, perhaps, the most robust of its immediate allies, and is cultivated with even greater facility than the garden Cineraria, the treatment for which suits it precisely. It easily reaches a height of 6 feet, and might be considered rather too tall, but herein it has an elegance of its own which would not be improved by dwarfing. No doubt it can be dwarfed, and with advantage from certain points of view, but only with sacrifice of a certain fine character it now possesses. The young seedlings, which we also illustrate (see fig. 67, p. 455), are remarkable for thickness of stem, especially in comparison with the garden Cineraria, which in this stage is practically stemless, with leaf bases closely approximated (fig. 68). In our plant the nodes are distant, and the stem, by storing up reserve material, appears to feel a special responsibility in providing for possible needs of the future. This characteristic is evident almost as soon as stem forms, and becomes very conspicuous when the plants are perhaps 1½ inches high, as thick as a pencil, and nearly blunt at the apex. The plant is evidently perennial in about the same degree as the garden Cineraria, and from young shoots appearing at the base, can be propagated from cuttings in the same way. We have had flowers for more than three months, and a succession will last for several weeks longer, no doubt. If the tops of some plants are cut off before they flower, shoots are produced from below, which rather extend the flowering season.

The identity of this plant is quite clear. In the Lindley Herbarium, now the property of the University, I find a specimen of precisely the same form labelled *Doronicum Bourgei*. This led me to a figure under the same name in the *Bot. Mag.*, vol. lxxxiii, (1857), t. 4994, which affords a striking portrayal of its features. Returning to specimens, it seemed quite clear that *Doronicum Bourgei* was nothing more than the older *Doronicum Webbii*, having been established on quite insufficient grounds. To Mr. BURKILL, the Assistant-Curator of the Herbarium, I was then indebted for referring me to Dr. CHRIST'S *Spicilegium canariense* in ENGLER'S *Botanische Jahrbücher*, vol. ix., p. 147, where the reduction is actually made, following BOLLE in *Bonplandia* (April 15, 1860, p. 133), who adopts *Pericallis* for the genus. Dr. CHRIST, writing in 1857, naturally uses the correct genus *Senecio*, but he keeps the specific name *Webbii*, and gives *Senecio multiflorus*, D.C., as a synonym. This clearly was wrong, since the latter name was perfectly correct, and already published in the *Prodr. Fl. Kew.* At Kew, this plant was first supposed to be new, but the view of identity now taken is precisely that here referred to, and I am indebted to the Director for his kindness in sending me an account of the synonymy which is printed below as received. SCHULTZ was responsible for referring these plants to *Doronicum*, but generic distinctions were not then well understood, and it was not realised that *Senecio* might in some species agree with *Doronicum* in having the achenes of the ray without pappus. *Pericallis* is of sectional value in *Senecio*, and is so used by Dr. CHRIST.

*Senecio multiflorus* grows erect, branching above; the lower half of the stem is hairy, the upper part quite glabrous and distinctly glaucous. The leaves indicate the pinnate type by several reduced sessile lateral leaflets, opposite or alternate, varying from

ovate to greater comparative width. The terminal leaflet is large, nearly orbicular, deeply cordate at the base, somewhat pointed at the apex, and has an angularly sinuate margin, more or less denticulate. The petioles are auriculate and winged at the base in the upper leaves winged to the blade without lateral leaflets, and attended by reduction of the auricles. The veins of the leaf above and below are furnished with short stiff hairs; the general surface of the leaf above is glabrous, while below it is clothed with cob-web felt, similar to that of the garden Cineraria. All the growing points and the young inflorescences are thinly shrouded with arachnoid hair. The inflorescence is too well shown to need description; but the curious, with a strong lens, may discern interesting hairs on the bracts of the involucre, which are not found in those of the nearer allies that we cultivate. In comparing this plant an interesting, and perhaps new point, was discovered. Fine hair-like processes were observed on the achenes of some specimens. It does not appear, as we supposed, that reference had been made to them for purposes of distinction, but they certainly have significance in the natural history of the species possessing them. All the achenes of the disk are covered with short ascending hairs, and these, when wetted, open at the apex, and emit mucilage, and also two central strands of apparently denser mucilage, which persist and are evident after drying. A wetted achene is quite fringed with these processes, and with the mucilage, they have the effect, no doubt, of fixing the achene to the ground for germination. This recalls *Collomia*, but the case is not homologous. In *Senecio* the protoplasm disorganises and becomes mucilaginous, while in *Collomia* it is the cell-wall of the epidermal cells that degenerates, and on being wetted so softens that the internal spiral thickening of cellulose is set free, and escapes with the energy of a spring. In this case, no doubt, the seed is also fastened to the ground. The hairs of *Senecio* are best observed by scraping them off on a slide under a ¼ objective. When wetted, they immediately split wide open at the apex, or rarely down one side, and one or almost always two threads appear, which extend twice or perhaps three times the length of the hair. No lines of fission are previously evident. The process is retarded by a moment's immersion in alcohol. If then watery solution of Fuchsin is applied, the mucilage is stained a pale red, while the strands are stained more deeply of the same colour. By this method it is evident that there are two mucilaginous masses with one strand belonging to each. The threads are affected, probably by the Fuchsin, so that they do not extend to the length they attain in water. The foregoing is the result of little more than a cursory examination, and the hairs are worth more attention no doubt. It appears that each thread arises from a conical base, which under manipulation is sometimes ejected with the whole of the thread. All *Senecios* do not behave in the way here described, but the garden Cineraria shows it perfectly, and it would be interesting if it is in any way connected with the economy of island life. The achenes of the ray of these *Senecios* are not only without pappus, but also without these hairs, and they serve the purpose, probably, of reproducing the plant around itself. Having no pappus, they do not require, probably, a means of fixation to earth when once they reach it. *R. Irwin Lynch.*

**LINNEAN SOCIETY.**—An evening meeting will be held on Thursday, April 16, at 8 P.M., when the following papers will be read:—1. "BERKELEY'S Types of Fungi re-described," by Mr. G. MASSEE, F.L.S. II. "The Internal Anatomy of *Bidella*, Latr.," by Mr. A. D. MICHAEL, F.L.S.

**NATIONAL CHRYSANTHEMUM SOCIETY.**—We are requested to state that the annual outing of the members and friends of the above Society will, by the kind permission of Lord ALDENHAM, take the form of a visit to the gardens and grounds of Aldenham House, Elstree, on Monday, July 20.

\* *Senecio multiflorus*—D.C. *Prod.*, vi., 410, excluding syn. *Cineraria multiflora*, L'Her. (1837).

Synonyms. { *Doronicum Webbii*, Schultz Bip. in Webb & Berth. *Hes. Canar.*, vol. 3, pt. 2, p. 333.  
D. Bourgei, Schultz Bip., *Bot. Mag.*, t. 4994 (1857).  
*Senecio Webbii*, Christ in Engler's *Bot. Jahrb.*, ix., p. 147 (1857).



FIG. 69.—SENECIO MULTIFLORUS, D.C.: FLOWERS LILAC, WITH A DARK CENTRE. (SEE P. 460.)

**ROYAL BOTANIC SOCIETY.**—As a result of the discussion at a recent Fellows' meeting, the Council decided to open the Regent's Park Gardens on Easter Monday at a charge of 6d., when a band formed one of the attractions. The Council are, however, still opposed to the proposal to have musical promenades in the coming season on Saturdays and Mondays, the days the gardens are now open to the public. It is believed, however, that a large majority of the Fellows would, if consulted, disapprove of this decision, and accordingly a motion will be submitted at an early meeting that a vote of all the Fellows be taken on the proposal. *J. S. Rubinstein, Hon. Auditor, R.B.S.*

**ANCIENT SOCIETY OF YORK FLORISTS.**—A lecture was given on Wednesday evening, 1st inst., at the "White Swan," York, the headquarters of the Society, by Mr. W. A. CLARK (of Messrs. J. BACKHOUSE & SON, nurserymen, York), who took for his subject, "British Plants in their Native Habitats." It was illustrated by lime-light views. The lecture was of an instructive character, many of the principal mountains and lakes in Cumberland and Westmoreland being fully illustrated, and described. A few views of Corsica, showing the Lemon-tree in full fruit, Prickly Pear, and *Helleborus corsicus*, in its native place, were shown. A lengthy discussion on different plants and Ferns took place, after which a hearty vote of thanks was accorded the lecturer.

**THE PEOPLE'S PALACE HORTICULTURAL SOCIETY.**—The annual meeting of the members of this society was held on the 28th ult., and a large number of members attended. The society has existed since January, 1894, and has as members 346 adults and 54 children, a large proportion of whom exhibit at the society's shows. The report shows a steady increase in the number of exhibits, and improvement in their quality. Bi-monthly social meetings will be held, and an excursion made to some place of horticultural interest. The financial position of the society is satisfactory, although the members' subscription is low, so as to bring it within reach of the poorest.

**SPECIAL PRIZES FOR DESSERT APPLES AND PEARS.**—With a view to the formation of a definite list of the best-flavoured varieties of British-grown Apples and Pears for dessert at all seasons, Messrs. JAMES VEITCH & SONS, of Chelsea, have very kindly placed a sum of £30 at the disposal of the Council, who, in conjunction with the donors, have drawn up and sanctioned the following scheme, commencing with the society's first meeting in July, 1896, and continuing till the last meeting in June, 1897, the Temple Show meeting only being excepted:—Prizes for flavour. The four following prizes are offered for amateurs and gentlemen's gardeners only, at every fruit and floral meeting of the society (Temple excepted) on and from July 14, 1896, until and including the last meeting in June, 1897, subject to the under-mentioned rules and conditions. Class AA, for the best flavoured Apple, 1st prize, 10s., 2nd prize, 5s.; Class BB, for the best flavoured Pear, 1st prize, 10s., 2nd prize, 5s. Every exhibitor must guarantee that the fruit he exhibits in these classes has been grown entirely out of doors. He should also state on the name-card "Wall-tree," "Bush," or "Standard," together with the aspect—north, east, south, or west; the nature of the soil; the county; and, when known certainly, the stock on which the tree is grafted. The judges are requested to allot twelve points to a perfect dish of fruit—perfect in flavour, in quality, in appearance, and in size—distributing the points in the following proportions: for flavour, six points; for quality, three points; for appearance, two points; for size, one point. By "quality" is intended the meeliness and smoothness (absence of grittiness) of the flesh, or (as, for example, in the case of early Apples) its crispness and juiciness. By "appearance" are intended colour and beauty of outline and shape. By "size" is intended such as invests the fruit "with the greatest value for table use." "Enor-

mous specimens should not be preferred, as, beyond a certain point, size becomes a defect in dessert fruits." For further details we refer our readers to the leaflet, to be had on application to the secretary, Royal Horticultural Society, 117, Victoria Street, S.W.

**SPRING EXHIBITION OF THE ANTWERP ROYAL HORTICULTURAL SOCIETY.**—The organisation of this exhibition caused some interest in the Belgian horticultural world. The Council of the Society based its programme on the principle of leaving exhibitors free to arrange their groups to their own taste. This, like all innovations, raised a certain amount of opposition. This did not prove insuperable, but the Council decided to create, in addition to the system of groups, special classes. These, for the present exhibition, included, 1st, twenty-five Cinerarias; 2nd, twenty-five Calceolarias; 3rd, fifteen flowering Cannas. To make the classes as attractive as possible, many additional awards were offered for amateur and professional growers, the prizes including gold, bronze, and other medals. In order to encourage good cultivation, the Council instituted special certificates for good cultivation, with the restriction that the plant must be a constituent of one of the groups. The Special Certificate was designed by a competent artist. The following were the results of these innovations: 1, the exhibition was remarkable not only for the value of the plants staged; 2, the exhibition had the advantage over preceding ones of being more artistic in its arrangements; 3, the exhibition was much appreciated by the public; 4, no entry was received for the special classes, the Cinerarias were over in some cases, while in others the blooms were late—the *grand prix* proved no attraction; 5, the *Certificat de culture ou de floraison* was much sought after, and so judiciously awarded by the jury as to acquire additional value; 6, the idea of a special certificate for certain plants obtained such success, that the Council, at the request of the jury, formed a fresh class to include the novelties and the best varieties; 7, no complaint was made against the decisions of the jury—a rare thing, worthy to be noted. *Ch. De Bosschère.*

**DRIED PALM FRONDS.**—In the *Revue de l'Horticulture Belge* for April 1, M. D. GRADY speaks of the methods of treating dried Palm leaves, such as are now so largely used for ecclesiastical and decorative purposes. When, says M. GRADY, these branches [leaves] arrive dried from their native country, it is necessary to restore as much as possible their suppleness and original appearance. The following is the method of doing this as recently patented by M. FR. WILDE, of Gœrlitz. To restore to dried wrinkled and fragile leaves the appearance and suppleness of fresh ones, they should first be immersed in a weak caustic alkaline solution. When pliant enough to bend without breaking they are washed in water, drained, and then plunged into treacle diluted with water, where they remain for several weeks. They are then washed and dried in the dark. The leaves thus treated are more or less spotted; and are then cleaned, painted and coated with a supple varnish, which preserves them from atmospheric injuries.

**"BOTANICAL MAGAZINE."**—The plants figured in the April number of the *Botanical Magazine* are:—

*Pasoqueria macropus*, Martius (1841).—A very handsome stove-shrub belonging to the order Rubiaceae. It is a native of Brazil, and has shortly stalked, ovate acute leaves downy on the under-surface, and terminal panicles of long white fragrant flowers. The corolla tube is very slender, 4 inches long, with a five-lobed limb; the lobes oblong obtuse, each about 1 inch long; t. 7467.

*Hypocyrtia pulchra*, N. E. Brown, in *Gard. Chron.*, 1894, ii., p. 244.—A handsome stove shrub, with hairy leaves, green, with white spots above, pink beneath; t. 7468.

*Olyra concinna*, Hook. fil.—A curious grass, native of Costa Rica. In habit it is dwarf, tufted, with numerous simple, decurved filiform stems, with closely-arranged two-ranked, ovate lanceolate leaves,

ciliate at the edges, each about  $\frac{3}{4}$  inch long, and  $\frac{1}{4}$  inch wide. Judging from the figure, it would make a very elegant plant for dinner-table decoration or other similar purposes; t. 7469.

*Catasctum Randii*, Rolfe.—The male form has the perianth segments green, spotted with red, and a three-lobed lip; the lateral lobes short, deeply fimbriate, the central lobe with a deep fimbriate and lamellate crest. In the female plant, the flower is of totally different form, sub-globose, sepals and petals linear; lip posticous, pitcher-shaped. It is a native of Brazil, and was flowered at Kew; t. 7470.

*Phaleria ambigua*, Hook. f.—A climbing shrub belonging to the order Thymelaeaceae, and a native of Java. It has shortly stalked, ovate, lanceolate, glabrous leaves, and close tufts of white fragrant flowers. Each flower is about  $\frac{3}{4}$  inch long, with a slender tube, and a four-lobed limb; the lobes ovate, oblong, spreading; stamens protruding beyond the perianth tube. Flowered at Kew; t. 7471.

**CHANGE OF GARDENERS AT ALTON TOWERS.**—It has transpired that Mr. E. T. GILMAN will take charge of the gardens at Alton Towers, in succession to the late Mr. T. RABONE. He has had charge of the gardens at Ingestre for the past twenty years, and of the home farm for many years, and he has proved to be one of the best of British gardeners. Thirty years have passed since he was a pupil of RABONE's at Woodseat, and when the latter went to Alton Towers, he went with him, staying there for several years. In turn he was under Mr. W. MILLER at Combe Abbey, and Mr. STEVENS at Trentham. In 1874 he took charge of the gardens at Wootton Hall, a place about three miles distant from Alton Towers; and in 1876 he became head gardener to Lord SHREWSBURY, at Ingestre; and after twenty years' faithful service, his lordship marks his appreciation of his services by giving him a post which is considered by the profession to be one of its chief prizes.

**FLOWERS IN SEASON.**—From Mr. W. BULL, New and Rare Plant Establishment, King's Road, Chelsea, we have submitted for our inspection a few Cineraria blooms, in several very commendable varieties. The colours of the blooms are clear and good, and the size of same is equally satisfactory. One is pure white (excepting, of course, the disk), three represent different shades in purple and purple-blue, and another one is rosy-crimson. These self-coloured varieties are very fine of their kind, but the last named, as is usual in the case of flowers of this colour, is the smallest in size. Then there are white flowers margined in varying degrees with rose or blue, and others affording slight variations from all of these. In some of the flowers the florets are flat, in others they are much incurved longitudinally.

**ISLE OF WIGHT HORTICULTURAL IMPROVEMENT ASSOCIATION.**—The monthly meeting of the above Association was held at Brading Town Hall on Saturday, the 4th inst., when Mr. C. ORCHARD, Bembridge, gave a paper on "Vegetables, Old and New," showing the great progress made during the last 100 years. He staged a variegated Brussels Sprout, a cross between the old variegated Borecole and an ordinary Sprout. It was extremely pretty, and admirably adapted for decorative purposes. Mr. MUNSON, gardener to Rev. E. SUMMERS, Brading, staged specimens of *Osmanthus ilicifolius*, *Berberis Darwinii*, *Spiraea Lindleyana*, &c. Dr. GROVES, B.A., J.P., ably presided.

**CELOGYNE FLACCIDA.**—Mr. W. BULL sends us two flowers of *Celogyne flaccida* on the same spike. Both flowers are malformed; one has two sepals, two lateral petals decussate, two lips side by side, whilst the column is normal. The other flower is semi-double, with three sepals, three petals of the same shape and size, three lips, two of the usual shape, free, one reduced and adherent to the column.

**PROFESSOR HUGO DE VRIES.**—We understand that this gentleman will shortly replace Professor KAUWENHOFF in the Professorship of Botany in the University of Utrecht.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The QUEEN has been graciously pleased to give a donation of £25 in aid of the funds of the Gardeners' Royal Benevolent Institution, of which HER MAJESTY is the Patroness. The fifty-seventh anniversary festival will be held at the Hôtel Métropole on May 30, when the Lord Chamberlain (Earl of LATHOM) will preside.

**THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.**—The part of the *Journal* for March, 1896, contains Mr. FRANCIS DARWIN'S thoughtful and suggestive essay on etiolation as a phenomenon of adaptation; in other words, he contends that the blanching is the result of the stimulus to growth in length consequent on darkness, whilst daylight "is a signal to the plant that it may slow down internodal growth, and begin to develop its assimilating machinery. The life of plants, like that of animals, is a series of responses to stimuli." Mr. BROTHERSTON contributes a paper on the "Carnation in Scotland." Mr. A. B. FREEMAN MITFORD'S valuable paper on "Hardy Bamboos" will be the standard of reference till his promised volume appears. The paper by the late Mr. BAUSE on "Crotoms and Draecenas" is a practical treatise, which will be appreciated by gardeners; the same remark applies to Mr. COOPER'S communication on "Nut Growing in England." Mr. ARTHUR SUTTON'S paper on "Potatos" is an interesting contribution to the history of the subject. The portrait of JOHN GERARDE is not the one in the original edition. The illustrations are serviceable, but some are spoiled by the process used. Mr. MASON'S paper on "Asparagus" is of a thoroughly practical character. Mr. SELFE LEONARD'S notes on "Rock Gardens" will be serviceable to those desirous of establishing these very charming departments of a garden.

**PRACTICAL HORTICULTURE.**—The March number of the *Journal of the Essex Technical Laboratories at Chelmsford* shows what excellent work is being done there in the study of practical horticulture. The courses are of short duration, but the instruction is so contrived that a great deal of solid information is conveyed in a short time; and if the cry of cramming be raised, it should be remembered that in this case the pupil is made to "cram" himself, which is a very different thing from being crammed by someone else; whilst the examinations, being largely of a practical character, afford some guarantee that the information given is digested and duly turned to account. The present number contains articles on seed-testing, on lime, on the culture of Rhubarb and Seakale, preceded by some clear indications of the physiological operations involved.

**CINERARIA.**—Messrs. SUTTON & SONS send a remarkable Cineraria, in which the flower-heads are fasciated, so as to form a compact, globose head, the size of a medium-sized Orange, so that it looks, as to form, more like a double Zinnia. It would be well to try and select or otherwise fix the variety.

**THE HYBRIDISATION OF ROSES.**—We understand that the examiners appointed by the National Rose Society to assess the merits of the several essays on this subject have unanimously awarded the prize offered by Mr. GRAY to Mr. WALTER EASLEA, of Waltham Cross. The referees were Mr. GEORGE PAUL, Mr. C. E. SHEA, and Dr. MASTERS, F.R.S.

**ACTION OF LIGHT AND MOISTURE ON FLOWER PERFUMES.**—M. EUGENE MESNARD contributes to the *Comptes Rendus* for February 24 some notes on the combined action of light and moisture on the perfumes of plants. The author sums up his remarks by saying:—"The intensity of the perfume of a flower depends, in fact, on the equilibrium maintained during each hour of the day between the pressure of water in the cells, which tends to eject from them the already-formed perfumes contained in the epidermis, and the action of light, which opposes this tardidity. The whole physiology of plant perfumes hangs on this simple proposition. This explains why, in Eastern lands, flowers are less scented than in our countries; why trees, shrubs, fruit and oven vegetables there are furnished with

odorons products more or less resiniferous; it also explains why the general vegetation is spiny and sticky: there is, in those countries, too much light, and not enough moisture."

CONIFER GRAFTING.

(Continued from p. 433.)

WE will now take the second section of the cone-bearers, the species of which may be easily distinguished even by a non-botanical student, as the round and oval fruits of the Junipers, Cypressess, and Arbor-vitæ are quite unlike the cones of the true Pines. Under the microscope, however, the wood presents the same distinctive markings in its minute long-pointed, pitted cells, as do all of the Pines, the chief botanical difference between them being the arrangement and disposition of the seed in the cones.

The proper stock for the Thujas or American Arbor-vitæ tribe is *Thuja occidentalis*, the so-called American Arbor-vitæ, but I have found the variety native to British Columbia and Vancouver Island [?].

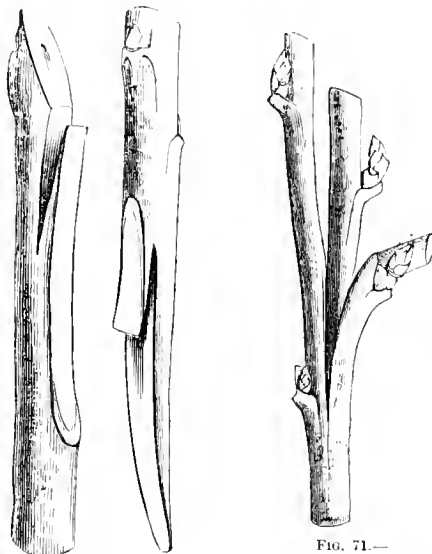


FIG. 70.—  
CLEFT GRAFTING.

FIG. 71.—  
METHOD OF GRAFTING  
CYPRESSUS, JUNIPERUS,  
ERICA, ETC.

The *Thuja gigantea* of some make an admirable stock also. Two or three-year-old seedlings must be taken, with fine roots; they should be potted carefully, as directed before for the higher Conifers, and the stocks may be used when they are well established, remembering that from March to May is the best time to begin work.

The scions may be taken from any part of growing specimens, but those taken from the points of the lateral branches are preferable, as they make the most symmetrical plants; beside growing more quickly. Make a cut half through the stock, leaving a growing shoot above, and then adapt your scion (see fig. 71), saw a piece of *Thuja Barroni* (under which name I have grown and propagated the Golden Siberian Arbor-vitæ), or any other the stock of which you may wish to increase. Cut the graft half through, in a slanting direction, but leave it so long in the base, that when fixed, the lower nodes will be in the soil; bind tightly, and keep the whole close for a month or so under lights. Any of the Thujas may be thus grafted, such as Hovey's Dwarf form with golden bronze foliage, Elwanger's or Tom Thumb, lutea, a still more yellow-twigged form, though wanting in vigour, and Vervaeke's very useful Golden Sport.

The interesting and useful plants known as *Thujaopsis*, form a connecting link between Arbor-vitæ and Libocedrus, may also be grafted on the American stock. I wish to indicate *T. dolabrata* and

its variegated form, but one called *Standishii* appears to be simply a variation from the typical *Thuja Lobbi*, which sports greatly from seed. [The two are distinct; *T. Standishii* is Japanese. Ed.] To these may be added *Libocedrus decurrens* and *Libocedrus chilensis*. The last-named, with Don's variety, and the *Alerce* of Chili, are not hardy in this country, but the last well deserves a place in the winter garden, where it makes a lovely tree; both may be grafted on *Thuja gigantea*.

We now pass on to the Junipers and the Yews. For the Yews two stocks answer well, the red Cedar (*Juniperus virginiana*), and the common Juniper (*J. vulgaris*). All that is required is to pot young plants in the early autumn, and to plunge these in any light dry material until wanted. Select a stock as near the size of your scion as possible, and effect the grafting in the same way as directed for Arbor-vitæ. Tie securely, and smear with clay or grafting-wax. Keep the plants close for fourteen to twenty days, when a good union should be formed. The Chinese Juniper and Young's Golden variety, of which both are most desirable shrubs, may be grafted freely on the English or Siberian Juniper, and in the same manner as those above.

Many of the Conifers have been placed by botanists, first in one genus and then in another, some of which are probably connecting links. I allude to *Fitzroya*, *Saxegothea*, *Glyptostrobos*, *Cunninghamia*. Where rapid multiplication is not a necessity, however, it is better to increase these by layers or even cuttings, while the gardener with an experimental turn of mind may select a stock apparently similar, and make a trial for himself.

OUTSIDE GRAFTING.

Our first subject, if we except purely ornamental trees as the Almond, is the Cherry, the scions of which should have already been cut at least two months, and laid-in in a sheltered spot, protected from late frosts, as at this season when the sap begins to circulate, even a few degrees of frost will injure the wood by rupturing the newly-formed cells in the sap wood, which leads frequently to "gumming" and death.

There are three proper stocks for the Cherry. First, the erect and rapid-growing Cherry of our woods, *Prunus cerasus*; second, the wild Morello (or *Gean Prunus avium* (?)), indigenous in some parts of Kent on calcareous soils; and third, a distinct species called Mahaleb, from the strong odour of its flowers and wood, which latter is much used in Germany for pipe bowls. The first should be the stock used for raising standard trees for orchards; the other two are more suitable for producing dwarf trees to furnish walls, bushes, or pyramids for the fruit garden. I have had Morello pyramids on this stock, which seldom failed to crop abundantly year after year, and they possess a lovely appearance when in blossom. The practice in nurseries is to bed the stocks out when sufficiently stout, leaving plenty of room between the rows and each plant. Established stocks are hudded in July, not at the base, as is usual in the case of other fruit-trees, but at the exact height at which you desire to form your head. In the following March and April all those in which the bud has not taken are grafted. Buds fail to take from various causes. One not generally known is a small beetle, which lays its eggs at the base of the bud, and as a perfect insect eats away the vital part of the bud; while frost, and our handsome enemy the "Pick-a-bud" (Bullfinch), often leads a hand or beak in the mischief. At any rate, there are sure to be some failures, and these must be made good by grafting in the spring. Head back all the stocks that need this operation, and having prepared some "pug" by working fresh horse-droppings into stiff clay, cut the stock at the required height diagonally, with one clear cut, tongue this by a cleft about half way down, and cut the scion, about 5 inches long, with a long heel (see fig. 70). Tongue this and adapt it accurately to the stock, taking care that the bark of stock and scion fit nicely on one side, or, better still, on both. Bind closely with bast or raffia, and apply your prepared pug, so as to perfectly exclude all air. Finish to a



point round the top of the graft, and the same at the base, this being the best form to throw off the rain, which otherwise will soften the clay, and necessitate a second application. Should the season be mild, in less than a month the buds on the inserted grafts will push, and a little later it will be necessary to apply top sticks. These are easily made by cutting a piece of Ash or Hazel the required length, and splitting it in two through the pith, ticing it at the base, and again just below the union of your scion with the stock. Such supports are very necessary to prevent the wind breaking the shoots or grafts. At the same time examine the tie, to see that it will not cut the swelling scion, and so injure the base.

The Mahaleb and wild Morello stocks are grafted as near the ground-line as convenient, the operation being otherwise identical with that described. The "top stick" for these can be thrust into the ground parallel with the stock, and the growing graft secured to this. Use also the Morello stock for the Morello race, Kentish, Flemish; or, as Dr. Hogg classes them, Griotte's Cherries; and use the Mahaleb for the Bigarreau and fruits of that race.

For ornamental purposes only we have some very fine Cherries. Of these the double-flowered form of the Wild Cherry is exceedingly handsome. These should be worked high and low on the common stock, while the double form of Morellos will do best on the P. Cerasus; but there is a silver variegated form of Mahaleb which forms a very pretty tree. It grows close, and forms a head flowering freely in June, and producing a crop of its small stony Cherries, a few of which may be used with Morellos, in making Cherry-brandy, as they add both flavour and aroma to the beverage. This should be worked on a strong Mahaleb stock, and allowed to grow from 5 to 6 feet. *Experience.*

## THE CARNATION IN AMERICA.

MR. J. H. CONNELLY discourses on Carnations in the March number of *Scribner's Magazine*, and gives wonderful accounts of the growth of the Carnation in America. He, of course, deals with the history of the Carnation, and therein makes several statements which will be read with surprise by Carnation growers in England and elsewhere, as they are new to some of us who have studied the Carnation in its historical as well as in the life-history of the plant for many years. For instance, we are told that "long before the Christian era the Carnation had become established as a fixed type of special differentiation from the small single *Dianthus* of the Mediterranean region;" and making a bound from long before the Christian era to early in the second century, he says it was "lauded by Dioscorides as a flower of surpassing charms and virtues." Passing from the second century, we are further told that cultivators during the dark ages "simply amused themselves with its infinite diversity, seeking to effect no other improvement than increase of its size." In this they seem to have been so successful that in 1613 "they had attained a strain of Carnations that frequently were 3½ inches in diameter." More marvellous still, we are informed that "there were blue Carnations in 1700, and as there have always been yellow ones, who can affirm that blends of those primaries did not produce natural greens centuries before perverted taste employed aniline dyes to create such ghastly mockeries of nature." This leads us up to 1750, when "some of the leading floriculturists of France undertook 'breeding off' the fringe of the Carnation petals." For a century and a half we are led to believe that the French cultivators were manfully and hopefully working to obtain erose petals instead of fringed ones, and "they are greatly encouraged to hope that in a few centuries more, smooth round petals like those of the Rose may be obtained;" and while still striving for this, we are told that a grower named Dalmais picked up prizes of greater value. Mr. Connelly supposes that the Huguenots introduced the Carnation to America. The English are out of it. "The Pilgrims did bring to America the 'Clove'

or Paisley Pink and the Sweet William, but they did not bring the Carnation." The long article in question, covering ten pages, is embellished with a dozen or more "cuts" of Carnations; they are all fringed, rough things. The writer does not seem to be aware that any improvement has taken place in England, therefore it will be news to him to be informed that the rounded petals without fringes have been obtained by the skill of English horticulturists generations ago. Of course, there are some who prefer a Carnation with fringed petals, as being more in accordance with their artistic taste; but I am certain that by far the greater number of Carnation fanciers prefer the symmetrical forms of the Carnation that have attained the highest points of excellence as set forth by our leading florists. Mr. Connelly writes with the vaguest ideas of English classification. These are his words:—"The English system of classification by colour only is necessarily indefinite and unsatisfactory;" and presently we are informed that "the American classification is, perhaps, most servicable, and nearest to precision." Here it is in full:—"1, Grenadins (single flowers, generally dark, grown for perfume-making mostly); 2, Border sorts (used for outdoor cultivation); 3, Malmaisons (sturdy plants, bearing enormous fragrant flowers, pink or red, suitable for outdoor growth, yet admitting of successful forcing, but with the common vice of bursting the calyx); 4, Forcing or Bench Carnations (grown for winter blooming); and 5, Marguerites (the semi-dwarf Italian type)." It seems that there is also an American Carnation Society which registers the names of all varieties deemed worthy of culture. This is certainly an important part of such a Society's duty; such a work might be appropriately taken up by the English Carnation Societies. In three years the new varieties of Carnations deemed worthy of registration is 142, which brings the number up to 562 varieties, and every one of the 142 were in the forcing class. It seems some enterprising growers have commenced to give part of their attention to improving the border class; but the commercial element comes in, and we are informed that border Carnations will only fetch 1s. a handful, while the forced varieties will sell for 2 dols. per dozen blooms. Each winter, 15,000,000 cut Carnations are required to supply the New York markets, and the demand is ever ahead of the supply in all the choice varieties and high grades thereof at ever-advancing prices. Instructions are given as to methods of propagation, &c., which is much the same as those practised here, but the after-treatment differs slightly. The young plants are planted out in an open field in May, and about the end of August they are brought into the greenhouse or forcing house, and are planted out on benches in rich soil only 4 inches deep. Root-action starts quickly amongst these benched plants, and they must force ahead very rapidly indeed, for they are said to be in bloom in from four to six weeks; twenty good flowers are considered a fair average for each plant, but some plants will produce a hundred; the flower-stems are trained to wires one above another, and they grow from 2 to 3 feet high. The following information may be useful to English growers as well as American: "Carnations soon wither if sent to market immediately after being cut. They are therefore taken from the plants the day before they are sent away, and given twenty-four hours in a cool cellar, with their stems plunged deep in clear cold water. This hardens them, so that they will last for days in the hands of purchasers. Indeed, Carnations shipped across the ocean from Long Island greenhouses have been worn to the opera in London and Paris still fresh, beautiful, and fragrant." One would not think it was worth while to send Carnations from Long Island greenhouses to London, as English growers can supply more beautiful varieties. The varieties figured and recommended are The Meteor, crimson; Lizzie McGowan, white; The Storm King, snow-white; William Scott, light clear pink; Bridesmaid, bright pink; Alaska, snow-white; Daybreak, flesh-pink; The Jumbo, Malmaison seedling, reddish crimson; The Goldfinch, yellow Picootee; The Samson, white ground, striped and edged with pink; Helen Keller, variegated white ground. *Jas. Douglas.*

## HOME CORRESPONDENCE.

**STEAM LAWN-MOWERS.**—Your correspondent, Mr. P. Wilkinson, p. 399, seems to welcome the advent of the steam lawn-mower. Myself, I agree with Mr. Mawson, that a garden should be a place of quiet refreshment—a retreat from the hurly-burly and every-day town; and allowing for the important part played by the steam-engine as a means of locomotion, and as a producer of most of the appliances of civilisation, I do not think a case has been made out for its application to lawn-mowers, and I hope the day is distant when steam lawn-mowers will be puffing and snorting in the sylvan retreats of rural England; for if the quiet at present enjoyed in the surroundings of country mansions be broken up by steam lawn-mowers and other complicated machines, I agree with Mr. Mawson that one of the great charms of quiet out-of-doors life has departed. The objections to lawn-mowers when drawn by horse or pony, alluded to by Mr. P. W., have no real foundation in fact, for if the lawn is too wet for the machine, it pays to use scythes occasionally; and boots are generally used to prevent horses' feet sinking into soft lawns—and as to treading down edges and flower-beds, it does not say much for the driver of the pony. I know from experience that there is not much poetry in the movement of a 22-inch lawn-mower when you are responsible for half the motive-power on a hot day, but it is good exercise for a strong, healthy man. *R. M., Newbury.*

**BULBS IN HERBACEOUS BORDERS.**—There is some truth in what Mr. Crump said in a previous number of the *Gardeners' Chronicle*, about planting bulbs in beds by themselves; but at the same time, there is no reason why a few bulbs should not be planted on the borders of herbaceous perennials. In fact, I think they add much to the beauty of such borders. For instance, a few clumps of Scilla, Snowdrop, Hyacinth, Narcissus, and other early-flowering bulbs, wonderfully brighten up the borders at a time when but few of the herbaceous plants are in flower. The different species of Lily, many of which reach 4 feet and more in height, are very suitable plants to occupy spaces between tall-growing herbaceous plants; Hyacinthus candicans would also not be out of place in such situations. If the clumps are labelled or marked, the bulbs when in a dormant state and the stems have died down, should not be injured by careful workmen. *C. Collett.*

**ROSES, AND THEIR CULTURAL REQUIREMENTS.**—I read with much pleasure the contribution signed "Wild Rose," with most of whose opinions I entirely agree. There appears to be want of unanimity among rosarians regarding the amount of pruning required by such Moss Roses as the White Bath, the White Perpetual Moss, and Blanche Moreau, which I have long been accustomed to regard as the most beautiful varieties pertaining to this section. Doubtless, when the late Mr. Rivers, whose memory I reverence, recommended the practice of autumnal pruning (which is also enjoined by Mr. William Paul as a gradual preparation for that of spring, thereby rendering the latter less essential), he was speaking from a life-long experience. It was seldom, indeed, that he had not adequate premises for the conclusions at which he arrived. Though "close pruning" is generally advocated by modern horticulturists, whom such a conservative writer and advocate of the customs of the past as "Wild Rose" may be disposed to regard, not without reason, as somewhat revolutionary in their tendencies, yet I cannot say that I blindly follow in their foot-steps; for though I shorten my Moss and Tea Roses somewhat at this period, at present so atmospherically favourable for this purpose, I always take care not to shorten them too much. I have never advocated wholesale indiscriminate mutilation. Last spring many of my tenderest varieties were very severely pruned by the merciless hands of Nature herself, through the influence of an almost unprecedented frost; but they seemed to grow all the more vigorously, and bloomed the more profusely thereafter by reason of this ordeal. With other classes, however, the case is somewhat different. Such Noisettes as Maréchal Niel and Rêve d'Or, and most of the vigorous-growing summer-blooming Roses, which flower for the most part on the ripened wood of the previous year, must not be pruned at all, in the ordinary sense of that somewhat crucial conception; the longer shoots may, perhaps, with impunity be shortened very slightly, and weak or superfluous growths entirely eliminated—but that is

all that is requisite to promote their development and floral evolution. In such special instances as those of the Noisettes and the Austrian Briars, it is obviously of the utmost importance that the shoots of last spring, which the strong heat of summer and early autumn matured, should be as much as possible protected and preserved. The theories of "Wild Rose" on this and other subjects may be conservative; but so also are those laws of the physical world by which the universe is sustained. While it is obvious that he sympathises with all movements which are not only progressive but ameliorative, he is deeply conscious, like all writers who can think for themselves, that the present has been built upon the knowledge of the past. *David R. Williamson.*

**FLOWERING SHRUBS.**—It is some years since flowering deciduous shrubs were so attractive as they are this season. We have had no hard frost, the weather has been dry and calm with a few exceptions, and in a great measure it has been favourable to the flowers continuing a long time in perfection. Among shrubs which have flowered are *Jasminum nudiflorum*, *Lonicera fragrantissima*, and *Chimonanthus fragrans*. A plant of the latter growing against a house in our village was a lovely picture, it being literally covered with the fragrant flowers; and a bush growing on the lawn in the garden here, exposed to the north-east, has been in bloom more or less all throughout the winter, and though the frost was so severe last winter, it made a fair amount of growth during the summer. Plants in sheltered places, such as *Daphne Mezereum*, *D. laureola*, *Garrya elliptica* *femina*, and *Pyrus japonica*, are still very showy. *Prunus pissardi*, one of the earliest of the species of *Prunus* to open its flowers, is at the present time a mass of bloom. The small purple flower-buds have a very peculiar appearance before they burst. It is a shrub that deserves to be extensively planted on account of its flowers and the colour of the foliage. Some of the *Magnolias* will soon be in bloom, and I do not recollect seeing so many flower-buds on the plants as this year. *Andromeda floribunda*, with its Heather-like bells, has long been in bloom; while *Spirea Thunbergii* and some of the early-flowering *Berberis* have helped to make charming variety. The growth of *Solanum jasminoides* planted against an east wall is as green now as during the summer, and some fine clusters of bloom may be hoped for by-and-by. Many of the shrubs, too, are still carrying their berries. *Escallonia* and *Ceanothus* have stood well, and we may therefore hope to be rewarded with flowers later on. Some of the early-flowering species and varieties of *Rhododendron* are very beautiful, but none in the spring is more so than *R. Nobleanum*, particularly the scarlet-flowered variety; and in a season like the present they are perfect. *Azalea mollis* promises to be good this season. There are hundreds of the old *A. pontica* planted in the woods at Buxted which the rabbits never touch, even when short of food; neither do they touch *Dentzia scabra* when it has grown up, although *D. gracilis* is eaten off close to the ground. *H. C. Prinsop.*

**AUCUBA JAPONICA IN BERRY.**—The *Aucubas*, where they have a male plant near them, are grandly berried this spring. At Gunnersbury Park, where good-sized bushes abound, and where a male plant is dotted about here and there, the bushes are laden with brilliant red berries, and however much a plant is hidden away among other shrubs, it is found to be bearing fruit. At the St. Marylebone Cemetery, East Finchley, where the *Aucubas* grow with wonderful freedom in the stiff clay, and where with wise precaution male plants were dotted about years ago, there is a marvellous wealth of berries, and they are very fine in point of size. What strikes one in walking round the pleasure-grounds of Gunnersbury Park is the fact that here and there the pollen must have travelled a considerable distance, carried probably largely on the wings of the breeze, though insect agency may have assisted in the work. There is reason to believe that a warm sunny March, like that experienced last year, operated to bring out the bloom of the male and female types more nearly together, and complete impregnation resulted. This spring the time of flowering of the male appears to be pretty well a month in advance of that of the female, as on the 28th ult. I saw plants at Gunnersbury Park in full bloom, with but little present promise of inflorescence on the part of the female. It may be that the pollen remains long upon the male flowers, and is thus preserved until the time of blooming of the female. A few years ago I was spending Easter-time in the South of England, and on attending service at the parish church in the evening I noticed the abundant use of brilliant red

berries among the Easter decorations. In the dim light, and at some distance from the pulpit, I could not detect what the berries actually were, but on passing the forecourt garden of an adjacent mansion on the following morning, I noticed that some large bushes of *Aucubas* were heavily berried, and that they had been turned to account in the parish church. The berries are in perfection at Easter, and they can be appropriately employed in festive celebrations. But some do not know that the presence of a male plant is necessary for the production of berries by the female, and it is well to make assertion of this fact from time to time. If Robert Fortune in his extensive travels had done nothing more than give to English gardens this valuable addition to our shrubberies, he would have deserved well of his country. In his *Visit to Japan*, after referring to the discovery of the male plant, he states:—"Let my readers picture to themselves all the *Aucubas* which decorate our windows and gardens covered, during the winter and spring months, with a profusion of crimson berries. Such a result, and it is not an improbable one, would of itself be worth a journey all the way from England to Japan." *R. D.*

**COLOUR IN APPLES.**—At the recent meeting of the Gardeners' Orphan Fund I had the pleasure of meeting Mr. Miles, of Southampton, and spoke to him as to the assumed artificial colouring of Blenheim Orange Pippin and other Apples, some discussion about which took place in these columns early in the winter. Mr. Miles had brought up with him some handsome richly-coloured and firm samples of this variety, the colour of which he entirely ascribes to his heavy dressings of soot. The trees are nearly thirty years old, and grow on grass-land. The value of soot as a herbage-maure has long been known, but it does not seem hitherto to have been largely used as a manure for the Apple. The soil is loam resting on gravel, and there is some reason for the inference that the thorough drainage, warmth of soil generated by the gravel base, and the undoubted warmth of the atmosphere conjointly, do much to produce rich highly-coloured fruit. But the gardener is fully entitled to regard the results obtained as being due to the soot-dressings when he finds trees not so dressed bearing fruit inferior in this respect. The subject is of interest, and merits investigation. *A. D.* [Why can it not be put to the test at Chiswick? *Ed.*]

**POSOQUERIA MACROPUS (LONGIFLORA).**—I am sending you a truss of bloom, also a photograph, of that beautiful and seldom-seen ornamental and sweet-scented stove shrub, *Posoqueria longiflora*. The plant grows and flowers freely at Stratfieldsaye, in the stove, where it gets plenty of heat and moisture. It grows in a flower-pot, in light peaty soil, and at the present time our plant carries thirty such trusses of bloom as the enclosed. Its height is 5 feet, and diameter 3 feet. *J. W. McHattie.* [It is illustrated in the current number of the *Botanical Magazine*, with the name *P. macropus*. *Ed.*]

**THE SNAPDRAGON.**—When growing in moist land, the plants of *Antirrhinum* which, flowering for the first time last season, have been selected for keeping through the winter, will often die, in all probability through excess of moisture at the roots; therefore it is well to lift any choice varieties growing in a retentive soil, and transplant them to a drier one, taking care, as far as possible, to lift them with balls of soil about the roots. As a precaution, it is well to take cuttings of anything choice, placing them round the sides of pots of light, sandy soil, and putting them in a cold frame or greenhouse. Some will be pretty certain to strike, though all may not do so. One has sometimes to wait for cutting wood, because the bushy habit of growth produces shoots which bloom. The best cuttings come from the wood thrown up round the main stem in autumn, and stock is also secured by placing stock plants in the gentle warmth of a greenhouse in spring, and striking them in moist sand; and plants so obtained, if re-potted once or twice, make good stuff to go out in the open ground at the end of May. In Scotland the named varieties of the *Antirrhinum* are popular, and most trading florists who grow the flower select seedlings and name them, whether they be self or striped. They would not do this were there not a demand for named sorts; the act of naming can be taken as a guarantee that only the finest varieties are selected for this purpose, and in forming a collection it is well to purchase some. If anyone will grow a few of the choice named varieties, and compare them when in flower with the quality of ordinary seedlings, they will soon perceive the differences in value, and recognise in the named

sorts massiveness, solidity, beauty of marking, and perfection in all the parts which make up a high-class form. Named sorts are usually sent out at the end of April and May, and though small and apparently spare in appearance when they come to hand, they soon grow into size when planted out in soil of good heart. I have had young green plants from Scotland packed for three or four days in moss, which when received appeared the worse for the transit; but when placed in a cold frame, sprinkled overhead, and shut down close for a few hours, they soon recovered, and in two or three days could be transferred to the open air with safety. But few self-flowers are named; the striped and flaked varieties find most favour, which is not to be wondered at; most have white, others ivory grounds; some are primrose or lemon, and some golden-yellow. The following could form a select collection: *Fascination* white, suffused with pink; *Firefly*, orange and fiery crimson; *George Finlay*, golden-yellow, streaked with crimson; *Lemon King*, a lemon self; *Miss Jellicoe*, cream, suffused with golden-yellow; *Purple Prince*, a rich maroon purple self; and *Zebra*, golden-yellow, pink, and crimson. *R. D.*

**AMERICAN LARCHES.**—Regarding the Black American Larch, *Tamarack* or *Haematack* (*Larix pendula*) referred to by Sir C. W. Strickland, I have received the following from Mr. Buchanan, of the Canadian Pacific Railway: "The *Tamarack* here is your Larch in all its purity. Its great use is for railway ties (in Britain, sleepers), and valuable for keeping so long sound when under ground. The tree is clear, clean, and free of skin, sound in body, a gentleman of the forest, and fond of his drink too; where he is found, water is not far off, and this would be noted in planting. With you, the Larch disease is becoming more and more serious, and that at a time when your forest resources should begin to be of value. Every country from France to Russia and Sweden has a department for woods and forests, with a view to their extension and preservation; and such an office for the United Kingdom would be of great value. I would suggest that a suitable person be sent out here to prospect and send home a supply of seed from the *Tamarack Larch*, which I have every reason to believe would be peculiarly suitable for planting in the British Isles. Such an investigation and report regarding the immense Larch forests here would be of undoubted value." Accompanying this letter was a map showing the wide range of the tree, particularly in the district intersected by the Canadian Pacific Railway. It is interesting to learn from your correspondent that this Larch, planted in wet, sandy soil, near a pond, has attained to a large size in this country, and probably Mr. Buchanan's suggestion regarding a fair trial of the tree in these isles is worthy of consideration. Hitherto the black Larch planted in England has not done well, but in several cases the trees were placed in soil the opposite of suitable for their development. I suppose the red Larch referred to by Sir C. W. Strickland as thriving so well at Boynton is the Western Larch (*L. occidentalis*)? *A. D. Webster.*

**NARCISSI AT TOTLEY HALL.**—There will be a grand display of *Narcissus* in bloom about the middle of the present month, numbering close upon three-quarters of a million bulbs, in 250 varieties, including some of the best sorts, such as *Weardale Perfection*, *Madame de Graaff*, and *Glory of Leiden*. The first-named variety is catalogued in Mr. Barr's list at 12 guineas per bulb, and it has, I believe, obtained First-class Certificate, wherever it has been exhibited. I may mention that through the kindness of W. A. Milner, Esq., J.P., the members of the Sheffield Chrysanthemum Society are going to visit the above place on the 18th inst. *One of the Members.*

**FORMING HERBACEOUS BORDER.**—Your correspondent, "H. W. W.," p. 436, does not shake my opinion one iota as regards the planting of bulbs with herbaceous plants proper in the same border. In the first place, bulbs are not herbaceous, according to florists or judges, many of whom will disqualify an exhibitor who puts up flowers of bulbous plants when "herbaceous" is specified. If this dictum is right, the wording "herbaceous border" is simply a misnomer. The appellation "mixed border" would be more accurate. But apart from this technical point, I maintain that all the bulbs named by "H. W. W." are far more effective, and certainly more enjoyable, when planted out in bold, irregular masses in the grass; besides, the short-lived and often bespattered effects given by the bulbs on the so-called "herbaceous border" would be seriously discounted later on, that is, whilst the foliage was dying down,

thus producing an objectionable contrast to the freshness of herbaceous plants proper. I imagine no one would expect a very gay flower-border out-of-doors during the months of January and February, whilst after such dates, *Doronicum austriacum*, and others, *Pulmonaria saccharata*, *maculosa*, and other Lungworts, the *Polyanthus*, and many more of the *Primula* family, early *Irises*, *Daisies*, *Alyssums*, *Anbrietias*, *Violas*, *Wallflowers*, &c., will be found to make the borders fairly cheerful and bright, to be followed by many flowering plants of the list given by "H. W. W.," on p. 399, with improved varieties of recent introduction. I know that the excellent effects produced in the herbaceous border by planting are bold but irregular groups, these ranging from 3 to 12 feet super, leaving at irregular intervals spaces for specimen plants, or possibly a group of specimen plants, one each of a choice or rare species, to give greater interest, without marring the effect as a whole. There are special conditions as regards our herbaceous border, viz., "bulbs are rigorously excluded; secondly, it is expected that a flower will be found therein on every day in the year." These conditions have been maintained so far, even during the frost of January and February, 1895, but this was only realised by removing the snow to reach the *Helleborus* (Christmas Roses), *Czar Violets*, &c. It should be stated the second condition is not a *sine qua non*, or imperative. Some of the best effects of bulb and other hardy flower planting is to be found in the gardens of Penrhyn Castle, as practised for many years by Mr. Speed on turf and under trees, which is not mown till the foliage of the bulbs has become mature. At Madresfield a good many thousands of *Aconite*, *Crocus*, *Snowdrop*, *Scilla*, *Chionodoxa*, *Paffodils* of sorts, *Narcissus*, *Hyacinth*, *Tulip*, *Anemone appennina* and *fulgens*, *Grape Hyacinth*, *Ornithogalum*, *Trillium*, *Orchis*, *Pritillaria*, *Allium*, *Colchicum*, terrestrial *Orchids*, *Lily of the Valley*, &c., are planted, all of which plants are worthy of any trouble taken to establish them. *Scilla campanulata alba* is a real gem when seen on turf, and its only fault is that it is a little late—not flowering till the grass has got tall. It is a good plan to prepare a piece of undulating land to plant the bulbs, and sow fine lawn-grass seeds, affording it an occasional top-dressing of manure, and cutting the grass with the scythe. For cultivating choice species of *Lilium*, *Montbretia*, *Alstroemeria*, *Gladoli*, *Hyacinthus candicans*, &c., a specially-prepared border, having a Yew hedge at the back, is excellent. *Lilium anatum*, *L. speciosum*, and the so-called Tiger Lilies, are a host of themselves. In this case it is necessary to leave a space between the Yew hedge and the bulbs, so as to be able to annually dig up the trespassing roots of the Yews. By thus keeping herbaceous plants, bulbs on grass, choice bulbs under special cultivation, and rock and alpine plants apart, bedding plants in the formal garden, flowering shrubs in large groups, with a background of evergreens, very enjoyable results are realised that greatly excel the heterogeneous mixture so often observed and recommended. W. Crump, Madresfield.

**LARCH DISEASE.**—I have not Professor Marshall Ward's book on tree diseases, having lent it, and would like to ask you, therefore, if it is a fact, as stated by Mr. Michie this week, that the disease is found "alike in seedlings of a year old, and in the transplanted lines in the nursery at any stage of growth." [We are unable to find such reference. Ed.] As far as I remember, Professor Marshall Ward's description runs in substance thus:—"The germs of the Peziza have first to be deposited in some wound in the bark; have next to be hatched; next to do their work; after which the ulcer has to develop and grow; all of which takes a good space of time." How, then, in seedlings a year old, or younger—i.e., "at any stage of growth"—is the disease explained? J. S.

**FLOWERING SHRUBS.**—I do not remember ever seeing the promise of flowering trees and shrubs so good as is the case this season. Thorns, *Lilacs*, *Dentzias*, *Ribes*, and *Rhododendrons* are particularly rich in flowers and flower-buds, and many of which have failed to flower for several years are going to bloom profusely. Roses are not at all satisfactory. The effects of the severe frost of last year is more apparent than before. Wherever shoots seem likely to fail, they should have the stunted wood well thinned out, and extra pruning given to induce new growth from the base, a good surfacing of farm-yard manure given over the roots, covering them with soil to retain the virtues of the manure, will do much to start free growth, and when growth is fairly begun, a good application of liquid manure is very helpful to recuperate the plants.

But lifting the roots entirely, and re-planting in fresh loam, then mulched with decayed manure, is the best restorer we know of when Roses are below par. Last year's frost has been useful in enabling us to decide what Roses should be avoided in making new plantations; many perished from the severity of the weather. We learn from some of our nursery friends that the sale of Roses and shrubs in the north has this year exceeded that of several years past. M. Temple, Carron, N.B.

**MR. W. MURRAY.**—Our Northern readers will regret to hear that Mr. W. Murray, gardener at Park Hall, Polmont, has been seriously ill, and confined to his bed for some months. The Park Hall fruit-houses are at present in fine condition, Vines breaking strongly, showing large bunches in abundance, the Peach-trees well set with fruit. M. T. Carron.

## SOCIETIES.

### ROYAL HORTICULTURAL.

**APRIL 7.**—In view of the circumstance that the meeting held on Tuesday last in the Drill Hall, James Street, Westminster, followed so closely upon Bank Holiday, the exhibition was in all ways satisfactory. While the hall was rather less full than is usually the case, there were nevertheless sufficient exhibits to give it a well furnished appearance, and a few novelties were staged. Orchids were present in more than the usual proportion, and Roses were shown in larger quantity than on any previous occasion since last season. A large display of *Narcissus* was made by Messrs. FARR & SON, and the Rev. G. H. ENGLEHEART contributed many interesting and valuable hybrids of the same flower. In addition there were several miscellaneous groups and plants of considerable attractiveness and interest. The lecture which should have been given in the afternoon by the Rev. G. HENSLOW on "The Movements of Plants," was unavoidably postponed owing to some mistake having occurred in regard to providing the necessary apparatus, and other circumstances, for displaying the slides with which the lecturer had intended to illustrate the subject.

### Floral Committee.

*Present:* W. Marshall, Esq., in the Chair; and Messrs. J. Fraser, J. Laing, H. Herbst, R. Dean, J. Jennings, J. F. McLeod, R. B. Lowe, C. J. Salter, R. M. Hogg, J. D. Pawle, G. Gordon, H. S. Leonard, C. E. Pearson, C. E. Shea, H. J. Jones, J. Walker, C. Bick, E. Beckett, G. Paul, E. Mawley, and Rev. H. H. D'Ombrian.

A large decorative group from Messrs WM CUTBUSH & SON, Highgate Nurseries, London, N., arranged on the floor of the hall, was one of the conspicuous features of the exhibition. The group consisted in a large measure of abundantly-flowered specimens of Indian and Ghent Azaleas. There were also *Magnolias* in pots, *Lilacs*, *Palm*, *Rhododendrons*, *Viburnum Tinus*, and a number of *Boronia*s and other hard-wooded greenhouse plants, all of exceptionally good condition (Silver Gilt Flora Medal).

A very bright but smaller group of plants was one from Messrs. JNO. FRED & SONS, Russell Park Nurseries, Norwood, S.E. In this one there were *Odontoglossum* in flower, a few *Dendrobium*s, *Lilacs*, *Caladium*s, and several fine *Cleives*, &c. (Silver Flora Medal).

Roses in pots were extensively shown by Mr. WM. RUMSEY, Joyning's Nurseries, Waltham Cross, Herts. Some of the high-coloured varieties, such as *Sénetour Vaisse*, were particularly good in colour. The salmon rose coloured *Noisette L'Idéal* showed many pretty buds, and there were numerous other varieties in very fine condition. Cut blooms of Roses from the same establishment included a good number of the white *Niphotos*, the pink *Souvenir d'un Ami*, and other Teas (Silver Flora Medal).

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, Herts, exhibited a group of Roses in pots. The plants carried a good number of blooms in bright colours. An Award of Merit was recommended to the variety *Clara Watson*, a very pretty pink Tea; either in bud or partially-developed flower the form is very pleasing. Most of the other varieties shown were choice and good (Silver Banksian Medal).

Mr. GEO. MOUNT, The Rose Nurseries, Canterbury, exhibited a magnificent collection of cut Roses. Particularly pretty were the eighteen blossoms of *Catherine Mermet*, and in another box where alternate blooms of this lovely pink Rose were placed with the equally pretty white one, the Queen, the effect was charming. Captain Hayward was of a capital colour, and many other varieties were praiseworthy (Silver Banksian Medal).

Mr. FRANK CANT, Braiswick Nursery, Colchester, showed forty-eight cut Roses in excellent manner. Madame de Watteville and Ethel Brownlow were noticeable among others as being very pretty blossoms (Silver Banksian Medal). *Arctotis aureola* or *grandiflora* (Cape of Good Hope) was shown by Messrs CUTBUSH & SON, Highgate Nurseries, London. This is a very old Composite which grows from 1½ to 2 feet in height and produces large, decorative flower heads

of bright orange, fully 4 inches across. The plant has pinnatifid, serrated foliage, and has been known for upwards of a century and a half (Award of Merit).

From Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, were exhibited plants in flower of *Daphne Genkwa*, *Goryopsis pauciflora*, and a variety of *Cercas* from Japan, probably a very fine form of *Prunus Pseudo-Cercas* (see fig. 72, p. 467). The flowers are very large, semi-double, in colour white with a green shade, the centre of the flower of a pale rose tint. They also showed plants of *Sambucus racemosa plumosa foliis*, and *Rhododendron racemosum*. This *Rhododendron* is exceptionally free flowering and pretty. Both leaves and flowers are small, but the latter are produced in many-flowered clusters, and are silvery white and rose, altogether very charming. *Polygala chamaebuxus purpurea* was also shown in flower by Messrs. VEITCH. The plants were about three inches high, with small lanceolate olive green leaves, and bore numerous flowers. The wings of the flowers are deep purple, and the keel pale yellow (Award of Merit). A Bronze Banksian Medal was awarded this collection.

Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., exhibited a plant of *Streptocarpus multiflorus* with bluish-purple flowers.

Mr. J. May, gr. to WICKHAM NOAKES, Esq., Leatherhead, showed a large specimen plant of *Caladium Noakesii*.

A group of plants of a white double flowered Stock was exhibited by Messrs. SUTTON & SONS, Reading. The plants and flowers were good, and the variety is evidently a suitable one for forcing (Award of Merit).

### Orchid Committee.

*Present:* H. J. Veitch, Esq. in the Chair; and Messrs. Jas. O'Brien (Hon. Sec.), Baron Sir H. Schroder, C. Winn, J. Douglas, W. Cobb, T. W. Bond, E. Hill, H. J. Chapman, W. H. White, C. Pilcher, H. Ballantine, R. Brooman-White, F. Hardy, and H. M. Pollett.

Again there was a fine display of Orchids from nurserymen and amateurs.

Baron Sir H. SCHRODER (gr., Mr. H. Ballantine), contributed, as is his wont, the largest number of fine varieties of *Odontoglossum*, besides other rare Orchids, and a few remarkable crosses raised at "The Dell." Foremost among these was the rich crimson purple coloured *Calanthe* Baron Schroder, and among the *Dendrobium*s several very pretty unnamed kinds. Among other things noted were *Odontoglossum crispum flavescens*, with almost wholly yellow flowers; *O. Halli xanthodon*; the very showy *O. triumphans* Hillingdon variety, which had previously secured a First-class Certificate; *O. x elegans*, and a very singular white hybrid spotted with brown, which, while coming near to *G. x Wilkeanum*, possessed distinct features, which were evident when compared with the fine *O. Wilkeanum* beside it. There were also present the light rose-coloured *Cattleya Lawrenceana* concolor, the blue *C. L. Vinckii*, both unique; *Laelia x vitellina* and another fine orange-coloured hybrid *L. C. x Doris*, var. *Xantho*; the handsome *Laelia x Veitchiana*; the pure white *Dendrobium superbum* Dearell, and the bluish-white *D. S. Burcki* (Silver Flora Medal).

F. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed his handsome *Dendrobium x Cllo*, Tyntesfield variety (splendidissimi *lum. grandiflorum x Wardianum*), which although belonging to a very variable class (as evidenced by the clear white *D. x Cllo album* (also shown by Mr. HARDY) was a very great way in advance of any previously seen. Its large handsome flowers consisted of sepals and petals nearly equal in size; the former magenta-purple coloured, with a narrow white margin; the latter of the same colour, with a broad white border, and the lip orange at the base with a chocolate-coloured disc, surrounded by a white zone and tipped with magenta colour. The ovate oblong form of the lip, too, is remarkable. The plant was awarded a First-class Certificate. Mr. HARDY also showed *D. x Venus* with over twenty flowers, *D. Falconeri giganteum*, and two pretty hybrids raised at Tyntesfield.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, were awarded a Silver Flora Medal for a very fine group of rare and handsome Orchids, among which were their splendid hybrids *Laelio-Cattleya x callistoglossa* and *L. e. x Pallas*, two of the most beautiful yet raised; the fine Indian yellow and red *Laelia x Latona*; *Dendrobium x Baryalus* and *D. x manicans* (*Wardianum x luteiflorum*), one of the most beautiful of *Dendrobium*s; *Cymbidium x eburneolumianum*; *Cyrtopidium x macrochilum*; *C. x Phædra*; *C. x Morgania*; *C. x Bryza*, and other *Cyrtopidium*s; *Masdevallia x Asoodia* *Reichenbachiana* (gr., Chels. in ♀), and other novelties which were arranged with varieties of *Cattleya* Schroderae, *Odontoglossum*s, varieties of *Lycaste Skimieri*, *Epidendrum Wallisii*, *Lycaste cruenta* Rossiana, *Oncidium ampliatum majus*, &c.

The Hon. WALTER ROTHSCHILD, Tring Park, Tring (gr., Mr. E. Hill), showed a six-flowered inflorescence of a beautiful *Stanhopea*, with rich yellow sepals and petals, spotted with crimson. The hypochil was orange coloured with almost black blotches at the base and on each side; the rest of the lip ivory white spotted with crimson on its upper surface (Award of Merit); and *Eriopsis* species allied to *E. rutidobubon*, with clear yellow sepals and petals with purple margin, and pure white lip with purple spots (Botanical Certificate).

Messrs F. SANDER & Co., St. Albans, staged a very effective group. In it were *Cymbidium Lowianum* and its green variety variously called *C. L. virida*, *C. L. concolor* and *C. L. Mandalanum*; the pretty *Dendrobium Dormesiae*, some grand examples of *Oncidium varicosum*, *Cyrtopidium*

Rothschildianum, Epiphronitis x Voitchih, Miltonia Warscewiczii, Odontoglossum elegans and the singular little O. elegantulum; Maxillaria Sanderiana, Angræcum modestum, A. fastuosum, &c. (Silver Banksian Medal).

W. THOMPSON, Esq., Walton Grange, Stone, Staffordshire (gr. Mr. W. Stevens), showed some very handsome and distinct Odontoglossums. Odontoglossum triumphans "Mrs. Guest," a very richly tinted variety, bore a fine branched inflorescence of over fifty flowers and secured a Cultural

petals were snow white (First-class Certificate); a noble plant of the pure white Dacrydium (Epidendrum) bicornutum, with many spikes (First-class Certificate and Cultural Commendation); and a grand example of Dendrobium atroviolaceum with several spikes (Cultural Commendation) To the credit of the gardener it should be said that all these plants had been grown by him for years, and the awards were therefore more appropriate than when they are given to recently-imported plants.

Messrs. Limlen, l'Horticulture Internationale, Park Leopold, Brussels, staged a group of hybrid Odontoglossums which seemed to disclose fresh complications in this puzzling section. O. x spectabile, which secured an Award of Merit, resembled in some respects O. excellens, but on the other hand it differed in many points. Its pretty flowers were yellow, effectually spotted with chestnut-brown. O. x concinnum had flowers of a pale yellow, heavily blotched with brown on the sepals and spotted with the same colour on the



FIG. 72.—SINGLE-FLOWERED FORM OF PRUNUS PSEUDO CERASUS. (SEE P. 466.)

Commendation. O. Halli Thompson's variety also bore a grand spike of flowers equal in quality to those of O. H. magnificum, but with a large, snow-white lip, prettily spotted with cinnamon brown. Mr. THOMPSON also showed a very large O. Cervantesii and an equally good O. Rossii majus; some excellent examples of O. luteo-purpureum, O. Wilckeanum, a fine Ada aurantiaca, &c. (Silver Banksian Medal).

Major JOICEY, Sunningdale Park, Sunningdale, Berks (gr. Mr. F. J. Thorne), showed three very fine plants, each of which secured a well-merited award. Cypripedium exul, Major Joicey's variety, with very large flower, in which the half of both upper and lower sepals, and the tips of the

Mr. McARTHUR, The London Nurseries, Maida Vale, was awarded a Silver Banksian Medal for a group in which the central plant was Platyclinus glutacea (Cultural Commendation), with about 300 flower-spikes, and around it were Cattleya Schroderae, Odontoglossums, Dendrobiums, &c.

Messrs. HUGH LOW & Co., Clapton, staged a very pretty group composed chiefly of Miltonia vexillaria, both white and coloured varieties. With them were several examples of the pretty Dendrobium x Boxalli, Phalaenopsis x Intermedia Portei; a magnificent spotted form of Odontoglossum crispum, Cattleya Schroderae, C. Fraseri, &c. (Silver Flora Medal).

petals; O. crispum Junellianum had white flowers with the inner halves of the segment vinous purple; O. e. Calos was a very richly blotched form of the true crispum; O. Ruckertianum multi-maculatum, and the various forms of the O. x Wilckeanum class were very distinct (Silver Banksian Medal).

J. GURNEY FOWLER, Esq., Glebelands, South Woodford, (gr. Mr. Davis), showed a magnificent specimen of Dendrobium thyrsoiflorum with over thirty spikes (Cultural Commendation)

The Right Hon. JOSEPH CHAMBERLAIN, Highbury, Birmingham (gr. Mr. H. A. Burberry), showed Lælio-Cattleya



× Highburyensis (*Laelia cinnabarina* ♂, *Cattleya Lawrenceana* ♀), a very pretty hybrid with flowers of the form of *Laelio-Cattleya* × *Doris*. The inflorescence was two flowered, the flowers orange coloured tinged and veined with purplish-erimson and with dark claret-erimson lip (Award of Merit).

Mr. R. GULZOW, the Melbourne Nurseries, Pexley Heath, staged a very effective group of Orchids. Some remarkable *Cattleya Trianae* were in the group, and notably two fine white varieties, of which one called Gulzow's variety was the best in form we have seen. Also *Cypripedium Rothschildianum*, *Laelia purpurata*, *Oncidium Marshallianum*, &c. (Silver Banksian Medal).

WALTER C. WALKER, Esq., Percy Lodge, Winchmore Hill (gr., Mr. G. Cragg), was awarded a Silver Banksian Medal for a very effective group, in the centre of which was a fine example of *Cypripedium punctatum* with a spike of over 180 flowers. In the group also were good *Cattleya Mendeli*, *C. Trianae*, *Cymbidium Lowianum*, *Laelia Boothiana*, and some grand examples of *Dendrobium superbum giganteum*, &c.

WALTER COBB, Esq., Dulcote, Tambridge Wells (gr., Mr. Howes), showed *Odontoglossum luteo-purpureum nigrum*, one of the richest coloured of the species and *O. nevium majus*.

G. C. RAFAEL, Esq., Castle Hill, Englefield Green (gr., Mr. H. Adams), sent a fine spike of *Eulophia Elisabethae*.

R. BROMAN-WHITE, Esq., Arddarroch, Gardechead, N.D. (gr., Mr. Roberts), sent his new hybrid *Cattleya Laure-Mossiae* (*Lawrenceana* × *Mossiae*), a pretty hybrid with soft rose-pink sepals and petals and dark crimson lip, in form like *C. Lawrenceana* (Award of Merit).

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), sent *Cattleya* × *Wm. Murray* (*Lawrenceana* × *Mendeli*) shown at last meeting, and *C. × Wm. Murray* var. fulgens, a longer and richer coloured form (Award of Merit); also the handsome *Laelio-Cattleya* × *Sir Wm. Ingram* (*L. purpurata* × *C. aurea*), in shape much like *L. purpurata*, but with broad frilled lip. Sepals and petals dark rose; lip rich dark purple with lighter veining in the centre (Award of Merit).

THOS. SPATTER, Esq., and T. B. HAYWOOD, Esq., both showed *Dendrobium Hildebrandi album*.

J. T. GABRIEL, Esq., Streatham Hill, exhibited the pretty pale yellow *Chondrychyna Chestertonii* (Botanical Certificate).

Mr. J. W. MOORE, Eldon Nursery, Bradford, sent *Dendrobium Boxalli*.

CHARLES YOUNG, Esq., The Thorns, Sevenoaks (gr., Mr. Ryder), sent *Cattleya Schroderae* Young's var., a very fine flower.

Mr. H. A. TRACY, Anyand Park Road, Twickenham, sent *Cymbidium Lowianum* Tracey's var. A finely-formed flower, with a short, richly coloured lip.

R. I. MEASURES, Esq., Cambridge Lodge, Cumberwell (gr., Mr. H. J. Chapman), showed *Cypripedium* × *Quies* (Hooker × *Curtisii*), and *Dendrobium albo-sanguineum*.

A. H. SMEE, Esq., The Grange, Carshalton (gr., Mr. Cummins), sent a very fine spike of *Cymbidium Lowianum viride*.

**Narcissus Committee.**

Present: J. T. Bennett-Poë, Esq., Chairman, Miss Willmott, Revds. G. H. Engleheart, T. H. Marsh, Messrs. J. Walker, A. Kingenill, P. R. Barr, C. R. Scrase-Dickens.

This date probably represented the culminating point of the Narcissus-bloom, in the Southern Counties at least, but several well-known exhibitors were absent, owing to the near approach of other fixtures. The one conspicuous trade display was that of Messrs. BARR & SON, who were fully represented by some hundreds of vases of their choicest kinds. We noticed especially *Glory of Leyden*, *Gloria Mundi*, *J. B. M. Cunn*, many excellently grown flowers of the several white Ajax kinds, and a single bloom of the new and valuable *Weardale Perfection* (Silver Flora Medal).

Prof. M. FOSTER sent a scape of a curious and interesting hybrid between the small white *N. tazetta dubius* and *N. triandrus*, in character midway between the two parents.

Mr. J. H. CAMELL, Hathersage, Sheffield, sent a white Ajax seedling, like an enlarged *N. albicans*.

From Mr. J. Cornhill, Byfleet, came examples of double seedlings from the old double yellow of gardens by pollen of *N. cernuus*, *Emperor*, and the *Tanby Daffodil*. These were of botanical interest, but appeared somewhat too heavy and confused in form to rank as garden flowers.

The feature of the meeting, as regards Narcissi, was the large stand of hybrids and seedlings raised and shown by the Rev. G. H. Engleheart, Appleshaw, Amlow, which was awarded a Silver-gilt Flora Medal. All sections of the Narcissi were represented, but the new and distinguishing feature was a group of many vases of an entirely new strain of *N. poeticus* of splendid size and substance and having large eyes of deep orange-erimson. Many varieties of this strain, differing in size and form of flower, in habit of growth, &c., were shown, some of them being twice the size of the well-known *N. poeticus ornatus*, and with wholly red eyes. To one of these, *Dante*, a First-Class Certificate was unanimously awarded. A cross between *poeticus ornatus* and the late *recurvus* obtained an Award of Merit. A large ivory-white flower, resembling a white *Sir Watkin*, gained the prize for the best seedling.

Mr. ENGLEHEART also showed a flower of *Ajax Ellen Willmott*, white and gold, even larger in size and more massive in substance than as exhibited last year, when it won premier honours. Of *triandrus* hybrids not already shown, his stand contained *N. Minnie Hume* × *triandrus*, three varieties, two

pure white and one ivory, extremely beautiful; *N. Madame de Graaf* × *triandrus*, and several graceful and refined flowers from *N. poeticus* by the same pollen parent. A large gathering of the new *Ajax Golden Bell* was exhibited, and a profusion of seedlings as examples of the advance made in vivid orange and scarlet colouring, among which *Firebrand*, *Torch*, and *Cresset* may be noticed.

For a collection of twenty-four varieties of *Narcissus*, distinct, the 1st prize went to Mr. J. T. BENNETT POE.

The prize for twelve distinct varieties of white *Ajax* was gained by the Rev. G. H. ENGLEHEART, with a collection including several of his own seedlings.

**Fruit Committee.**

Present: P. Crowley, Esq. (chairman); and Messrs. T. F. Nivers, Geo. Bunyard, Rev. W. Wilks, A. F. Barron, G. W. Cummins, J. Cheal, J. Wright, R. Pife, G. Reynolds, H. Balderson, Geo. Wythes, W. Bates, Dr. Hogg, J. H. Veitch, J. Willard, A. J. Laing, and A. Dean.

There was a collection of Apples exhibited by C. J. MASSET, Esq., Garliestown, Scotland (gr., Mr. Jas. Day), including thirteen dishes in as many varieties. The fruit was produced on bushes upon the English Paradise stock. The quality was very good in most cases for such a district, and the condition was excellent. The varieties were Cox's Orange Pippin, Adams' Pearmain, Lord Derby, Betty Geeson, Lane's Prince Albert, Wellington, Galloway Pippin, Striped Beefing, Dutch Mignonne, Fearn's Pippin, Bramley's Seedling, and Alfriston (Silver Banksian Medal).

A dish of Pigs, St. John's, was shown by EARL PERCY, Syon House, Brentford (gr., Mr. Geo. Wythes).

Mr. WILL TAYLOR, Osborn Nursery, Hampton, Middlesex, exhibited half-a-dozen dishes of Apples, including two dishes of excellent fruits of *Annie Elizabeth*. To this fruit was recommended an Award of Merit, it never having been previously certified by the Society. Some of the members of the Committee voted against the proposal, on the ground that the variety in question is a shy bearer.

**OLYMPIA FLOWER SHOW.**

APRIL 8, 9.—In what is called the Palmarium here, a place well adapted for the purposes of a horticultural exhibition (good promenading space being secured), a fine Flower Show was held on the above mentioned dates.

The Show was mainly made up of groups of plants and cut flowers, and Messrs. JOHN LAING & SONS, Forest Hill, were large exhibitors, noteworthy being a fine collection of *Caladiums*, consisting of, amongst other good varieties, *Rose Laing*, *Jasper Crayer*, *Madame Fitz-Koehlin*, *Madame Jubert Koehlin*, excellent *Prince of Wales*, and *Comtesse de Maille*; a beautiful group of *Cliveias*, good varieties in the collection being *Lady Wolverton*, *Harry Laing*, *Vesuvius*, *John Laing* and *Her Majesty*; two good groups of *Conifers*, brightened up with *Acers*, *Roses*, and *Staphyleas*; a telling group of miscellaneous foliage and flowering and stove and greenhouse plants.

**Obituary.**

ROBERT BLACKIE.—Many of our readers will learn with regret the decease, at Cannes, on Thursday, April 2, of Mr. Robert Blackie, in his seventy-seventh year. The deceased gentleman was a member of the firm of Blackie & Son, Limited, Glasgow and London, publishers and booksellers.

**MARKETS.**

**COVENT GARDEN, APRIL 9.**

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

**PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.**

<i>Adiantum</i> , per doz. 4 0-12 0	<i>Ferns</i> , various, doz. 5 0-12 0
<i>Arum lilies</i> , pr. dz. 6 0-9 0	<i>Ficus elastica</i> , each 1 0-7 6
<i>Aspidistra</i> , per doz. 12 0-30 0	<i>Foliage plants</i> , doz. 12 0-24 0
— specimen, each 5 0-15 0	<i>Genistas</i> , per doz. 8 0-12 0
<i>Azalea</i> , per plant 2 0-3 6	<i>Hyacinthus</i> , per doz. 6 0-9 0
— mollis, per doz. 12 0-24 0	<i>Hydrangea</i> , various per doz. 9 0-24 0
<i>Cineraria</i> , per doz. 6 0-9 0	<i>Lilium Harrisii</i> , pr. doz. pots 18 0-36 0
<i>Cyclamens</i> , per doz. 9 0-15 0	<i>Marguerites</i> , p. doz. 6 0-10 0
<i>Daffodils</i> , pr 12 pots 6 0-9 0	<i>Mignonette</i> , p. doz. 6 0-9 0
<i>Dracena</i> , each 1 0-7 6	<i>Palms</i> , various, ca. 2 0-10 0
<i>Dieffenbachia</i> , per doz. 0 0-12 0	— specimens, ca. 10 6-84 0
<i>Ericas</i> , various, doz. 9 0-24 0	<i>Primula sinensis</i> , per dozen 3 0-4 0
<i>Evergreen Shrubs</i> , in variety, doz. 6 0-24 0	<i>Spiraeas</i> , per doz. 8 0-12 0
<i>Ferns</i> , small, doz. 1 0-3 0	

Roots and Bedding Plants in variety.

**CUT FLOWERS.—AVERAGE WHOLESALE PRICES.**

<i>Arums</i> , p. 12 blooms 2 0-4 0	<i>Narcissus</i> , Various, s. d. s. d. per 12 bunches 0 9-1 6
<i>Azalea</i> , 12 sprays 0 6-0 9	Orchids:— <i>Cattleya</i> , 12 blms. 6 0-12 0
<i>Bouvardias</i> , per bn. 0 6-1 0	<i>O. onto glossum crispum</i> , 12 bn. 3 0-6 0
<i>Carnations</i> , 12 blms. 1 0-3 0	<i>Pelargoniums</i> , scarlet, per 12 bun. 4 0-6 0
<i>Daffodils</i> , double, — single, 12 bun 3 0-6 0	<i>Eucharis</i> , per dozen 4 0-8 0
<i>Deutzia</i> , doz. bun. 3 0-4 0	<i>Gardenias</i> , per doz. 3 0-6 0
<i>Eucharis</i> , per dozen 4 0-8 0	<i>Hyacinths</i> (Roman), 12 sprays 0 4-0 8
<i>Gardenias</i> , per doz. 3 0-6 0	— per doz. spikes 2 6-4 0
<i>Hyacinths</i> (Roman), 12 sprays 0 4-0 8	<i>Lagereria</i> , 12 blms. 0 6-1 6
— per doz. spikes 2 6-4 0	<i>Lilacs</i> , French, p. b. 2 0-5 0
<i>Lagereria</i> , 12 blms. 0 6-1 6	<i>Lilium Harrisii</i> , bu. 3 0-5 0
<i>Lilacs</i> , French, p. b. 2 0-5 0	<i>Lily of the Valley</i> , per doz. sprays 0 6-1 0
<i>Lilium Harrisii</i> , bu. 3 0-5 0	<i>Maidenhair Fern</i> , per 12 bunches 4 0-8 0
<i>Lily of the Valley</i> , per doz. sprays 0 6-1 0	<i>Marguerites</i> , per 12 bunches 3 0-6 0
<i>Maidenhair Fern</i> , per 12 bunches 4 0-8 0	<i>Mignonette</i> , 12 bn. 4 0-6 0
<i>Marguerites</i> , per 12 bunches 3 0-6 0	<i>Narcissus</i> , White, French, 12 bun. 1 6-2 6
<i>Mignonette</i> , 12 bn. 4 0-6 0	

**FRUIT.—AVERAGE WHOLESALE PRICES.**

<i>Apples</i> from Nova Scotia, p. barrel 14 0-22 0	<i>Pine-apples</i> , St. Vincent, each 2 6-4 6
<i>Cobs</i> , per 100 lb. 25 0-30 0	<i>Strawberries</i> , morning gathered per lb. 5 0-6 0
<i>Figs</i> , per doz. 8 0-10 0	— packed in bxs. per lb. 3 0-4 0
<i>Grapes</i> , Hamburgh, per lb. 5 0-6 0	— seconds, per lb. 2 0-2 6
— Gros Colmar, 1st quality, lb. 4 6-5 0	

April 9.—The portion of Australian Apples discharged and sold this day were in poor condition (generally). Highest prices for best, 14s. 6d. to 20s.; medium, 10s. to 12s.; inferior, 7s. to 9s. per bushel case.

**VEGETABLES.—AVERAGE WHOLESALE PRICES.**

<i>Asparagus</i> , 1st size, per bun. 5 0-6 0	<i>Potatoes</i> , Channel Islands, per lb. 0 4-0 5
— 2nd size, do. 2 6-3 0	<i>Yardishes</i> , Channel Islands, doz. bun. 0 8-0 9
— (sprout), do. 0 8-0 9	<i>Sea-kale</i> , per punnet 0 9-1 3
<i>Beans</i> , per lb. 0 10-1 0	<i>Tomatoes</i> , English, per lb. 1 3-1 6
— <i>Maizira</i> , p. bas. (8 to 10 lb.) 3 0-3 6	<i>Canary Islands</i> , per case, 12 to 14 lb. 5 0-5 6
<i>Cucumbers</i> , per dz. 2 6-3 0	— <i>Canary boxes</i> , 4 to 4½ lb. 1 3-1 9
<i>Mint</i> , per bunch 0 2-0 3	
<i>Mushrooms</i> , per lb. 0 6-8 0	
<i>Peas</i> , Channel Islands, per lb. 0 10-1 3	
<i>Onions</i> , Eng., cwt. 3 0-4 0	

**OLD POTATOES.**

The season is working out the worst on record.

**NEW POTATOES.**

Supplies are coming to hand freely, and prices rule low except for very best samples. Prices rule from 8s. to 12s. per cwt. J. B. Thomas.

**SEEDS.**

LONDON: April 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report that the fine weather naturally tends to improve the sale of farm seeds, and consequently an active consumptive business is now in progress. Values all round are without material change, and continue at the remarkably low level previously noted. Indeed, prices are now at such a point that they offer considerable temptation for holding stocks over until next season. Tares keep cheap. Hemp and canary seed realize former quotations. There is no alteration in either Peas or Haricots.

**FRUIT AND VEGETABLES.**

BOROUGH: April 7.—Quotations:—Savoys, 4s. to 4s. 6d.; Cabbages, 2s. 6d. to 3s. 6d. per tally; Onions, 3s. 6d. to 5s. per bag; Carrots and Turnips, 2s. and 3s. per dozen bunches; Horseradish, 8s. to 10s. per dozen bunches; Apples, 4s. to 6s. per bushel.

SPITALFIELDS: April 7.—Quotations:—Broccoli, 9d. to 1s. per bushel; Greens, 1s. to 1s. 3d. per bushel; Kale, 9d. to 1s. do.; Sea-kale, 9d. to 10d. per bundle; Bunch Greens, 2s. 6d. to 3s. per dozen bunches; Spring Onions, 1s. to 1s. 6d. per dozen bunches; Penoles, 1s. 6d. to 2s. do.; Mint, 1s. 6d. to 2s. do.; Beetroot, 1s. 3d. to 1s. 6d. per bushel; Parsnips, 6d. to 8d. per score; Rhubarb, 1s. 9d. to 2s. per dozen bunches; Cauliflowers, 1s. to 1s. 6d. per dozen; Leeks, 1s. to 1s. 6d. do.; Apples, Cooking, 6s. 6d. to 6s. per bushel; dessert do., 6s. to 7s. do.

PARKINGDON: April 9.—Quotations:—Carrots, 2. 6d. per dozen bunches; Turnips, 2s. do.; Onions, Spring, 2s. do.; bag Onions, 3s. per bag; Leeks, 2s. per dozen; Cauliflowers, 2s. per dozen; Rhubarb, 2s. 6d. per dozen bunches; forced, 1s. do.; Beets, 9d. per dozen; Kale, 9d. per bushel; Sea Kale, 13s. per dozen bunches; Broccoli, 1s. per bushel; Greens, 1s. do.; fresh Lettuce, 1s. 6d. per dozen; Radishes, 1s. per dozen bunches; 1s. 3d. per box; Parsley, 2s. per dozen; Cucumbers, 3s. to 6s. per dozen; Apples, Nonpareil, 24s. per barrel; Californian Newtowns 18s. 6d. per case; Pineapples, 2s. 3d. and 2s. 6d. each.

**POTATOS.**

**BOROUGH:** April 7.—Quotations ranged from 35s. to 85s. per ton.

**SPITALFIELDS:** April 7.—Quotations:—Black lands, Bruco, 50s. to 40s.; Reading Giants, 35s. to 45s.; High lands, Main Crops, 40s. to 55s.; Bruco, 40s. to 50s.; Reading Oiants, 45s. to 55s.; Sutton's Abundance, 50s. to 60s.; Drooco, 50s. to 65s.; Scotch, Main Crops, 40s. to 55s.; Bruco, 40s. to 52s.; Dunbar, 70s. to 85s. per ton.

**FARRINGDON:** April 9.—Quotations:—Hard to quote, but ranging between 30s. and 80s. per ton.

**LONDON AVERAGES:** April 8.—Saxons, 70s. to 80s.; Dunbar Bruco, 60s. to 70s.; do. Maincrop, 65s. to 75s.; Sutton's Abundance, 45s. to 55s.; Maincrop, 45s. to 55s.; Imperators, 30s. to 40s.; Magnums, 30s. to 35s. per ton; new Jersey and Guernsey, 3d. to 4d. per pound.

**CORN.**

**Averages.**—Official statement of the average of the prices of British Corn, imperial measure (qr.) during the week ending April 4, and for the corresponding period last year:—1896: Wheat, 24s. 7d.; Barley, 21s. 10d.; Oats, 13s. 3d. 1895: Wheat, 20s. 4d.; Barley, 20s. 11d.; Oats, 14s. 5d.



The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.	
	ACCUMULATED.						
	Above (+) or below (-) the Mean for the week ending April 4.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.			
0	1 +	25	15	+ 73	- 248	2	17
1	2 +	38	16	+ 64	- 178	3	26
2	0 aver	27	18	+ 62	- 177	3	22
3	3 -	17	27	+ 52	- 200.0	aver	23
4	2 -	24	33	+ 74	- 209	4	22
5	2 -	30	16	+ 75	- 210	4	23
6	2 +	33	11	+ 87	- 186	7	20
7	1 -	25	11	+ 107	- 211	5	20
8	1 -	35	13	+ 103	- 176	6	25
9	2 +	32	4	+ 118	- 196	4	19
10	2 +	38	0	+ 142	- 181	5	21
0	0 aver	37	0	+ 174	- 105	5	30

The districts indicated by number in the first column are the following:—  
0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

**THE PAST WEEK.**

The following summary record of the weather throughout the British Islands for the week ending April 4, is furnished from the Meteorological Office:—

"The weather during this period varied a good deal in different parts of the kingdom; over Ireland and the greater part of England the sky was generally cloudy or overcast during the daytime, and frequently clear at night; on our south and south-west coasts and in the north and west of Scotland, however, the days were mostly fine. Showers fell occasionally in nearly all places, but they were, as a rule, very slight.

"The temperature was a little above the mean in Scotland and Ireland, and just equalled it in 'England, N.E.' and the 'Channel Islands,' but in all other districts it was rather below its normal value. The highest of the maxima were recorded on the 4th, and ranged from 62° in 'Scotland, E.' to 53 in 'England, E., and N.W.' The absolute

minima, which occurred on somewhat irregular dates, were generally low for the time of year, especially over England; the readings ranged from 23° in 'England, E.,' 25° in 'Scotland, W., and England, S.W.,' and 26° in the 'Midland Counties,' to 35° in 'Ireland, S.,' and 38° in the 'Channel Islands.'

"The rainfall just equalled the mean in 'England, E.,' but was considerably less in all other districts.

"The bright sunshine varied greatly in different parts of the kingdom, but was generally above the mean in western parts of England and the east and west of Scotland, and below it elsewhere. The percentage of the possible duration ranged from 48 in the 'Channel Islands,' 46 in 'England, S.W.,' and 40 in 'Scotland, W.,' to 24 in 'England, E.,' 22 in 'Scotland, N.,' and between 15 and 16 in Ireland."

**ENQUIRY.**

"He that questioneth much shall learn much."—BACON.

Will some of our foreign correspondents kindly inform "Tree Fern" where he can obtain specimens of the rarer species of Alsophila, Dicksonia, Cyathea, and Cibotium, and many others mentioned by George Schneider in *The Book of Choice Ferns*? Also he would be glad to have the names and addresses of any collectors or florists in Australia, New Zealand, America, Cape, &c., who would be likely to have such specimens for sale.



**APHIS ON ROSES:** J. B. With a syringe use soapsuds, diluted tobacco-water, or quassa-water. All of them are quite safe to use. Syringing with clean water will clear the bushes if they are not badly infested, but as it must be often repeated, it is apt to damage the leaves.

**BEONIAS:** J. B. Start the tubers in small flower-pots of light sandy loam, keeping the top of the tubers rather above the soil. If you have a mild hot-bed it will favour growth. When the tubers start to grow, do not coddle them; air them daily a little, and as the season advances give more air, and in early June plant them a foot or more apart in well-manured soil, in full sunshine.

**BOOKS:** J. B. The manual of Messrs. Sutton & Sons, of which you enquire, is an excellent one for an amateur having some acquaintance with the art. Get the fifth edition.—*A. L. Gardeners' Assistant*, by Thomson, published by Messrs. Baekie & Son, Stanhops Street, Glasgow, a new edition is in the press. *My Garden*, by H. W. Ward, Longford Castle Gardens, Salisbury; to be had of the author.

**CATERPILLAR ON LEAVES OF THE APRICOT:** A. J. B. We could find no grubs in the Apricot buds, nor amongst the moss used for packing. Spraying with kerosene emulsion or some other approved insecticide might destroy anything remaining after hand-picking. R. McL.

**CYCLAMEN—OLD ROOTS REFUSING TO FLOWER:** North Devon. There have probably been errors in cultivation, but what these were we have no means of knowing. The bloom when coming up may have been eaten by slugs, weevils, &c. The Cyclamen succeeds best in a house slightly warmer and closer than that of the ordinary greenhouse.

**FLOWERING SHRUBS FOR PLANTING IN A WILD GARDEN:** G. B. Garrya elliptica, Ribes aureum, R. sanguineum, Azalea pontica, A. mollis, &c.; Rhododendron hybridum, R. caucasicum, R. Nobleanum, R. altaclarense, Leycesteria formosa, Buddleya globosa, Philadelphus coronarius, P. grandiflorus, P. Gordoni, Lilacs, Guedres rose, Erica carnea, E. vagans, and other species as clumps and edgings; Acacia hispida, Æsculus macrostachya, Hibiscus syriacus, Amelanchier Botryapium, Andromeda in variety, in peat beds; Berberis dulcis, B. vulgaris, B. aquifolia, and others; Colutea arborescens, Persian, Scotch, and Sweet Briars; Cytisus scoparius, C. s. Andranus, C. filipes, Forsythia suspensa, F. viridissima, any of the Dentizas and Weigels, Furze (double and single-flowered), Honeysuckles of a shrubby or scandent habit, Hypericum calycinum, H. hircinum, &c.; Kerria japonica, Rhus Cotinus, R. typhina, Rubus arcticus, R. odoratus, R. spectabilis, Sturtia malacodendron, Yucca angustifolia, Y. filamentosa, Y. flaccida, and Y. gloriosa.

**GRAPES:** J. W. The berries have been "scalded;" and better attention should be given to the ventilation of the vinery.

**KIDNEY BEANS:** Florist. Varieties to grow under glass are very various, but those commonly grown in this country are Newton Wonder, Osborne's Forcing, Syon House, White Flageolet, Black Belgian, and where space is abundant, Canadian Wonder (Red Flageolet). In an 8-inch pot, eight or ten Beans may be sown, and five or six of the strongest left for bearing. If beds are employed, the plant should stand in rows 1½ to 2 feet apart, according to height, and the plants in the rows 5 inches asunder. Both in pots and beds an earthing-up is necessary when the Beans have reached flowering height.

**LARCH BLISTER:** S. We have never seen seedling plants affected with this disease. Hartig does not mention seedlings as liable to this disease; nor do Marshall Ward or Somerville.

**NAMES OF FRUITS:** Hamlin. Winter Queening Apple.

**NAMES OF PLANTS:** J. Rogers. 1, Cornus mas, the Cornelian Cherry; 2, Piptanthus nepalensis; 3, Forsythia suspensa; 4, Leycesteria formosa; 5, Phrynum sp.?; 6, Ficus australis.—Novice. 1, The Lucombe Oak; 2, Forsythia viridissima; 3, form of Thuja orientalis; 4, Osmanthus ilicifolius; 5, Liriodendron tulipifera Tulip-tree; 6, Cornus mas.—C. B. Lonicera tatarica.—R. K. Pyrus japonica.—Bassett. 1, 2, 3, 5, Rhododendron campanulatum; 4, R. Falconeri; 6, R. fulgens (see *Gardeners' Chronicle*, p. 421); R. campanulatum is a very variable plant; 7, Skimmia Fortunei.—T. J. 1, probably Dendrobium Pierardi, flower much damaged; 2, Muscari botryoides; 3, specimen withered up; 4, Pulmonaria officinalis; 5, Erica carnea; 6, perhaps a Strelitzia.—Foreign. Bougainvillea speciosa; do not pack in cotton wool.—Nemo. 1, Corydalis lutea; 2, not recognised; 3, Sedum reflexum; 4, Sedum spurium; 5, Sedum rupestre; 6, Cyperus alternifolius.—H. Gandy. Cassinia fulvida.

**NOTICE TO QUIT SERVICE:** J. S. The gardener being, according to law, a domestic, is entitled to one month's notice, or wages in lieu thereof, and that notwithstanding the fact that he was paid his wages weekly. In case of misconduct of a serious kind, no notice is necessary.

**PEAS:** Florist. The land being light, you should sow only such as are of moderate height, as Dr. Maclean, Maclean's Best of All, Laxton's Marvel, Champion of England, and Veitch's Perfection.

**REMOVAL OF FRUIT TREES, ROSES, HERBACEOUS PLANTS, AND PALINGS:** H. B. The removal of the first two and the last, unless by permission of the landlord, would be a breach of the law, saleable nursery stock in plants excluded. The herbaceous plants, on the other hand, are not regarded as part of the freehold, and may be removed from one part of the place to another if they were in the ground when the tenant took possession; or may be destroyed if they were planted by the tenant.

**ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS IN HORTICULTURE:** E. J. You should apply to the secretary of the Society, No. 117, Victoria Street, Westminster, S.W. The kind of studies required by a candidate would certainly prove of value to any young gardener, but we cannot assert that they are essential to success in the business, which depends on many other circumstances.

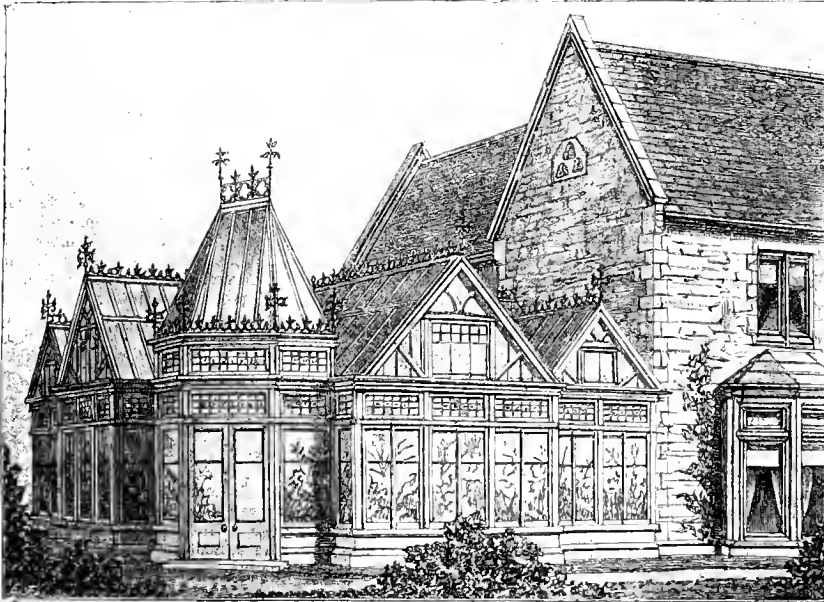
**TREE FERNS:** Tree Fern. Nothing of the sort is sold by the authorities at Kew. Why not advertise your wants in the *Gardeners' Chronicle*?

**VINES:** J. B., Chelmsford. We have not the space in this column to give you full instruction on Vine-culture. You should buy a book on the subject, say *Grape-growing for Amateurs*, by E. Molyneux, to be had of Mr. L. Upcott Gill, 170, Strand, W.C. You do quite right to syringe your Vines morning and afternoon, but you must omit to do so when they are in flower; after the fruit is set, keeping the air moderately moist by sprinkling walls, floors, &c., several times daily, less so in dull than in bright weather. Beware of maintaining a cool, sluggish, damp air in the vinery, which favours the attacks of mildew on the shoots, leaves, and berries.

**COMMUNICATIONS RECEIVED.**—R. L. Harrow.—W. S.—J. S.—Thos. Carver.—S. J.—J. R. J.—C. Y. M.—J. D.—J. J. W.—R. D.—W. B. H.—Wild Rose.—H. T.—E. C.—E. M.—W. H. R.—L. G.—F. M.—D. R. W.—P. W. A., Hawkstone. **PHOTOGRAPHS, SPECIMENS, &c.** Received with thanks.—W. T. T. D.—Powerscourt.—Ch. de B.

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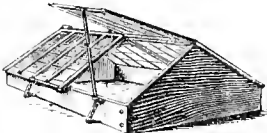
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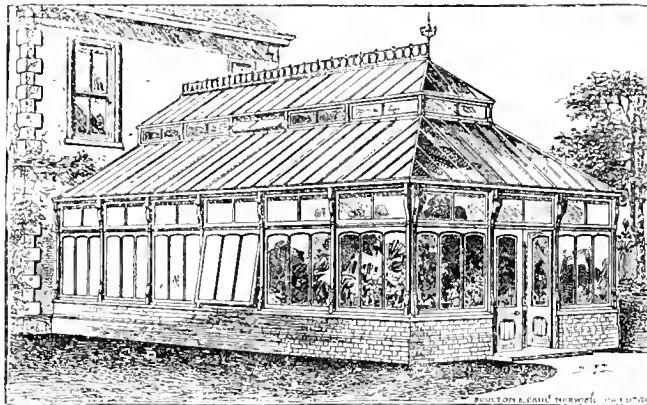
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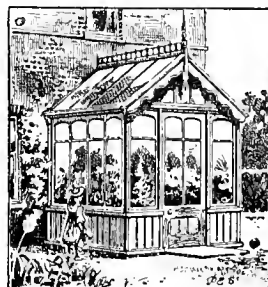
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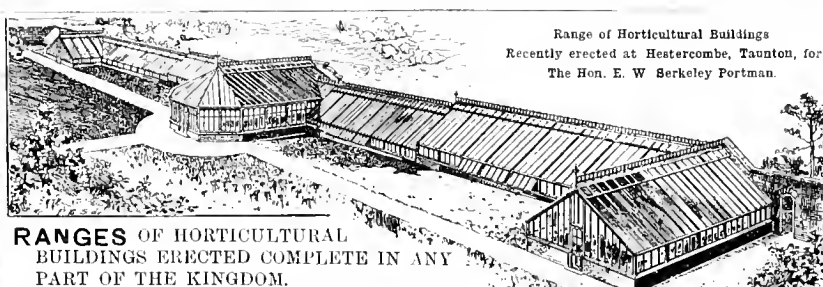
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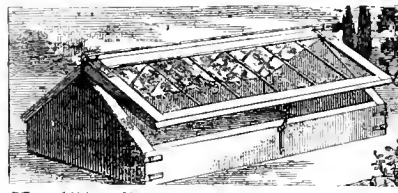
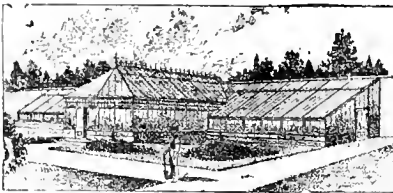
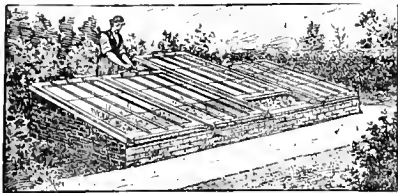
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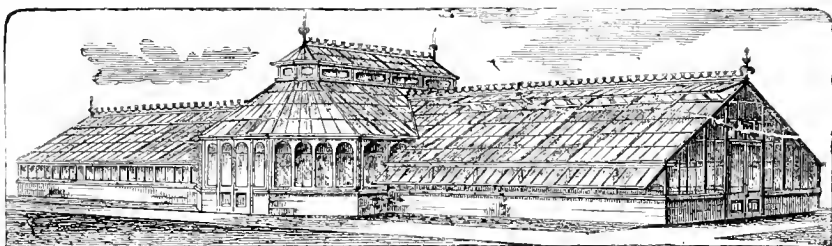
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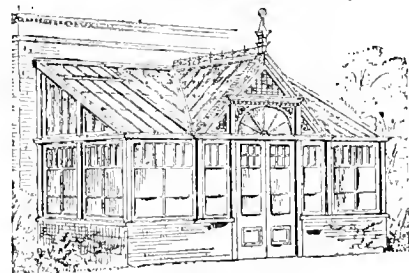
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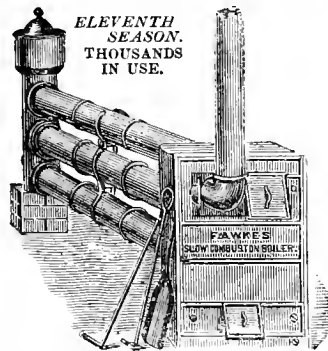
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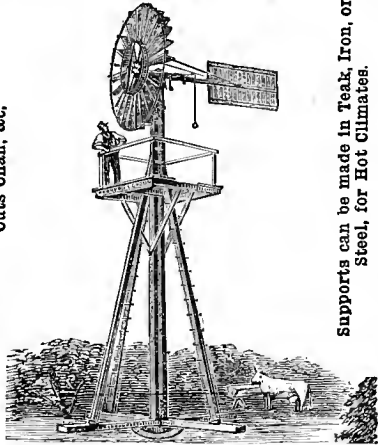
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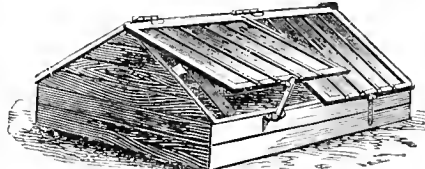
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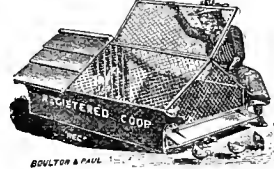
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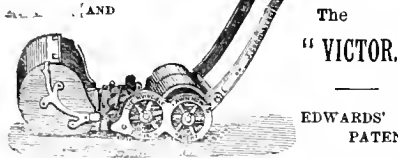
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**ROYAL HORTICULTURAL SOCIETY'S EXAMINATION, May 6, 1896.**

Coaching by Correspondence arranged for intending Candidates unable to attend Classes, or unaccustomed to Write Papers.—Address, **COLVILLE BROWNE, F.R.H.S., Hextable, Kent.**

**GARDENING APPOINTMENTS.**

- MR. J. KEIR, until lately Foreman in the Gardens, Poles, Ware, Herts, as Gardener to Captain COOPER, Lockers, Hemel Hempstead, Herts.
- MR. A. RUSTON, for the past year and eight months Foreman at Elshfield Gardens, Hollingbourne, Kent, as Gardener to F. H. FAVELL, Esq., The Cottage, Loughton, Essex.
- MR. HENRY GREEN, until lately Foreman at Nutfield Priory, Redhill, Surrey, as Head Gardener and Billitt to J. J. BRISCOE, Esq., Bourne Hall, Bourne, Cambs, in succession to Mr. H. FENNER, who goes to Fryston Hall, Ferrybridge, Yorkshire.
- MR. C. HENLEY, from the Houses at Wykehurst Park Gardens, Bolney, as Gardener to Mr. W. HIND SMITH, Esq., Summerfield Gardens, Haywards Heath, Sussex.
- MR. ARCHIBALD IRELAND, Foreman for some years at Carron House, Stirlingshire, as Head Gardener to the Marchioness of DOWNSHIRE, Nizells House, Hildenborough, Kent.

**CATALOGUES RECEIVED.**

- WM. CUTBUSH & SON, Highgate Nurseries, London, N.—Dahlia, Cannas, Pelargoniums, Petunias, &c.
- RICHARD FFAU, 5, Avenida, E.; 220, San Jose de Costa Rica, Central America.
- BARR & SON, 12, King Street, Covent Garden—Gladiolus.

**THE GARDENERS' CHRONICLE**

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**J. SMITH** begs to THANK the NUMEROUS APPLICANTS, and to say he has SELECTED a FOREMAN.—Mentmore, April 4.

**WANTED, young MAN,** about 24 years of age, experienced in ORCHID CULTURE, for a private Gentleman's establishment on the Continent. Send full particulars to B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N.

**WANTED, an Experienced GARDENER,** without family; attend Cows and Pigs. Wife good Poultry woman.—Address, stating wages required, references, and all particulars, to ALPHA, Oakwood, Hayward's Heath, Sussex.

**WANTED, a GARDENER**—One that can Mow well with Scythe. 22s. per week.—Apply to R. N. Cemetery, East Greenwich.

**WANTED, a good WORKING GARDENER;** age about 30, married; must understand Flowers, Fruit, and Vegetables, and Packing for Market. Large Garden and Grounds. Two helpers. Wife to manage small Dairy and Poultry.—G., Youldham Manor, Kemsing, Kent.

**WANTED, a FEW good JOBBING GARDENERS;** also to Assist in Furnishing, Boxing, &c.—Apply, G. STRUDWICK, Florist, Rayswater Road, W.

**WANTED, MARKET GARDENER** for Glass, Cucumbers, Tomatos, Ferns, and Cut Flowers.—**THOMAS SMITH AND CO., Bungay.**

**WANTED, a strong, active, industrious young MAN, as UNDER GARDENER.**—To attend to two Cows. Must be a good Milker, and to assist the Coachmen at times, and be useful.—Apply, HEAD GARDENER, Ellenboro House, Roehampton.

**WANTED, WORKING FOREMAN,** knowledge of Herbaceous Plants, Propagating, &c.—Apply **SURREY SEED CO., Redhill.**

**WANTED IMMEDIATELY, a thoroughly experienced and energetic MAN, as INDOOR FOREMAN.** Wages, 41 per week, bothy, milk, and vegetables. Apply, stating full particulars, with copies of testimonials, to G. E. WEEKES, Penoyre Gardens, Brecon.

**WANTED, a skilled CULTIVATOR** of CARNATIONS, Tree and Border varieties, for Exhibition and otherwise. Must be able to give satisfactory proof of ability.—Full particulars, with salary required, to R. H. BATH, The Floral Farms, Wisbech.

**WANTED, a young MAN,** who is thoroughly competent to Manage a small Nursery where a high-class trade is done. Must be energetic and obliging, and well recommended. Good wages.—Z., 41, Wellington Street, Strand, W.C.

**WANTED, a smart young MAN,** with a knowledge of outdoor nursery, especially Fruits and Roses, good bunder, and can look after men.—Apply, stating wages, with references, to J. T., Mr. E. Fuller, Platt, Wrotham, Kent.

**WANTED, a COMPETENT HAND,** for Rose Budding and Trimming.—A permanency for good man.—State age, experience, and salary required, to R. H. BATH, The Floral Farms, Wisbech.

**WANTED, a young MAN,** to assist in Florist and Seed Shop, and be generally useful in the Business.—Full particulars as to age, wages, &c., to **NEWMAN, Florist, Watford.**

**WANTED, ODD MAN,** single, to help in the House and Garden; also to Milk Cows.—Apply to H. F. S., Courtlands, Horley.

**WANTED, SEVERAL young MEN,** for a large Market Nursery, where Grapes, Tomatos, and Cucumbers are extensively grown. Wages, 41 per week.—**GUIVER BROS. and LAWSON, Durants Nurseries, Enfield Highway, Middlesex.**

**WANTED, a young MAN,** used to Budding and Grafting, with some knowledge of Herbaceous Plants.—Apply to **HEWITT and CO., The Nurseries, Solihull.**

**WANTED, a steady industrious MAN** for Outdoor work on a Nursery. Also THREE strong LADS for the houses.—**JOSEPH E. TUFFIN, Bexley Heath, Kent.**

**WANTED, young MAN** for the Houses; quick at Potting and Watering.—Apply, T. CLARK, Hawthorn Nurseries, Northumberland Park, Tottenham, N.

**WANTED, TWO or THREE young MEN** with experience in Market Nursery Work.—Apply to C. E. and F. W. LIGLEY, St. Peter's-in-the-Wood, Guernsey.

**WANTED, AT ONCE, TWO smart young MEN,** willing to work, good at Potting and Watering. Abstainers preferred. State age, and wage required, with reference. Railway fare paid.—**S. BROADHEAD and SON, Wooddale Nurseries, Thongbridge, Huddersfield.**

**WANTED, a Young Man,** used to Market Work.—State age, wage, and experience.—**J. GRIFFIN, Florist, Market Hall, Southampton.**

**WANTED, FIVE young MEN, IMPROVERS,** for one year, in the Orchid-houses.—**SANDER, St. Albans.**

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**WANTED, a willing YOUTH,** for Greenhouse.—Market trade. Commence, 16s. Overtime paid.—**ALDERSON, Farnborough, Kent.**

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**WANTED, active young MAN,** used to Potting, Tying, and General Nursery Work.—Apply to **C. CHAFF, Park Hill Nursery, Croydon.**

**WANTED, a respectable quick young MAN,** accustomed to Growing Ferns for Market.—C. RADFORD, Nurseryman, Lea, Kent.

**WANTED, TWO young MEN for Potting and Watering,** those from a Market Nursery preferred. State age and wages required, with copy of testimonials to—TURNER BROS., Garston, Liverpool.

**WANTED, an active MAN,** accustomed to Nursery-work.—State age, wages required, &c., to THOS. HORSMAN, Nurseryman, Beckenham.

**WANTED, good reliable ALL-ROUND MAN** for Market Nursery, to take full charge when required.—TERRUSSELL, Fairmead Nursery, Goff's Oak, Chesnut.

**CAN ANY GARDENER recommend a** thorough industrious steady GARDEN LABOURER who understands Fires?—Must be over 30 years of age; 15s. per week, with Lodge. Letter only.—J. G., 540, Mansfield Road, Sherwood, Nottingham.

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**WANTED, a SHOPMAN,** age about 24, for Seed, Fruit and Florist Trade. Must be well up in Wreaths, &c.—State experience, with references, to LONGSTER BROS., Southampton.

**WANTED, at once, young LADY,** for first-class Florists' shop. Must have first-class references.—State age, experience and wages, to H. MARSHALL, 76, Palmerston Road, Southsea.

**WANTED, LADY FLORIST.—State experience and wages required.** Letters only.—JAMES SPENCER, Morley, Leeds.

## WANT PLACES.

### TO GARDENERS AND OTHERS SEEKING SITUATIONS.

*The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.*

*Advertisers are cautioned against having letters addressed to initials at Post-offices, as all letters so addressed are opened by the authorities and returned to the sender.*

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

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**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**B. S. WILLIAMS AND SON** beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

**GARDENER (HEAD), age 40.—A GENTLEMAN** with confidence recommends his Head Gardener after fourteen years' service. Thoroughly qualified, and well versed in the requirements of a large establishment.—N., 37, Nicholas Road, Holloway, N.

**GARDENER (HEAD); age 37, no family.—A GENTLEMAN** recommends with confidence his Head Gardener. Life experience in good establishments. Excels in Orchids, Fruit, Roses, Chrysanthemums, and is a capable Manager.—B., 3, Gardener's Cottages, Swain's Lane, Highgate.

**GARDENER (HEAD).—Age 28;** thoroughly practical in all branches.—Leaving through place being sold. Five years' excellent character; ten previous; abstainer.—LAMPARD, 8, Park Road, Guildford.

**GARDENER (HEAD);** thoroughly experienced in all branches.—Leaving through estate being sold. Good references.—F. WELLS, The Gardens, Bridgen Place, Rexley, Kent.

**GARDENER (HEAD),** where four or more are kept.—Mr. THOMSON, Bignall Gardens, Bicester, Oxon, highly recommends his Foreman, W. PARROTT. Age 28. Fourteen years' experience in good private places, with good character.

**GARDENER (HEAD).—Age 30, married;** fifteen years' practical experience in Cultivation of Fruit, Flowers, Vegetables; also Orchids. Abstainer. Four years in present situation as Foreman.—GARDENER, Bidborough, Tunbridge Wells.

**GARDENER (HEAD WORKING).—Age 32.** Thoroughly experienced in Orchids, Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Gardens. First-class testimonials.—GARDENER, 41, Uperne Road, Chelsea, S.W.

**GARDENER (HEAD WORKING); age 31.—**THOS. H. DAVIS, Gardener to G. M. Horsey, Esq., The Bourne, Widford, Ware, can very highly recommend his Foreman, H. GOLE, to any Lady or Gentleman requiring a thorough practical man in all branches. Sixteen years' experience, with excellent character.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 31, married;** life experience in good establishment; good character.—F. GARRETT, 1, Sherwood Villas, Station Road, Petersfield.

**GARDENER (HEAD WORKING, where one or two; Under are kept, or good SINGLE-HANDED).—Age 28, married, no family.** Thoroughly experienced in all branches, Indoors and Out. Good character.—J. V., 57, Bruce Road, Barnet.

**GARDENER (HEAD WORKING).—Age 35,** married, one child. Experience with Fruit-growing Inside and Out, Orchids, Stove, Greenhouse, and Conservatory Plants. Personal recommendation from last employer as a good all-round Gardener. Disengaged now.—For particulars, GARDENER, 17, Lordship Road, Stoke Newington, N.

**GARDENER (HEAD WORKING).—Age 40,** married; thoroughly practical in all branches of Gardening; twenty-five years' experience; the last fourteen as Head; first-class references and testimonials.—D. ROWLAND, 11, Kent Terrace, Swanley Junction, Kent.

**GARDENER (HEAD WORKING); age 29.—**Mr. WHILLANS will be pleased to recommend WILLIAM HUGHAN, as above. First-class references from Brampton Bryan, Galloway House, Eaton Hall, and Blenheim Palace.—W. HUGHAN, Blenheim Gardens, Woodstock.

**GARDENER (HEAD WORKING).—Age 40,** married, one girl, age 12. Twenty-seven years' experience in all branches. Highly recommended. Last situation five years. Abstainer.—W. EDWARDS, Adiscombe Park, Croydon.

**GARDENER (HEAD WORKING), where three or more are kept.—**WM. GARMAN, Manager, Frythesden Gardens, Great Berkhamsted, highly recommends his Foreman, CHARLES HOWARD, age 30, married, one child, to any Lady or Gentleman requiring the services of a practical Gardener. Two years in present place. Experienced in all branches.

**GARDENER (HEAD WORKING), married.—**Mr. MITCHELL, Gardener to Mrs. BRANSEY, Cope Hill, Bourton-on-Water, can with confidence recommend to any Lady or Gentleman a thorough practical Man.

**GARDENER (HEAD WORKING).—Age 33,** married; eighteen years' practical experience in all branches. Excellent references.—KEMP, Knowle Cottage, Wellesley Road, Brentwood.

**GARDENER (HEAD WORKING), age 30.—**Mr. HENDERSON wishes to recommend his Foreman, who has been with him three years, to any Lady or Gentleman requiring a trustworthy Man.—St. Leonards, West Malling, Kent.

**GARDENER (HEAD WORKING).—Age 31,** married, one child. Gentleman can thoroughly recommend the above; capable and experienced in all branches; three and a half years last situation as Head.—H. DINES, Shrub Cottage, Wall Heath, near Dudley.

**GARDENER.—**Mr. HAMILTON FLETCHER, Brookwood Park, Alresford, Hants, can highly recommend his Head Working Gardener (age 43, married), a very efficient, trustworthy, practical and useful servant. Leaving for no fault, with four and a half and ten years' excellent characters.

**GARDENER (good SINGLE-HANDED, or with help).—Age 39, married;** thoroughly experienced Inside and Out. Excellent characters.—T. K., West Hill, Epsom, Surrey.

**GARDENER (SINGLE-HANDED, or otherwise).—Age 28, married, two children.** Twelve years' experience; understands cows. Abstainer.—WHEELER, The Gardens, Carville Hall, Brentford. No circulars.

**GARDENER (SINGLE-HANDED, or otherwise); age 28, married when suited.—**D. HILL, Underhill Park, Sandgate, Kent, wishes to recommend his Foreman as above, Inside and Out. Excellent references as to character and ability.

**GARDENER (SINGLE-HANDED, or SECOND of four or five).—Age 25, single;** twelve years' experience Inside and Out; Vines, Greenhouse, Conservatory, Tomatoes, and Cucumbers; eighteen months in present place; good character.—G. TUCKWELL, Bolney Court Lodge, Henley-on-Thames.

**GARDENER (SINGLE-HANDED or otherwise).—**Married, no embezzlement, age 27; wife as Cook, general.—S. S., 2, Ivy Cottage, Railway Road, Toddington, Middlesex.

**GARDENER (SINGLE-HANDED).—Advertiser** wishes to recommend a respectable young man (age 24) as above. Has been with him seven years. Thoroughly experienced.—BENJ. G. STONE, Elkington Hall, Louth, Lincolnshire.

**GARDENER (SINGLE-HANDED or otherwise).—Age 48, married, no family;** can manage Bees; no objection to Cows or Poultry; good reference from previous and present employer, personal or otherwise.—GARDENER, Goldings, near Kisham, Sussex.

**GARDENER (SINGLE-HANDED, or SECOND).—Age 25;** steady, respectable. Life abstainer. Experienced in all branches, both Inside and Out. Excellent characters. In or near the suburbs of London preferred.—G. F. B., Mrs. Wright, Brown's Yard, Herefield, Uxbridge, Middlesex.

**GARDENER (SINGLE-HANDED or UNDER).—Age 28, single;** five and a half years' last situation. Good references.—C. CANTERBURY, Grammar School, Hampton, Middlesex.

**GARDENER, where help is given, or good SINGLE-HANDED.—Age 24;** ten years' experience Inside and Out; good testimonials.—F. W., Mr. Richards, Stamford Street, Brooks Bar, Manchester.

**GARDENER, where two or three are kept.—**Understands the cultivation of Fruit, Flowers, and Vegetables. Highly recommended.—A. GRACE, Tring Park Gardens, Tring, Herts.

**GARDENER, where help is given.—Age 26;** well experienced in all branches, both Inside and Out; can be well recommended; near Newcastle-on-Tyne preferred.—W. MERSUM, Pynton Lodge, Watlington, Oxon.

**GARDENER (SECOND, or SINGLE-HANDED).—Age 24;** nearly two years in last situation as Second. Can be well recommended.—J. W. BARKER, 1, Broad Street, Spalding, Lincs.

**GARDENER (SECOND), or JOURNEYMAN,** Inside, or Inside and Out.—Age 22; eight years' experience. Good references.—A. H. ALFORD, The Byways, Hanley Castle, Worcester.

**GARDENER (SECOND), age 22.—**Mr. BIBLE, Head Gardener to Lord Trevor, wishes to recommend a young Man as above. Two years in present situation. Bothy preferred.—SHELTON, Krynkiat Gardens, Chirk, Ruabon.

**GARDENER (SECOND), in a Gentleman's Establishment. Inside, or Inside and Out.—Age 25;** eight years' experience. Stove and Greenhouse Plants, Vines, &c.; Wall Fruit and Pleasure Grounds. Two years in present situation. Abstainer.—JONES, Stoughton Grange Gardens, Leicester.

**GROWER, or SECOND.—Experienced in the** cultivation of Stove and Greenhouse Plants, Cut Flowers, Carnations, Tomatoes, &c. Six years in present situation.—HUNTER, Wellbrook, Farnborough, R.S.O Kent.

**GARDENER (SECOND), where four or five are kept.—Age 25, single;** three years Inside and Out, eight years previous. Kitchen Garden and Pleasure Grounds.—C. THORNTON, 7, Eastnor Road, South Park, Reigate, Surrey.

**GARDENER (SECOND, or good SINGLE-HANDED).—A good all-round man;** ten years' experience; can be well recommended.—A. KENNETT, Hatfield Nursery, Minster, Sheerness.

**GARDENER (SECOND), Inside and Out.—Age 24;** life experience. Good references. Disengaged.—A. H., 3, Radium Place, Farnham, Kent.

**GARDENER (SECOND), where three or four are kept, or a good Single-handed place.—Age 33;** over three years' excellent character. Well up in Cucumbers, Melons, Vines, Kitchen Garden, Herbaceous Plants, &c.—E. LAWRENCE, 32, Hawley Road, Kentish Town, London.

**GARDENER (SECOND), in good establish-ment.—Age 26;** twelve years' experience in Fruit, Plants, Early and Late Forcing in good Gardens, with good characters. Highly recommended by Head Gardener, Newbold Revel, Rugby.—EDWARD BARNES, Highclere, Newbury.

**GARDENER (SECOND), Inside and Out, or** would take charge of the Houses.—Mr. W. REED, Gatlands Park, Weybridge, Surrey, can thoroughly recommend a Man, age 27, who has been with him four years.

**GARDENER (UNDER), in a large Garden;** work under Glass preferred.—Age 17; over three years' good character. Please state wages.—MERRETT, Blackmoor, Petershead.

**GARDENER (UNDER), chiefly Outside.—**GEORGE PARKER, Gardener at Alderley Grange, Wotton-under-Edge, wishes to recommend a strong, active young man, as above.—Address as above.

**GARDENER (UNDER), Inside and Out.—Age 21.** Leaving to improve. First-class character; total abstainer. Bothy preferred.—Apply to HEAD GARDENER to CANON CHAPMAN, Paul's Cray Hill, Kent.

**GARDENER (UNDER).—Young man, age 22,** seeks situation Inside and Out. Three years in last place. Good character.—C. TANNER, Horn's Hill, Nursling, Southampton.

**GARDENER (UNDER), or IMPROVER in** Market or Private Place.—Young Man seeks situation as above. Abstainer. Good references.—H. YOUNG, Ashmore, Salisbury.

**GARDENER (UNDER)**, where two are kept.—Age 27; used to Pleasure Grounds and Kitchen Garden; help inside if required. Three years' good character; well recommended.—C. CHALLEN, Sandrocks, Hayward's Heath, Sussex.

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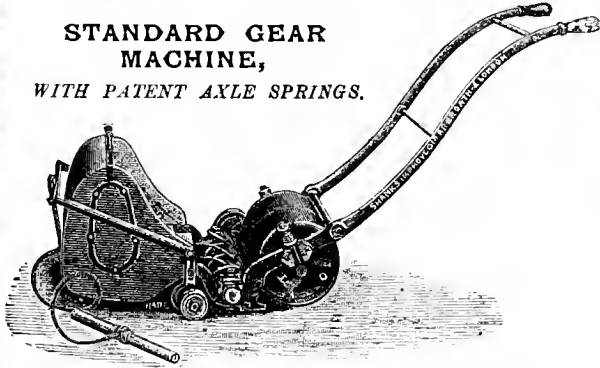
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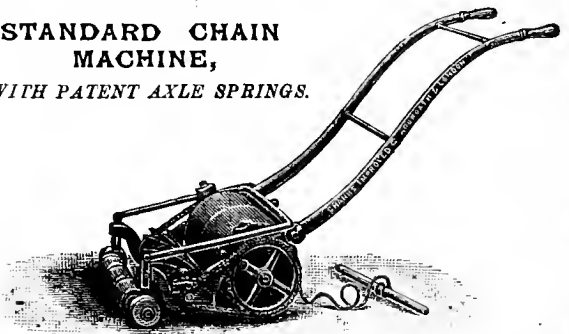
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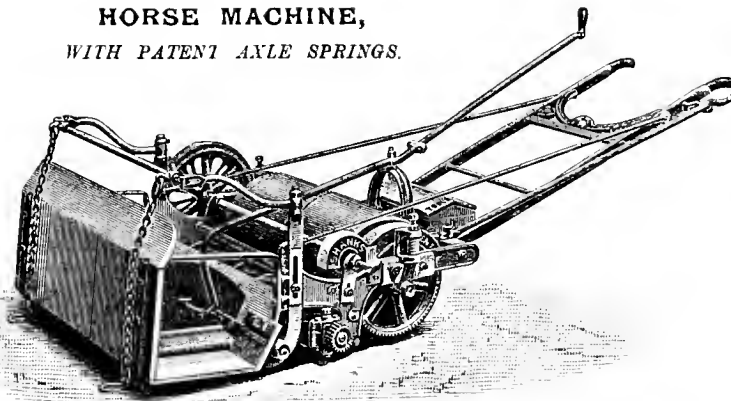
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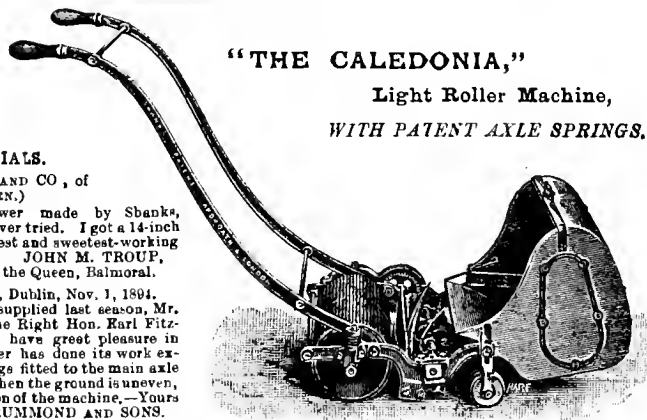
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# The GARDENERS' CHRONICLE

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## CONTENTS.

Agricultural research ...	488	New Inventions—	
American species of Larch ...	494	Steam-heating of glass-houses ...	493
Asparagus, a rational way of cultivating ...	488	Insecticide "Bala" ...	494
Benevolent Institution, Gardeners' Royal ...	492	Nuttallia cerasiformis ...	489
Cattleya × Empress Frederick ...	495	Orchids at the Dell ...	484
Daffodils poisoned by soot ...	495	Peas, protecting, from birds ...	496
Elm, the Winged Erica codonodes ...	487	Phalacopsis speciosa ...	495
Exhibitions on the culture of the Rose, the influence of ...	487	Posoqueria longiflora ...	495
Fig trees on open walls ...	485	Potato disease and Strawsonite ...	493
Florists' flowers—The gold-laced Polyanthus ...	486	Primula Sieboldi in Regent's Park ...	492
Fruit-bottling made easy ...	495	Royal Botanic Society and its Conferences ...	492
Gardeners and steam lawn-mowers ...	495	Societies—	
Herbaceous borders, forming ...	495	Royal Botanic ...	496
Herbaceous flowers at shows ...	494	Wakefield Paxton ...	499
Hyacinth, the, as a town plant ...	494	Stocktaking: March ...	493
Insect pests of Conifers ...	496	Strawberries, autumn-fruited ...	495
Larch disease, the ...	494	Strawberry Royal Sovereign ...	495
Magnolia conspicua ...	494	Trelissick, Truro ...	485
Market gardening under difficulties ...	486	Vegetables and vegetarians ...	494
		Week's work, the—	
		Flower garden, the ...	490
		Fruit under glass ...	491
		Hardy fruit garden ...	490
		Kitchen garden, the ...	491
		Orchid houses, the ...	490
		Westonbirt, Gloucestershire ...	483

## ILLUSTRATIONS.

Daffodil, Glory of Leyden ...	491
Daffodil, Madame de Graaf ...	496
Erica codonodes ...	487
Isosoma Orchidearum ...	501
Nuttallia cerasiformis ...	489
Richardias on Lake Side at Trelissick ...	485
View in the gardens at Trelissick, Truro (Supplement).	

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**50,000 EUONYMUS, Green and Golden,** all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

**MORTIMER'S PRIZE MEDAL DAHLIAS.**—Strong, healthy plants of Show, Fancy, Cactus, and Pompon, in all the very best varieties, 4s. per dozen. CATALOGUES containing all the best novelties, on application. S. MORTIMER, Swiss Nursery, Farnham.

**CARNATION SEED.**—Sow now for next year's bloom. Choicest English saved seed, 1s. 6d. to 2s. 6d. per packet. Send for Carnation Catalogue to—JAS. DOUGLAS, Great Boukham, Surrey

**CUTHBERTSON'S SCOTCH PRIZE PANSIES.** Sixteenth Year of Distribution. Sample dozen, exhibition varieties, 2s. 6d.; newer varieties, 4s.; 50 varieties, 12s.; 100 in 50 varieties, 20s.; 100 varieties, 25s. All correctly named; carriage paid; splendid plants, 52,000 to select from. Catalogue free.—MICHAEL CUTHBERTSON, Florist, Rothesay.

**EWING'S MILDEW COMPOSITION.**—The original, certain, and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. Sold by all Seedsmen. COBBY & CO., Ltd, LONDGN.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in six-eight bags, 4 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc. Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortalanus, London." Telephone, No. 8725

## SALES BY AUCTION.

Wednesday Next.

## GREAT SALE of ROSES from a celebrated German grower.

1500 well-grown Standard, Short-standard, Half-standard, Dwarf, Climbing, and Pot ROSES, including many of the leading and best varieties. Also—

Several Hundred Roses, Azaleas, Ornamental Shrubs, Flowering Trees, Plants, &c., just received direct from Holland.

Japanese Liliums in variety, a fine Collection of Horser Plants, Begonias, Gladioli to name, Orchids, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 22, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

By order of Messrs. W. L. Lewis &amp; Co.

An IMPORTATION of ORCHIDS in splendid order, comprising CATTLEYA HARRISONIÆ VIOLACEA, ODONTOGLOSSUM ROSSII MAJUS, CATTLEYA WARNERII, ODONTOGLOSSUM LONDESBOUGHIANUM, CATTLEYA INTERMEDIA, LELIA PEDUNCULARIS, BARKERIA ELEGANS, ONCIDIUM CRISPUM, ODONTOGLOSSUM DONNIANUM, O. MADRENSE, EPIDENDRUM VITELLINUM MAJUS, &c.

By Order of Mr. J. W. Moore, Bradford.

An IMPORTATION of CYPRIPEDIUM CHARLESWORTHII, C. VILLOSUM, C. BELLATULUM, C. PARISHII, DENDROBIUM CRASSINODE BARBERIANA, D. FINDLEYANUM GIGANTEUM, D. FALCONERI, D. SENILE, D. HILDEBRANTI, D. JAMESIANUM, VANDA KIMBALLIANA, and others; CATTLEYA SPECIES, ESTABLISHED ORCHIDS, some in flower, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, April 23, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday April 30.

THE SOMERHILL COLLECTION OF ORCHIDS AND STOVE AND GREENHOUSE PLANTS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, April 30, at half-past 12 o'clock precisely, by order of the Executors of the late Sir Julian Goldemid, Bart., of Somerhill, Tonbridge, the Remaining Portion of the well-grown COLLECTION of ORCHIDS and the STOVE and GREENHOUSE PLANTS. Also Importations of ORCHIDS.

On view morning of Sale, and Catalogues had.

Wednesday Next, April 22.

A splendid assortment of CARNATIONS and PICOTÉES, from a well-known grower; DANILIAS, GLADIOLI, BEBACEOUS PLANTS, in variety; 600 FANSIES, TUBER ROSES, BEGONIAS, LILIUMS, in variety; 100 lots of STOVE and GREENHOUSE PLANTS, FERNS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY NEXT, April 22, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday, April 24, 1896.

## SALE OF ORCHIDS.

By order of Messrs. F. SANDER &amp; Co., St. Albans.

A great variety of IMPORTED ORCHIDS, including—

A fine consignment of the rare and lovely DENDROBIUM SANGUIOLENTUM.

GRAMMATOPHYLLUM MEASURESIANUM.—Flower-scapes several feet in length; flowers 3 inches across, bright green, profusely marked with chocolate and purple.

A CYPRIPEDIUM sent home by collector as C. species, with white pouch, like nivenum or leucochilum. The plant is in excellent condition, sturdy growths, with plump leaves, in full vigour.

OATLEYA PUMILA, the finest type of this highly ornate species.

An ORCHID SPECIES from the Bismarck Archipelago—most extraordinary-looking plants. Believed to be an entirely new genus. The pseudo-bulbs are pyramid-shaped.

CYPRIPEDIUM INSIGNE VAR., from Hills in Bhotan.—Very distinct-looking plants, exhibiting great variation in the foliage; many novel forms are anticipated, as it has been imported with—

A CYPRIPEDIUM SPECIES, with small, succulent-looking leaves; the smallest-leaved kind we know of. No plants have ever before been collected in these mountains.

CATTLEYA LABIATA, GARDNER'S VAR.—A few grand specimens specially sent home by our collector from Gardner's territory; this plant is now very scarce in Portocara.

VANDA CERULRA.—Splendid plants, from the district which has yielded the most noted varieties.

CYPRIPEDIUM HOKALII ATRATUM (?), grand lot of imported plants.

DENDROBIUM WARDIANUM GIGANTEUM.—The gigantic Upper Burmese types, the finest and largest-flowered of all.

Together with

PLANTS in FLOWER or BUD, and many RARE and CURIOUS ORCHIDS.

Also Two grand plants of CYMBIDIUM LOWIANUM, having 180 and 300 flowers respectively.

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY, April 24, 1896, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next, April 21.

By order of Messrs. W. L. Lewis & Co., Southgate, N.

IMPORTANT SALE of IMPORTED ORCHIDS, comprising:—

BARKERIA ELEGANS (?), a most magnificent species.

CATTLEYA CRISPA, some grand plants.

WARNERII, a large type, vide catalogue.

HARRISONIÆ VIOLACEA (true).

ODONTOGLOSSUM LONDESBOUGHIANUM, a most brilliant and distinct Odontoglot.

MADRENSE, a handsome and scarce species.

ROSSII MAJUS, magnificent large bulbous pieces.

DONNIANUM, a superior form of O. Maculatum.

MILTONIA SPECTABILIS and LELIA PEDUNCULARIS.

Also LYCASTES in great variety, CYPRIPEDIUM SPICERIANUM, OROBIDIS in FLOWER and BUD, &amp;c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on TUESDAY NEXT, April 21, at half-past 12 o'clock.

Apply to WHEELER AND MONRO, 4, Callum Street, Fenchurch Street, E.C.

On view morning of Sale, and Catalogues had.

Ickworth Park, Bury St. Edmunds.

CLEARANCE SALE of STOVE, GREENHOUSE, and REDDING PLANTS, GARDEN IMPLEMENTS, &c., by order of A. H. Wood, Esq., whose Lease of the Estate has expired.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Ickworth Park, Bury St. Edmunds, about 4 miles from Bury St. Edmunds Railway Station, on THURSDAY NEXT, April 23, at half-past 12 o'clock, the whole of the well-grown STOVE and GREENHOUSE PLANTS, also about 100 Orchids, 5000 Geraniums, 400 Fruiting Strawberries, about 100 lots of Garden Implements, 3 Mowing Machines, Lights, Frames, Tanks, Garden Engines, and numerous other items.

May be viewed day prior to the Sale. Catalogue may be had of Mr. H. COSTER, Head Gardener, on the Premises, and of the Auctioneers and Valuers, 87 and 88, Cheapside, London, E.C.

## ORCHIDS! ORCHIDS!

JOHN COWAN &amp; CO., Ltd.,

Have just received large and splendid Importations of:—

ODONTOGLOSSUM ALEXANDRÆ, FINEST PACHO TYPE.

ODONTOGLOSSUM CORDATUM, a grand lot.

ODONTOGLOSSUM NEBULOSUM, a splendid lot.

CATTLEYA LABIATA AUTUMNALIS, a large and grand importation of the finest type.

CATTLEYA CITRINA, a grand lot of large-bulbed plants.

DENDROBIUMS, in great variety, and in grand condition.

CYPRIPEDIUMS, in variety, and in grand condition.

BOBRALIA MACRANTHA, from the district from which the Company have imported the pure white form.

LELIA ANCEPS, in splendid condition.

LELIA AUTUMNALIS, in grand condition.

And many others.

Descriptive and Priced Catalogues post free, on application to the Company—

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a small valuable long leasehold NURSERY, 3 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

WORCESTERSHIRE.—NURSERY, 23 Acres, established upwards of a century. Eight Greenhouses, well heated. Pits and numerous Out-buildings. Long Lease. Rent £150 per annum. Price as a going concern, including valuable stock, £2000, or at a valuation. Full particulars of PROTHEROE AND MORRIS, 87 and 88, Cheapside, E.C. (Folio 8788).

FOR SALE, as a Going Concern, the SUTTON NURSERY, situated at Duckmanton, near Chesterfield, Derbyshire. The contents of this Nursery have been reduced from 74 acres or thereabouts to 27 acres or thereabouts, and it is held on a lease having about 18 years to run; while the Hot-houses have been increased to 31, each 100 feet long, with six additional forcing sheds 100 feet by 33 feet, potting-house, office, and stables. Also a large number of frames and loose lights. The houses and heating arrangements are of the most modern description, and there is an ample supply of water. The stock consists largely of Roses, Fruit Trees, Rhubarb, &c.

The Menchester, Sheffield, and Lincolnshire, and the Lancashire, Derbyshire, and East Coast Railways pass close to the Nursery.

For particulars apply to Mr. WM. BRINING, Chartered Accountant, 19, Saltgate, Chesterfield; or, Mr. JARVIS W. BARBER, Chartered Accountant, George Street, Sheffield.

SMALL BUSINESS for DISPOSAL; area about 2½ acres, with two 100-foot Houses, &c., in a good and improving position close to a Town, two and a half miles from a main line station. Leasehold, 95 years to run (option of purchasing freehold). Ground rent, £18 per annum. Price £100 (portion left if desired), including stock, plant, and utensils. Company's water laid on. Apply—

SCOTT PITCHEE, Auctioneer, Haywards Heath.

Owing to Death of the Proprietor.

FOR SALE, a compact and well-established NURSERY, comprising 2 acres of Freehold Land, 13 Greenhouses, large Dwelling-house, Cottage, Stabling, and Sheds. Room for building 1½ more Greenhouses. Situated 12 miles from London, and being within 7 minutes walk from Main Line, G. N. Railway Station. Let to good Tenant, on lease, at £100 per annum.

Apply to WHEELER AND MONRO, 4, Callum Street, Fenchurch Street, E.C.

Old-Established Seedsman and Nursery Business in Paisley for Sale.

FOR SALE, by Private Offer, the GOODWILL of that Old-Established SEEDSMAN BUSINESS carried on at 3, Moss Street, Paisley, by the late Mr. JAMES MORGAN, with the NURSERY BUSINESS carried on by him for some time at Falside, Paisley, in connection with his Shop, including Stock in Shop and Fittings thereof, and the Stock, Plants, and Utensils at the Nursery.

The Seedsman Stock is of the best quality and in excellent order, and a large business has hitherto been done with market and private gardeners. The Shop is in the leading and busiest thoroughfare. The Nursery Stock is in prime condition for sales.

The Shop Stock and Nursery Stock, &c., will be taken at mutual valuation. Inventories of these and of the Shop Fittings may be seen in the hands of the Subscriber, and Offers for the Goodwill and Appurtenances of both concerns, or for the Seedsman Business and Nursery Business separately, will be received by him up to the 22nd inst., to whom also application may be made for further particulars.

D. A. MORRISON, Writer, 97, High Street, Paisley.

TO be LET, the SANDIACRE NURSERIES, midway between Nottingham and Derby, comprising house, 2½ acres land, and large quantity of glass.

Apply, HICKING, Carrington Street, Nottingham.

TO LET, a FIVE-ROOMED COTTAGE, with Out-buildings, a Half Acre Ground, with wall about 300 feet long, suitable for a small Poultry Farm or Nurseryman.—Apply to—

J. N. GOATLEY, Twickenham Green.

GARDEN VINERIES, &c., in Stirlingshire, TO LET, consisting of Five Extensive Grape Houses, and Three Tomato Houses, with about Five Acres of Garden Ground. The Grape Houses are well stocked with the finest kinds of Grapes, and the Garden with Strawberries, Currants, and other small Fruit, and Rhubarb. First-class stock of Tomatoes, Peas, and Pot Plants, to be taken at valuation.

In addition there may be Let extensive Rhubarb Forcing-houses, with about Five Acres of Ground in Rhubarb. Railway-adjacent, and Station within easy distance.

Apply to JOHN & W. K. GAIR & GIBSON, Writers, Falkirk.

FOR SALE, GARDENERS' CHRONICLE, well bound, and in perfect order, for 1844, 1845, 1846, 1849, 1850. Best offer to—

D. W., 41, Wellington Street, Strand, W.C.

TO GROWERS.—BEDROOM TO LET, L., 17, Russell Street, Covent Garden, W.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 87 and 88, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

PANSIES & VIOLAS.—Finest named SHOW and FANZY PANSIES, 3s. 6d. per dozen; 25s. per 100. Fine named VIOLAS, 2s. 6d. per doz.; 12s. 6d. per 100. Carriage paid. Catalogue on application.—JOHN FORRES, Hawick, N.H.

VIOLETS.—The best for Frames. Capital rooted Stuff to offer Cheap from my grand stock, Marie Louise and Bella de Chatsenay.

J. HILL, Babraham, Cambs.

TOMATO PLANTS.—Ham Green Favourite, Challenger, strong stuff, 10 to 14 inches high, 1s. doz.; 8s. 6d. per 100. Strong autumn-struck Geraniums, 8s. per 100.

B. HOUGH, Biele, Surrey.

CHRYSANTHEMUM CUTTINGS, strong-rooted.—Ten best market sorts for cutting or pota. Source d'Or, Elaine, Princess Teck, &c., 2s. 6d. per 100; 15s. per 1000; free on rail.—BARNARD, Florist, Southgate, N.

VIOLETS.—Now is the time to plant any amount. Splendid healthy Stock Plants, Marie Louise, De Parme, 10s. per 100. Put on rail for cash.

F. SIMMONDS, Mamhead Park, near Exeter.

BEGONIAS of the newest and most superb type, including many rare varieties, Double and Single, for Conservatory or Bedding. See B. K. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free, for 1s.

H. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

NEW PALM SEEDS, Kentia Belmoreana and Forsteriana, Corypha australis, Phoenix rupicola and reclinate, Scaevolaria, &c., 100 in variety, 2s. 6d.; 400, 10s.; carriage free. Price per 1000 or 10,000 to the trade on application. Lilium auratum, 3s., 4s., and 6s. per doz., extra fine.

MORLE AND CO., Importers, The Conservatories, Finchley Road, N.W.

ADVERTISER is open to BUY ASPARAGUS (when ready) for weekly delivery. State estimated quantity and lowest price to— M. M., 41, Wellington Street, Strand, W.C.

LILIES OF THE VALLEY.—I beg to offer first-class forcing Crowns for immediate delivery. Also Planting Crowns, 1 and 2-yr. old. Prices on application. T. JANNOCH, Dersingham, Norfolk.

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NEW CACTUS DAHLIAS.—Miss A. Jones, Miss A. Nightingale, Valkyrie, &c. Price on application. The best Show, Cactus, and Pompon varieties, from 4s. 6d. per dozen.—Catalogues from J. T. WEST, Tower Hill, Brentwood.

BORDER CARNATIONS, strong layers, well rooted. Also Double White PRIMULA CUTTINGS, cheap to clear. Apply— GEO. DRABBLE, Ketton Hall Gardens, Stamford.

ASPARAGUS.—This delicious Vegetable does not require half the expense usually incurred. For simple instructions, see SEED LIST, free on application. Strong roots, from 2s. 6d. per 100.—RICHARD SMITH AND CO., Nurserymen and Seed Merchants, Worcester.

LIVE SPHAGNUM MOSS, 5s. per bag. HARDY FERNS, large roots, outside growth. Rigidula, Montana, Spinulosa, Polystichum atryan, Filix-mas, Scolopendrium, &c., 50. 5s.; 100. 9s. Ferns carriage paid. JOHN BYRNE, Fellside, Kendal.

CATLEYA INTERMEDIA, extra fine, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.; specimens, well-leaved, 10s. 6d., 15s., and 21s. ONCIDIUM CRISPUM, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. PRICE LIST free. W. L. LEWIS AND CO., Southgate, London, N.

To the Trade. MANGEL WURZEL AND TURNIP SEEDS. H. AND F. SHARPE are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, Crop 1895, at exceptionally low prices, which may be had on application. SEED GROWING ESTABLISHMENT, WISBECH.

Hollyhocks. NOW IS THE TIME TO PLANT. JOHN FRASER, The Nurseries, South Woodford, Essex, offers a fine lot of HOLLYHOCKS, established in 45's. These are seedlings from named sorts, and are all named. If the seed is carefully saved they generally come true to name. A list of the sorts, with price, may be had on application.

Important to Mushroom Growers. CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. E. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

TO Exhibitors. STRONG PLANTS, POST-FREE, from Single Pots. 12 Very Choice Distinct Single ZONALS ... 4s. 0d. 12 " " " Double " ... 4s. 0d. 12 Choice, Older " " " ... 2s. 3d. 12 " " " Single " ... 2s. 3d. 25 " " " " " ... 4s. 0d. 25 " " " " " ... 4s. 0d. Madame Jules Chrétien, a very attractive Continental variety, grand for Pots or Bedding, 4s per dozen, 30s. per 100. Catalogues post-free on application. WILLIAM POTTEN, Camden Nurseries, Cranbrook, Kent.

NATIONAL TESTIMONIAL TO MR. A. F. BARRON.

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The PRESENTATION to Mr. BARRON will take place at a Public Luncheon, to be held at the Hotel Windsor, Victoria Street, S.W., on TUESDAY NEXT, at 2 P.M.

LOBELIAS, Heliotropes, Coleus, Fuchias, Calceolarias, Marguarites, Musk, &c. JOHN SOLOMON offers, as in former years, in thorough good stuff, LOBELIAS, Emperor William and Pumila magnifica, best blues, at 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000; all warranted true from cuttings. HELIOTROPE, COLEUS, and FUCHSIAS, best Market sorts, 5s. per 100. CALCEOLARIAS, Golden Gem, 5s. per 100; 40s. per 1000. MARGUERITES, best white, and Feu d'Or, yellow, 5s. per 100. Harrison's MUSK, 5s. per 100. Package included for Cash with order.—Oak Nursery, Forest Side, Chingford, E.

EXHIBITION.

SHREWSBURY GREAT FLORAL FÊTE, August 19 and 20, 1896. Schedules are now ready. The cash prizes offered in the Schedule amount to over £300. H. W. ADMITT } Hon. Secs. The Square, Shrewsbury. W. W. NAUNTON }

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

ROYAL SOVEREIGN STRAWBERRY PLANTS. Will fruit this year. 5s. per 100.—J. PEED AND SONS, The Nurseries, Mitcham Road, Streatham, S.W.

CHRYSANTHEMUMS.—Strong, well-rooted Cuttings, best varieties, Lady Churchill, Domage, Julie Lagravère, Mrs. Laing, Madame Desgranges, E. Molyneux, Elaine, Lady Canning, Stansted White, &c., 9d. per dozen; 1 0, our selection, 3s. 6d.—Crescent Nurseries, Portsmouth.

HARDY BORDER and HERBACEOUS PLANTS, &c.—FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 146 pages, gives all particulars, including colour, height, season of flowering, &c., of thousands of these marvellously varied and highly popular flowers. Free on application.—JOHN FORBES, Hawick, Scotland.

CABBAGE PLANTS, Early, Late, Savoy, green, 2s. per 140, prepaid. Prize varieties of Cabbage, Onion, Sprout, Cauliflower, &c.; Shallots, Seed Potatoes (Sharpe's Victor, &c.). All Scotch, grown by Scarlett, Musselburgh. Write SCARLETT, Market Street, Edinburgh, for Price List.

GIANT ASPARAGUS.—Extra strong transplanted clumps. Low price to clear. WILL TAYLER, Hampton, Middlesex.

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The Committee have the pleasure to announce the following contributions, which have been promised or remitted:—

Table listing names and amounts: HER MAJESTY THE QUEEN (Patroness of the Institution) £35 0 0, Messrs. N. M. ROTHSCHILD AND SONS 105 0 0, Right Hon. LORD BURTON 52 10 0, The BABY SCRODER 25 0 0, Messrs JAMES VEITCH AND SONS 26 5 0, N. SHERWOOD, Esq. 25 0 0, Messrs. WILLS AND SEGAB 5 5 0, W. ROBINSON, Esq. 5 5 0, PHILIP CROWLEY, Esq. 5 5 0, H. BALDERSON, Esq. 2 2 0, Mr. E. RUSSELL 10 10 0, Mr. J. DAVIDSON 10 10 0, Mr. JAS. CHARLTON 10 10 0, W. DALE, Esq. 1 1 0, Mr. GEO. BANNISTER (Annual) 1 1 0, Mr. THOS. BENNETT 1 1 0, Mr. ALVAN SCRAWN 1 1 0, Mr. C. W. COWAN 1 1 0, Mr. F. W. COOPER 1 1 0, Mr. HERBERT COULSON 1 1 0.

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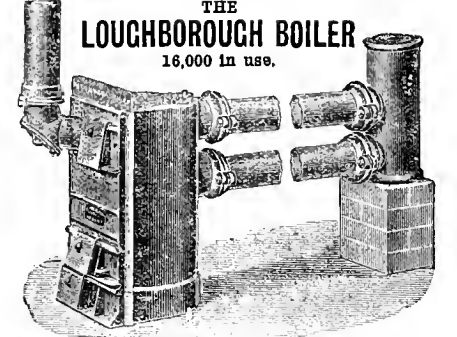
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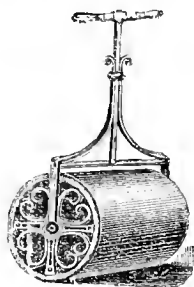
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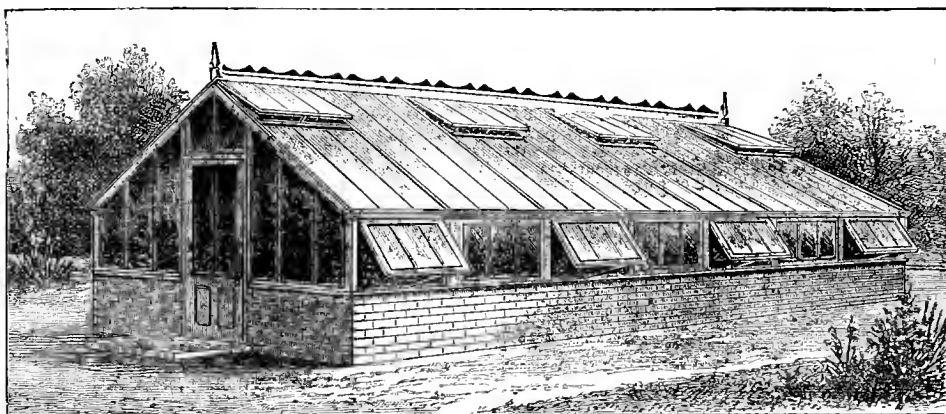
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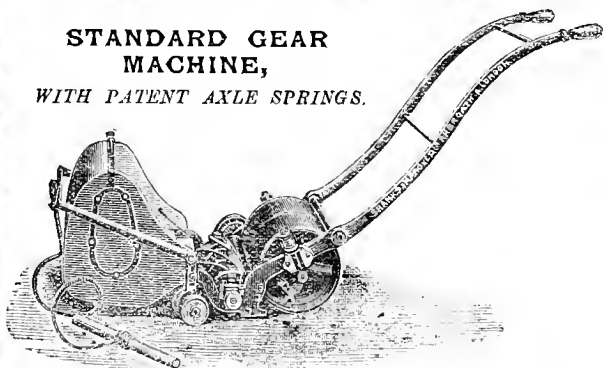
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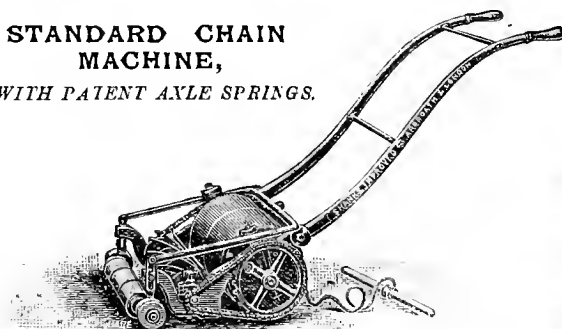
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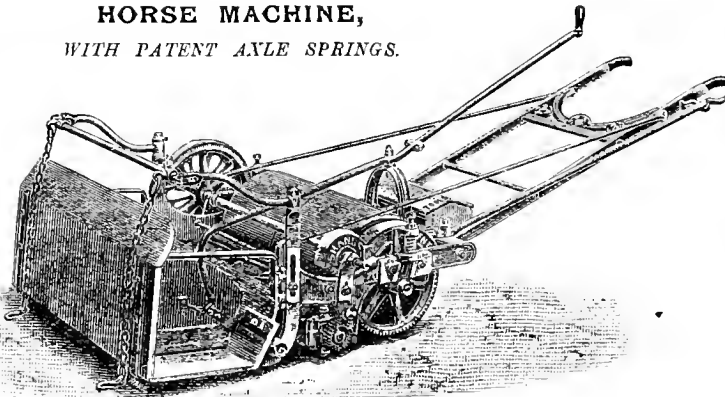
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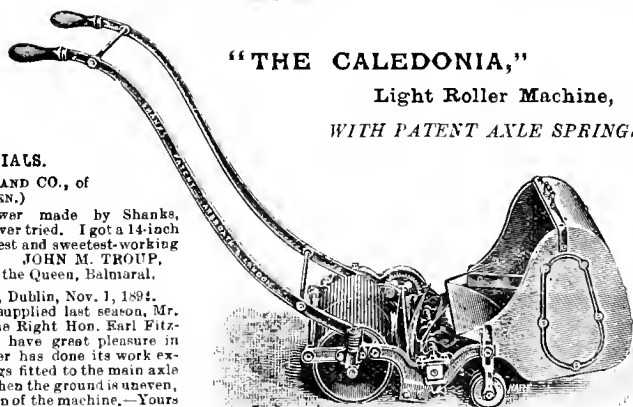
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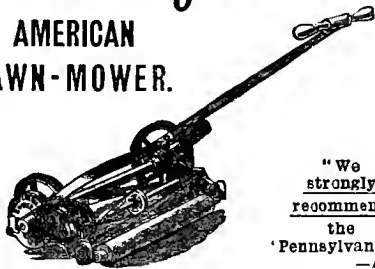
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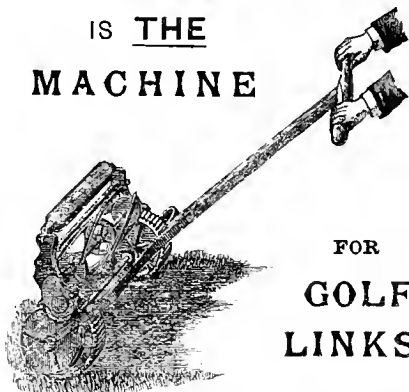
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THE  
**Gardeners' Chronicle.**

SATURDAY, APRIL 18, 1896.

WESTONBIRT.

**THE** fine Gloucester-hire estate of Captain  
 Holford has been long celebrated for  
 its magnificent mansion, with its elaborate  
 appointments, even to the smallest matters of the  
 enormous estate and its administration. The  
 late Robert Stayner Holford, the father of the  
 present owner, found his greatest pleasure in  
 Westonbirt, and the chief delight was found in  
 adding to its beauty and to the comfort of the  
 large number of persons employed on the  
 estate. The gardens, as might be expected,  
 came in for a large amount of attention, and  
 every novelty in plants found a place out-of-  
 doors or in the glasshouses.

The garden contained one of the earliest and  
 best-grown collections of Orchids, and Hippe-  
 astrums were among the first taken up and  
 hybridised in a consistent manner, and on a  
 large scale. Here grew uncounted plants,  
 such as *Solandra grandiflora*, which often  
 carried over 200 of its large trumpet-shaped  
 flowers at a time, as they have not been  
 observed to do before or since. It was, how-  
 ever, in the pleasure-grounds that much was  
 done in beautifying a naturally-delightful land-  
 scape, and here Mr. Holford found scope for his  
 refined taste in scenic effects. In everything  
 that was carried out, the great idea was that it  
 should harmonise with its surroundings, and that  
 no abrupt transitions should occur, for he held the  
 opinion that gardens, pleasure-grounds, and the  
 pastures and woodlands, should merge the one  
 in the other without visible dividing lines. In  
 the furtherance of this view, was formed the noble  
 arboretum, in which a very complete collection  
 of trees and shrubs of all kinds is to be found,  
 and of which we hope to give illustrations.  
 It extends over 4 miles in length, enclosing  
 and combining the entire series of gardens and  
 pleasure-grounds. Viewed from the high ground  
 around the mansion, the garden scenery is very  
 delightful, the whole of the trees and shrubs  
 having been carefully arranged and planted so  
 that the deciduous and flowering kinds should  
 have at all seasons the foliage of evergreens  
 around and near them. Away in the near fore-  
 ground, beneath a few stately trees, and in the  
 natural turf, are spring-flowering bulbs, hardy  
 Cyclamen, Daffodils, Gentians, and Anemones,  
 producing a wealth of flowers in their season,  
 which are all the more lovely from growing in  
 a natural manner. On one hand is the chain  
 of pretty rockeries, with their undulating and  
 winding walks, leading among pretty alpenes  
 and rare shrubs to the ornamental lake, whose  
 banks are embellished with Bamboos and other  
 plants of a tropical aspect. On the other hand,  
 and beyond, are numbers of groups of rare  
 shrubs, many of which are already in bloom.



among which are the Magnolias, and especially *M. stellata*; the early *Berberis*, *Forsythias*, and the Moutan *Pæonies*, which here bloom most profusely, in situations where they are sheltered from the winds, are, or have been, finely in flower. Here, too, the Japanese Maples are largely and effectively used, and later in the season their pretty and variously-tinted foliage gives a telling feature not otherwise to be obtained.

The chief element of success with these Acers, and also with the other kinds which are wanted for their charming autumn tints, is to see that they are copiously supplied with water throughout the month of July. On the low terrace-wall the different varieties of *Pyrus japonica* are covered with bloom, the pure white one and *P. japonica* *Simonsi*, which is of a dark blood-red tint, being among them; and beneath these are some charming tufts of *Myosotis dissitiflora*, which were self-sown in a sunny aspect, and not exactly where they would be expected to thrive, and become masses of blue flowers as they now are.

Passing along the terrace and beneath many a noble tree, such as *Liriodendron tulipiferum* and other flowering trees, some of which were among the first specimens of their kind planted in Europe, we come to the geometrical garden with its terraces, alcoves, colonnades, and fountains. Here, in the front portion, the beds were formerly used for carpet-bedding, but are now planted with herbaceous perennials, plants which are in contrast to the bedders, continually making a show. At the back of and bounding the range of plant-houses is a raised terrace with a high wall, against which rare climbers are planted. Some of them have been there for over forty years, and their beauty of flower and foliage has increased with age. Here is one of the earliest, *Berberis pinnata* (*fascicularis*), with Fern-like glaucous leaves; seedlings of which have been raised, but the young ones always come with plain green leaves. Do they need great age to develop the glaucous hue? The Magnolias, *Ceanothus*, &c., are beautiful here in their season, and in summer the border beneath them has hundreds of heads of bloom of *Amaryllis Belladonna*, whose bulbs have not been disturbed for many years; and the face of the raised stone-edged border is covered with *Verbenas*, and presents a sight rarely seen. At one end a plant of *Choisya ternata* is well in flower, and many other pretty objects appear.

#### THE GLASSHOUSES

have been either re-built or modernised under the practical superintendence of Mr. Chapman, the able gardener at Westonbirt, who is now an old servant, and one who takes a thorough interest in his work. In Mr. Lindsay, the agent of the estate, he is fortunate in having a gentleman who likes and understands gardening, and is, therefore, always ready to forward any works of improvement.

The Orchid-houses have in times gone by contained a rich collection, and many very large specimens, among which the original plant of *Saccolabium guttatum* Holfordii often bore a score of spikes, each from 3 to 4 feet in length; *Aërides odoratum* was represented by plants with a dozen leads, and bearing in their season three or four dozen racemes of flowers; *Renanthera coccinea*, and others now seldom seen, flowered in abundance, and many others, chiefly of the large-growing kinds, as was invariably the case thirty or forty years ago, attained proportions and beauty now seldom approached, although Orchids, as a

class are far better grown now than then. But with the demolition of the old mansion, and in the interval before the new was available as a residence, one after another of the good things vanished or declined, and the culture of Orchids which is again being taken up vigorously and intelligently by Captain Holford is of the more modern style. There are now a house of *Odontoglossums* and one of *Masdevallias* which are thriving satisfactorily; a good house of *Cattleyas* and *Lælias*, a house of *Cypripediums*, in which the centre bed is occupied by Ferns and foliage plants, which seem to have a healthful influence on the *Cypripediums*, which are growing and flowering well; and houses of *Dendrobiums* and Miscellaneous Orchids.

In one warm house the plants of *Dendrobium Phalænopsis Schroderianum* are very fine, and the varieties of *D. nobile* in flower; also a number of plants of a singular strain of *D. infundibulum*, in form like that known as *D. Jamesianum*, but with a light yellow instead of a Roman-red disc to the lip. Suspended here is a strong plant of *Saccolabium ampullaceum*, which has been many years at Westonbirt; and a noble plant of *Cypripedium Stonei* is about to flower. On one side are numbers of flowers of *Cypripedium Lawrenceanum*, *C. ænanthum superbum*, *C. × Leeaanum superbum*, and others; and at one end are suspended some fine *Dendrobium Wardianum*, whose flowers make a great display; and in the *Cattleya* and *Odontoglossum*-houses there are good things in bloom, and a great promise of flowers on *Lælia purpurata*, *L. crispa*, and the larger *Cattleyas*.

(To be continued.)

## ORCHID NOTES AND GLEANINGS.

### THE DELL, EGHAM.

ONE of the most beautiful displays made by one genus of Orchids is that consisting of *Dendrobiums*, to be seen at the present time in Baron Schroder's garden at The Dell, Egham. The plants have been collected into one of the large spau-roofed houses, which they fill from end to end, being arranged on the side and central stages. The entire area of the roof has also its floral burden, which sends down long graceful sprays among the plants below, and forms arches over the walks on either hand. Probably *Dendrobiums* have never been seen elsewhere finer than they are at The Dell this season; and although for a long time past a large number of species have been in flower, some leading feature has always predominated; and the large, well-flowered specimens, first of one species and then of another, seem to give "body" to the artistical display. Earlier in the year it consisted chiefly of the varieties of *D. × Ainsworthii*, *D. × splendidissimum grandiflorum*, and others of that class, succeeded by *D. nobile* and *D. Wardianum* as leading species; and now that many of these are on the wane, the telling specimens consist of the beautiful *D. × Dellense*, whose wax-like white flowers are tipped with pink, contrasting with the maroon base of the lip. Some of the varieties have a pale-primrose shade, some a delicate blush, and all are compact in growth, floriferous and beautiful. Many of the plants of *D. × Delleuse* are in great beauty, and they are associated with fine examples of the true *D. nobile nobiliss*, the richest coloured of all the varieties of *D. nobile*; and with *D. n. Schroderianum*, the best white, which is equally good. Other fine *Dendrobium nobile* in bloom are *D. n. Cookei*, *D. n. Sanderiana*, *D. n. Wallichii*, *D. n. Ballianum*, and a grand specimen of *D. n. elegans*, which, like *D. n. nobiliss*, is one of the oldest and best varieties. Among new, unnamed forms, is a very peculiar *D. nobile*, with white flowers, the tips of whose petals are tinged with brick-red; and among

allies of *D. nobile*, *D. × Rolfæ* was remarked as being very pretty.

In the groups consisting chiefly of fine plants of *D. Wardianum* and *D. crassinode*, are two forms of a pure white-flowered *D. Wardianum*, and one of a white *D. crassinode*; also *D. × melanophthalmum*, the very beautiful natural hybrid of the two species above-named. Among other beautiful plants noted in more or lesser numbers were *Dendrobium superbum* *Dearei*, white; the *D. s. Burkei*, blush-white; and the typical *D. a. giganteum*, *D. Falconeri*, and *D. F. giganteum*; fine examples of *D. Findlayianum*, *D. Harveyanum*, with curiously fringed petals; and the bearded *D. Brymerianum*; that prince of hybrids, *D. × micans*, with white and clear purple flowers, having the appearance of delicate china; the yellow *D. fimbriatum*, and the dark-eyed *D. f. oculatum*, in large masses; the delicate white small-flowered *D. barbatulum*, and the pretty *D. l. crepidatum* *labello-glabro*; the singular *D. chryseum*, which promises so well in bud, but which invariably close-fertilises; *D. × Dulce*, and several of a similar and better hybrid, raised at The Dell; *D. Devonianum* in fine specimens, seeming to send forth showers of bloom; *D. Farmeri*, *D. × eousum excellens*, *D. × Cordelia*, *D. × Aspasia*, *D. × Alcippe*, and a host of other classic crosses, whose beauties are effectively displayed by Mr. Ballantine, the Baron's head gardener. Another large house has a group of *Calanthes*, principally the later-flowering *C. Reguierii*, and the very beautiful unrivalled hybrid *Calanthe × Baron Schroder*, raised at The Dell, and whose large dark crimson-purple flowers it seems impossible to improve upon.

Here, too, is a good show of *Cypripediums*, among which *C. Mastersianum*, with its bold, wax-like, yellow and Indian-red flowers, stands out prominently. The famous *C. Stonei platytænium*, *C. callosum Sanderæ*, and *C. Lawrenceanum Hyeaanum* are again sending up flowers. Among good varieties in bloom are *C. × Gertrude Hollington*, *C. × Antigone*, *C. × porphyrochlauns*, *C. × Harrisianum superbum*; some very fine *C. Rothschildianum*, *C. Chamberlainianum*, &c. In this house were remarked the singular-looking *Epidendrum pseud-Epidendrum*, with orange-scarlet coloured lip; the handsome *Ansellia africana picta*, some well-flowered plants of the white *Angræcum modestum*, a number of plants of the beautiful Indian-yellow hybrid raised at The Dell—*Lælia vitellina*; the rare, bright blue *Utricularia Humboldtii*, which here does well in a warm Orchid-house; and *Schomburgkia tibicinis* brought close up to the highest point of the roof, is sending up flowers.

In the *Nepenthes*-house, the *Vanda teres* are doing in a very satisfactory manner, and about 120 flower-spikes have already appeared. The blush-white *V. teres Aurora* flowers at The Dell almost continuously; and *Vanda teres gigantea* has a noble spike of very large flowers, as denoted by its name—the colours of this variety are rich and brilliant, and in form it is perfection.

Among the *Odontoglossums* there is a fine show already, although the best have yet to come. In the house containing the bulk of the collection are many superb forms of *O. crispum*, *O. Wilckeianum*, *O. × elegans* in two very distinct forms, *O. triumphans*, of which *O. t. Hillington* is the best; varieties of *O. Andersonianum*, the rosy-lilac *O. Cervantesii* *lilacinum*, the pretty snow-white *O. Erstedii*, *O. luteo-purpureum*, &c.

Of the spotted *O. crispum*, *O. c. Owenianum*, is the finest in bloom at the present time, its large flowers of fine form, and the cinnamon blotches on the sepals possess a peculiar hue, owing to the purple tint at the back being visible on the face. Bright colour is afforded by fine specimens of *Sophrontis*, *Ada aurantiaca*, and *Mesospindium vulcanicum*; and variety of form by the pure white, roman-red-lipped *Dendrobium Jamesianum*, which here thrives with the *Odontoglossums*.

In the *Cattleya*-house the passing flowers of the *C. Trianei* are replaced by the charming, fragrant *C. Schroderæ*, a form of *C. labiata*, which is always good, and sometimes charming. Many distinct forms are

found at The Dell, but all have to give place to the latest novelty there, viz. *C. Schroderae alba-aurantiaca*, a delightful large-flowered, soft white form, possessing a rich, deep orange-coloured central patch on the lip, through which a delicate tracery of fine silvery lines is seen. It is difficult to imagine a more beautiful white *Cattleya*, although it is closely approached by The Dell form of *C. labiata Wagneri*. In one corner of this house is a huge specimen of *Sobralia macrantha*, covered with large purple blossoms; balanced on the other side by the fine yellow *S. xantholeuca*,

and much beauty in some of the species usually denominated "botanical"—a very good example of which is found in a perfect plant of the yellow and chocolate *M. triangularis*.

It is pleasant to view so fine a collection, the supremacy of which has for many years been so liberally maintained. Baron Schroder is attached to his plants, interesting himself in every detail of their requirements and culture as carried out in other departments of his garden by his gardener, Mr. H. Ballantine.

FIGS ON OPEN WALLS.

In many parts of the country it is useless to plant the Fig against open walls, in some cases owing to adverse climate, in others to unsuitable soil, in which the trees produce wood freely, but fail to fruit. In the west and southern parts of the country the Fig fruits well; and in Sussex, even from dwarf standard, or bush trees, good fruits are obtained. In such cases there is usually an abundance of chalk in the soil. In favoured situations the Fig is certainly not fastidious as to soil, but the best results are obtained from a calcareous loam on a chalky sub-soil. Much depends also upon the variety chosen for open-air culture. If the most suitable variety is planted on favourable soil, there need be no lack of fruits of good quality if proper attention be paid to the stopping of the shoots during the growing season, and to removal of gross wood.

If the important work of stopping during growth is attended to, there will be little pruning necessary at this season, which is of advantage, as the trees are not benefited by the use of the knife freely at one season. There are bushes or dwarf standards at Syon which were planted with a view to test their usefulness as fruit bearers in the open, but as they failed to produce fruit, have been allowed to grow naturally. They have never been injured by frost, nor do they fruit, but an abundance of wood is produced, proving that it is necessary to prune hard at certain seasons. To grow trees under such conditions the soil must be suitable, and promote fruiting wood in the place of rank leafy growth. There are many fine bushes in the centre of London which make excellent growth yearly, and being deciduous thrive well, but such trees do not fruit. Trained trees suffer more from the weather, and they need protection. In most gardens where trees are grown on walls, it is necessary to protect them, and the most simple method of doing this is to tie the branches together in bundles, and cover well with dry fern, straw, or even moss, which should be removed early in March if the weather is open. The portions needing protection most are the points of the shoots, the lateral growths proceeding from the main branches, or the portion stopped to give fruit the next season. In such a winter as we have just passed through, the trees have actually needed no protection, but it is best to be prepared each season in case of a severe one. One often sees old trees with thick branches, and a very small quantity of fruiting-wood. Such trees are most difficult to protect and there is no need of so much useless wood. No matter how old the trees are, by timely attention to thinning, good wood may be obtained in them if the trees are allowed a wide spread. In the case of most fruit-trees, I am an advocate of seasonable root-pruning, but especially so in the case of the Fig. Few trees are so barren when left to chance, and by root-pruning, the excessive use of the knife on the branches is avoided.

If a young tree is planted, it should be cut back fairly hard after the tree is established, and the following season it will produce a number of strong shoots, which should be trained close to the wall, at distances of 2 feet apart. In the late autumn these will require to be tied in bundles, and may be taken from the wall and well protected, and the following season these main shoots will produce lateral growths freely. A few of the strongest should be encouraged to grow from the base, and the others may be stopped when they have made 3 or 4 inches, always allowing sufficient wood to run to form leaders to replace older ones. By such treatment there is little winter-pruning to be done, and as the fruits of one season are formed in the wood during the previous autumn, it is obvious that the wood should become thoroughly matured. To this end thin freely during growth, to admit as much light and air as possible. Although new wood will often show abundance of fruit, in very rare cases only do they mature. The large Figs seen on the points of shoots late in the autumn are useless, and will never mature.

Root-pruning is best done at this season, and in the case of barren trees in soils deficient of chalk or



FIG. 73.—RICHARDIA, ON LAKE SIDE, AT TRELISSICK.

about to afford its annual display of blooms; and among others in bloom are *Laelia* × *Latona*, several fine *Cattleya Lawrenceana*, *C. amethystoglossa*, and *C. citrina*.

In the intermediate-houses, a good show was noted of *Vandas*, *Lycaste*, &c., *Oncidium spillopterum*, *O. Lucasianum*, *O. sarcodes*, *O. Marshallianum*, *Maxillaria Kimballiana*; some strong specimens of *Cymbidium Devonianum*, the dark form with two, and the light-coloured with three long pendent racemes; *Trichopilia suavis* and *T. s. alba*, *Oncidium Loxense*, *Epidendrum* × *Dellense*, *E. xanthinum*, *E. x O'Brienianum*, &c. In the Masdevallia-house a brilliant display is already to be found among the showy species

VIEWS IN THE GARDENS OF TRELISSICK.

It will be within the cognisance of our readers that several views in the charming gardens of the Hon. Mrs. Gilbert, at Trellissick, Truro, have been given in these pages during the past and present years; and in the present issue we give our readers two different views of the lake, which illustrate distinctly different types of vegetation. In the Supplementary Illustration, we have *Gunnera scabra*, *Gynerium*, and other robust plants, forming a noble foreground; and in the other (fig. 73), a large plantation of *Richardia aethiopica*, apparently quite at home in the water.

lime, these latter may be added when the trench is re-filled, after cutting the coarse roots. Failing lime-rubble or broken chalk, the addition of wood-ashes is beneficial. The roots should be kept near the surface, and be well supplied with moisture and food during the time the fruits are swelling. For a top-dressing for trees bearing freely, I have found bone-meal mixed with good loam and wood-ashes an excellent food. It does not foster a rank growth, but encourages the formation of fruits for the following year's crop. Excess of manures will cause the fruits when swelling to turn yellow and drop.

Of varieties best suited for outside culture, I think Brown Turkey is difficult to beat. Brunswick is also very suitable: it produces a large fruit, and is one of the hardiest varieties grown, but I do not think the flavour of the fruit equal to Brown Turkey. Whits Marseilles is also much used for the purpose, but though hardy and very early, it lacks the rich quality of the two first named; the fruit is more juicy, and has a pale flesh. Lee's Perpetual is a grand outdoor variety, but I see little distinction between this and Brown Turkey. The Black Ischia does well in sheltered places, but the fruit is small. Dwarf Prolific is also very fine and an abundant cropper, nor is the growth so coarse as some. I have not yet given the newer kinds, such as St. John's and Pingo de Mel, a trial in the open, but I intend doing so, and should think they will be most prolific, as the St. John's is noted for its heavy first crop. So far, however, I have found the yellow-fleshed varieties less rich on walls than the dark ones. *G. Wythes.*

### MARKET GARDENING UNDER DIFFICULTIES.

OUR "colonies and possessions" exhibit some wonderful things in the way of market and amateur gardening, as all who have travelled with open eyes can readily vouch. Canada used to furnish a fine show, and so also to-day do both Australia and New Zealand. However "curious" may be such exhibits, they in some part show how it happens that Britishers make the best of colonists—they leave nothing untried where hard work is necessary in order to achieve success. The Scotch contingent of emigrants are well to the front in the colonial battle of life, and the few accompanying paragraphs will help to prove the soundness of my proposition. Friends of mine years since went forth to Sydney, New South Wales—father, mother, and some little children. The struggle was a hard one, but all fared well, the parents a few years since making preparations for returning into private life, with a fine piece of land for garden, orchard, and farm. The monetary crisis came, banks went down, but some pounds were saved from the wreck, and the land on which the house had been built. To-day the parents are years on the wrong side of sixty years old, but their pluck is of the highest class, and, with robust health, and indomitable energy, misfortune is allowed to pass idly by them. The first ten years of farming and gardening were comically woful failures. Of last year's results I give the following extract from a letter just to hand:—

"We have had no rain for a whole year, and the heat this summer has been terrible. Our winter crop of Peas was cut down with frost, the Potatoes eaten up with wireworm; our best Christmas Peas, which should have set us on our feet, were burnt to the ground, so with the Beans; and as for Cabbages, they were nothing but gauzework with the grubs, although we doctored them with all sorts of things. And now our Tomatoes have gone; I put in about 1000 plants, and they have produced nothing but pigs' food. We have had a shower or two lately, which have revived the plants a bit, but out comes the scorching sun again, and does more damage. Now, who wouldn't be a farmer? But we never say die. We have been advised by men who do know something about it, to grow Passion fruit (? *P. edulis*), some are going in earnest for them. They grow in any sort of soil or weather. We have a few now in full bearing, and we have made a little out of them this season. They bear twice a year, and we are told by our adviser, that a friend of his makes

£200 a year from half an acre. According to the yield of our plants we can well believe it, so we are going to have a try anyway. It is 'Never venture, never win!' All the failures in vegetation were turned into pork, chickens, ducklings—the pigs being of a fine Yorkshire breed—ducks, drakes, and the fowls being stocked from home importations: these have all succeeded well, with the help of the artificial mother. This latter has afforded fun as well as profit, and the balance-striking for the current year is looked forward to, as usual, with great hopes. By the way, a couple of wells were sunk in such places as would save cost of irrigation. Shortly after these were completed, water had been reached, a force-pump was got ready, but never a bucket of water has been brought to the surface from that well. Some one had tapped the strata at a deeper level, and won the fluid. Going a little deeper may probably result in success; meanwhile the horses run the sleigh-like water-cart to the not far-off gradually drying up stream, which will by-and-by get to be bank-full, and all, I trust, once more go merrily on." *E. C.*

### FLORISTS' FLOWERS.

#### THE GOLD-LACED POLYANTHUS.

IT is stated on authority that the classes for gold-laced Polyanthus have been struck out of the Schedule of Prizes of the National Auricula and Primula Society, the annual exhibition of which is to take place on the 21st inst. Fancy an exhibition held by a so-called National Society with one of the principal sections of the Polyanthus left out! Why is this?

Years ago, when my brother and myself put in a strong plea for a better recognition in the schedule of the coloured Primrose, and the improved forms of the Giant Polyanthus, we were told they were not recognised by the florist, notwithstanding that collections of them were the most attractive feature in the whole exhibition. Eventually the value of the prizes was slightly increased, but only after a persistent insistence of the value of their claims. Now the irony of fate decrees that the gold-laced type—the one the florist has recognised for a century past—is to go; and the Giant or Fancy type—once frowned upon—reigns supreme.

It will be said that the gold-laced Polyanthus has not been well represented at the exhibitions of the Auricula Society of late years, which is largely true; the main reason being that the choice named varieties have been generally past their best when the show was held. It should be borne in mind by the committee of the Society that the named varieties are very few and very scarce; and they thus admit of but a very small selection of plants to exhibit, the choice being very restricted. But some of us, and Mr. A. J. Saunders of Brockham in particular, have endeavoured to our utmost to keep the gold-laced section prominent—always showing the best material at our command. They have been as well represented at past exhibitions as the double Primroses, but one is taken and the other left.

By striking the gold-laced section out of the schedule, any encouragement to raise new varieties by means of seed is removed. The named varieties are so scarce, and some of them appear to grow more weakly, and therefore scarcer year by year, that there is urgent need for encouragement being given to raisers of seedlings; but awards to seedling gold-laced varieties are also withdrawn from the schedule. To say that the gold-laced Polyanthus cannot be grown in a satisfactory manner, is to beg the question. At the present time I have, in my garden at Ealing, over 200 seedling plants of this section, all planted out in the open, some two and three years old; the others are yearling plants, flowering for the first time. They are blooming with remarkable freedom, and they are in not a few instances of decided quality; and I am finding this season there are more enquiries for seed of gold-laced Polyanthus than I have ever known before, which shows that the type is being sought after, even for spring bedding. I once more

express my regret that the gold-laced section is being tabooed by the Society, whose aim it should be to encourage the development of every section of the genus *Primula* which blooms in April. I hope that other growers of this refined gold-laced type will join me in entering a protest against its elimination from the schedule of prizes of the National Auricula Society. *R. D.*

### SIREX GIGAS, AND OTHER INSECT PESTS OF CONIFERS.

MUCH diversity of opinion appears to exist respecting the destructive capacities of the *Sirex gigas*. I have just received a communication from a friend, who states that this insect has appeared in large numbers on the estate with which he is connected, and fears they will do great damage to his plantations. I do not think my friend, or any other forester similarly circumstanced, need have much apprehension as to the depredations of this insect.

In my opinion, the appearance of either *Hyllobius*, *Abietis*, or *Hylurgus piniperda* in a plantation is much more to be dreaded than the *Sirex gigas*. The destructive capacities of the former have been so much descanted upon, that they need not be recapitulated here; but it is well known that newly-planted-out trees have no chance whatever against them; indeed, I have seen well-established trees from 6 to 10 feet high succumb to their attacks. The *Hylurgus piniperda* is equally if not more destructive to Fir plantations.

I, however, cannot say that I have ever seen a plantation of which I had charge injured by the giant *Sirex*, though I have seen them in great numbers in conjunction with the Tortrix moth, Pine saw-fly, Fir-weevil, &c., in plantations in the south and other parts of Ireland. One of these plantations was infested with the insects mentioned for five or six years, and as may be imagined, a great many of the trees were destroyed by them, but we could find no traces that the trees had been injured by the giant *Sirex*.

The two principal offenders were the Fir-weevil and Pine boring-beetle, whose depredations were more injurious to the trees than all the others combined.

The most congenial haunts of the giant *Sirex* are in partially-decomposed stools and trees, and wherever timber of this kind exists, the larvæ of this insect are sure to be in evidence. In fact, during my somewhat extended experience of this insect, I have never seen its larvæ on a living tree, though I have seen both felled and standing dead trees literally honeycombed by them.

It is a good many years ago now since I first observed that this insect prefers this description of timber to any other for propagating purposes. Preparatory to planting a large tract of old woodland, and in addition to other precautions, I deemed it expedient to examine the stools in it, to see whether there were any of the beetles that had been seen in it some years previous to that time. We examined a great many of the stools which were half rotten, and in almost every one of them we found the larvæ of this beautiful fly.

Previous to this plantation being cut down, it contained hundreds of dead trees, nearly all of which bore traces of the workings of this insect, and it was no doubt from them that so many were found in the decayed stools. A younger part of this plantation, and perfectly healthy, was left standing for many years afterwards, but not a tree in it so far as I could see was injured by the larvæ of the giant *Sirex*.

From my experience of this insect, therefore, I feel justified in saying that it is not a very formidable plantation pest, seeing that it almost invariably deposits its eggs in timber which is of little, if any, commercial value. The maggots of this insect are of a dirty white colour, and at this stage of its existence it is said to be destructive.

The fact of the *Sirex gigas* selecting dead or decaying timber in which to deposit its eggs may lend some colour to the theory put forward by some, that only weakly and diseased trees are attacked by insects,

and that vigorous-growing healthy trees are exempt from their attacks. It does not follow, however, that all the insects which infest our plantations have the same predilections as the insect in question. The Fir-weevil, for instance, has no such powers of distinction, and will attack the vigorous growing tree as readily as the weak and diseased one. This is no mere assertion on my part, as I could cite many

dently forgot, when recommending his so-called preventative that this insect has other means of locomotion besides its legs, and if it could not surmount the obstacle—if obstacle it could be called—with the latter, which I do not admit, it would have no difficulty in surmounting it with the wings, with which Nature has provided it. *David Robertson, Hoole, Chester.*

### THE ROSARY.

#### THE INFLUENCE OF EXHIBITIONS ON THE CULTURE OF THE ROSE.

THERE are a good many persons who for one reason or another look askance upon exhibitions, or at least exhibitions for competition, either for the

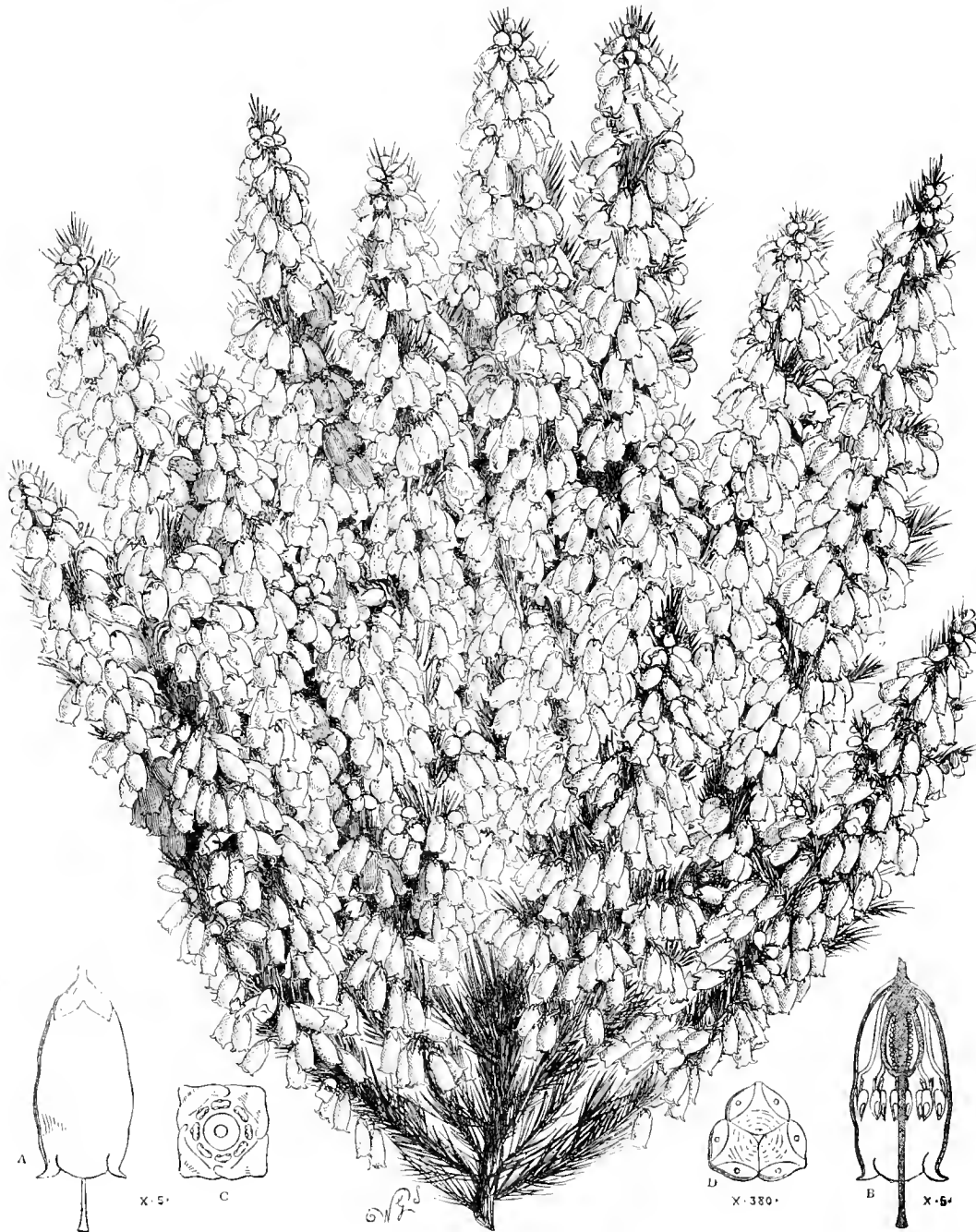


FIG. 74.—ERICA CODONODES: FLOWERS WHITE.

(A, flower, magnified five times; B, vertical, and C, transverse section of flower; D, pollen-grain, magnified 330 times.)

proofs in support of my statement—proofs, I may state, that are beyond cavil or question.

The theory alluded to is about as absurd as the remedy recommended by a well-known deceased forester for preventing the Fir-weevil attacking newly-planted trees. The method recommended was to place a thin layer of soil round the neck of the tree to the height of 3 or 4 inches above the level of the surrounding ground. This, he stated, would prevent them from reaching the trees; but he evi-

### TWO SPRING-FLOWERING SHRUBS.

THE two shrubs of which we give illustrations, figs. 74, 75, are often sent to us for naming at this season, which is an indication that they are not so well known as they should be. The Erica is charming from the profusion of white or rose-coloured flowers it produces, whilst the Nuttalia is a deciduous rosaceous shrub, with unisexual white flowers in clusters, as in a Ribes. Both are hardy, and from the time at which they bloom are specially acceptable.

sake of money or medals. If exhibitions are to be held at all, they say, why cannot people bring their productions together for the pure love of flowers, and to gratify other people? It is said by some to lead to dishonest practices, and to give a fictitious idea of the character of the productions exhibited. You see, for instance, a magnificent bunch of Grapes, but you are not told that the Vine only produces a couple of them; or a huge bloom of Chrysanthemum, which is the only one the plant bore; or a grand



bloom of a Rose, which is the sole production of the maiden plant from which it was cut, and you are left to infer that probably the plant has grown a couple of dozen of such blooms; and you are asked, must not all this be very injurious to Rose culture? I say advisedly, no, and I do so after an experience of many years. It is all very well to sneer at fat Roses, but I fancy most of these caustic gentlemen who do so, would be very glad if their own gardens would produce something of the same sort; and as to exhibitions without awards of any kind, there is such a thing as human nature, and consequently there will be always a hankerlog after decorations and awards. It may, indeed, suit the interests of nurserymen and trade growers to send their plants where they will be seen of many, and so obtain orders, but this is very much of the same principle, and leads to the same conclusions. I think that in every way exhibitions have materially advanced the love and culture of the Rose, and I think this can be easily proved in the records of our great National Society. It has now been established for twenty years, and in order to bear out my contention, let us see what was the condition of the Rose in 1876 compared with what it is in 1896. In those days the number of exhibitors was very small; there were a few leading nurserymen, whose names will be long cherished, and one of whom (Mr. B. R. Cant) remains as an exhibitor to the present day. The amateurs were also very few in number, and perhaps hardly one of them (not even Mr. Hedge of Colchester) entered so largely into it as our leading amateurs of the present day. The exhibitions were very few and almost exclusively confined to the Metropolis, and the quality of the flowers was, as a rule, very inferior; while of that universally popular and most beautiful section, Tea Roses and Noisettes, there were but few representatives. Then, too, the vicious principle of making a Rose show last two days or more was generally adopted, and we who know what Roses are at the end of one day, can faintly imagine what they must have been at the end of the second day.

In contrast to all this, let us see what the present state of exhibitions is: one of the first principles of the National is, that no Rose show shall last more than one day. During the past twenty years Rose societies have sprung up all over the country, and while some of them have had but a fleeting existence, only lasting for a few years, others hold on their way in spite of adverse circumstances; and while some drop out of the race every year, others are found to take their place. As far as the number of exhibitors is concerned they have multiplied a hundredfold; those of the great national tournament held at the Crystal Palace numbering from 100 to 120. During the same period an increased interest in the culture of the Rose has led to the introduction of a number of beautiful flowers, and the knowledge that any really good productions will be eagerly welcomed and liberally paid for, encourages hybridisers to endeavour to produce novelties. I have noticed, where one of our affiliated societies has been at work for some years, you see in all the gardens around evidences of how it has helped forward the culture of the flower.

Sometimes, I know, the stiffness and formality of long rows of boxes (although they contain the most wonderful specimens of good culture) are complained of, and it is said we want something more artistic, and the production of these large Roses militates against such a result; well, be it so, we cannot have everything, and we must use other forms of Roses and other flowers if we want to give a decorative character to our shows. But I have never yet seen any attempts at decoration with Roses that are at all equal to those which can be made with many other flowers, and the competition for classes where Roses are to be arranged for effect is not very large. There is, in truth, a great difficulty in getting Roses, especially with amateurs, in sufficient quantity for the exhibition, and also in finding time to arrange them when there; but I believe most ladies would say that the Rose is the most troublesome flower to arrange, and very rarely gives satisfaction to those who use it.

Another great advantage, I think, which has accrued to the culture of the Rose through exhibitions, is the doing away with the standard Rose—not absolutely, perhaps, but to a large extent; in itself, nothing, I think, can be more ugly, and the only place where I think it is at all admissible is at the back row of a long border. Exhibitors have encouraged the growth of dwarf Roses, and as most of their blooms have been cut from these, they have testified to their advantage. While sharp and severe winters will utterly destroy the standards, dwarfs, although cut down to the snow-line, will shoot up again and give first-rate blooms; while the ease with which they are manipulated is another point in their favour. The amateur has especially by his recommendation of Roses on the Manetti or seedling Briar encouraged others in the same direction. But while many persons have benefited by Rose exhibitions, the commercial aspect must not be forgotten; one has no means of comparing what the sale of Rose-trees was twenty-five years ago with what it is now; but we do know this, that not merely have the great firms which have existed for so many years held their position, but they have largely increased their culture, so that a stock of a quarter of a million of Rose-trees is not an unique case. Beside this, growers for sale have sprung up in all parts of the country, and mostly find a ready sale for their plants—and that exhibitions have much to do with this may be easily seen by the number of persons who not only take notes of what they see, but seek out the exhibitor or his representative, that they may then and there give their orders; while the numberless articles which appear in our garden periodicals, give a careful and intelligent view of everything connected with the culture of the flower. Of late years there has been a revival of interest in what are called garden Roses, though indeed complaints have been made against the National Rose Society, that it is one simply for the encouragement of exhibitions, with a strong tendency to favour those large and massive blooms that fill up our boxes. I do not think that this is correct; the National Rose Society does not hastily strike out new paths until it sees the absolute propriety of so doing. People have gone into a good deal of wild talk upon this subject, but the National took a sober view of the case; it gradually introduced amongst its exhibitions, classes for garden Roses, and has not only increased their number in its own schedules, but has led the way in encouraging the affiliated societies to do the same. Nor must I omit to say that under their auspices Lord Pezance has yearly offered, and still offers, a silver cup for this class of flowers. But there are two things one must always remember, that most of these garden Roses bloom early, and that consequently when the great show is held the season is too far advanced to have them in perfection; most single Roses, Gallicas, Hybrid Chinas, &c., are over by the first Saturday in July, except in a very backward season. A slur has been cast upon the National because it devotes so much time and thought to exhibitions. Why not, it is said, strike out some fresh path? Why not encourage more Rose literature? Why not, for instance, translate and distribute amongst its members the celebrated French work on the Rose? None of these things will, I think, so keep up and increase the interest in the flower as the maintaining the high character of its exhibitions, and whether by its direct or indirect assistance to influence for good the future cultivation of the Rose. *Will Rose.*

#### A RATIONAL WAY OF CULTIVATING ASPARAGUS.

ASPARAGUS is cultivated on a very large scale in several parts of Belgium. The produce is estimated at millions of bundles, of which a great quantity is exported to the London markets. It is not necessary to describe the ordinary culture of this vegetable, that is now well understood; but we may allude to the practice of a Belgian Asparagus-grower, who not only grows the plant for market purposes, but also for royal tables, which require picked specimens of great size and superfine flavour.

The principal point in the cultivation of Asparagus is to plant the stock in a permeable and light soil, consequently one very sandy and rich in nutritive properties. The soil must be deeply dug, this plant spoiling in stagnant moisture. Asparagus should not be deeply buried, and in any case, especially in horticultural matters, the gardener, in everything he undertakes, must follow Nature's example. In its natural state, Asparagus grows near the surface, and the part of it used in culinary art is only the buds, which have become tender by the absence of light. In the ordinary culture of Asparagus the stock is buried more or less deeply in the soil, and consequently the plants are almost completely deprived of air—that is, a complete reversal of natural conditions. In fact, old gardeners say that in this case plants of Asparagus rise each year. This is evidently true, because such plants are trying to regain the air and light of which they are so nearly deprived by coming to the surface of the earth. There should be planted a good stock of Asparagus of the variety *A-perge d'Argentueil* on the surface of the soil, just as is done with Strawberry or Cabbage-plants. The distance apart should be 32 inches (80 centimetres) every way. The planting is done in autumn and in spring, when vegetation is showing; a mound of earth is made with soil taken from the pathways. After that is done, there are trenches between the rows of Asparagus, which are filled with a special compost prepared in advance, and composed of different manures suited to the plant, and duly amalgamated. The roots of the Asparagus plants draw nourishment from that fertilising soil, and assimilate into their tissues the abundant and useful principles necessary to fortify the stock, thus producing splendid and enormous buds. By this method, Asparagus is easily gathered. Directly a shoot appears, the soil is slightly disturbed with the fingers, and the Asparagus-bud is detached from the stock. This method of gathering is preferable to that one which necessitates using an Asparagus-knife, which very often impairs the growing shoots, and breaks those adjoining the ones cut. Pulling up the shoots necessitates the removal and putting back of the soil around the Asparagus, and is very beneficial to the health and strength of the stock, permitting the air to penetrate the hillock, and reach the base of the plant.

Directly the gathering is done, all the stocks are destroyed, and the ground levelled. The plants, left to themselves, make large and free growth, and profit by the unmanured soil scattered over them at the time of digging in the spring. They consequently become strong, and able to produce better shoots the following year. At the end of autumn, a layer of straw farmyard-manure is spread all over the Asparagus-bed in order to protect the plants against the cold. The same process is repeated each following year. *Louis Gentil.*

#### AGRICULTURAL RESEARCH.

THE Agricultural Research Association for the North-Eastern Counties of Scotland, which was originally established in 1875 under the name of the Aberdeenshire Agricultural Association, having now reached its twentieth year, has issued a short and useful record of its proceedings. The objects of the association are briefly these: (1.) To obtain reliable and useful information on agricultural subjects by means of scientific investigation and practical experiments, and to disseminate the information. (2.) To advise and aid in such way as may be deemed expedient the knowledge of agricultural science. The work is under the able direction of Professor T. Jamieson. We learn that some interesting experiments have been made upon the important question of the proper time for cutting cereal grain, and hay crops. In the case of Wheat and Oats, so long as the grain has passed the "milky stage," and become firm and compact, the value of the crop is enhanced by early cutting; but in the case of Barley, the best malting samples are always secured by allowing the grain to become fully ripe and hard. A difference is shown of 11s. 6d. per acre in favour of the "later stage," which, with the

addition of 1s. 5d. for heavier crop, is equal to 12s. 11d. per acre. In regard to hay, the facts seem to point to the propriety of cutting this crop before the clovers and grasses have reached full development. This may safely be done as the further growth for that year—up to the time at least when hay must be cut at latest—will be got in the after-growth or “after-math.”

of storing is almost imperative in economical farming. On the whole, the best plan for storing appears to be as follows: Towards the end of November to pit the whole crop in short or long pits, as much being near the byre as space and time will allow. The rest to be put in similar pits in the field, to be carted off only in frosty weather when the ploughs cannot work, and when the soil is so hard that it

PERMANENCE OF MANURE.

Experiments on this subject were suggested ten years ago by the passing of the “Agricultural Holdings Act,” which instituted the principle of compensation for unexhausted manures. At that time, however, no definite information appeared to exist as to the relative rate of action of different kinds of manure. A series of experiments was, therefore,



FIG. 75.—NUTTALLIA CERASIFORMIS: SPRING-FL. WEING. ROSACEOUS SHRUB, FLOWERS WHITE. (SEE P. 487.)

TURNIP CROP.

In the question of winter treatment of the Turnip crop, it was found that the risk entailed by complete exposure of the plants where they grow, is equal to the loss of the whole crop; also that the rough-and-ready way of furrowing or earthing-up, which only partially covers the bulbs, and leaves the heads more or less exposed, entails the risk also of nearly equal loss (83 per cent.). It seems clear, therefore, that this risk is far too great to be borne, and that some plan

cannot be injured. As to the effect on the Turnips—it was found that the storing caused a slight reduction on the percentage of moisture (0.77 per cent.) on an average, and hence gave a corresponding increase in the percentage of solid matter in the stored Turnips. Also that the usual excess of water in large roots was reduced, till the disparity between large and small roots disappeared, leaving a fairly uniform proportion of solids or food products in all the Turnips.

started with this object in view. The results have been carefully recorded yearly, and they clearly show the need for assurance of long continuity of experimental work before any settlement of arbitration can be based upon them.

SYSTEM OF SOWING GRAIN.

From various “Farm trials,” along with some smaller experiments, it may now be accepted that the crops to be got by the furrow system are at least

equal, and generally greater, than by the drill or broadcast systems. When it is recalled that little more than one-half of the seed is necessary, a feature of economy seems here presented, deserving, especially in these times of agricultural depression, of being taken advantage of.

#### SOILS AND PLANT GROWTH.

Not the least important of the investigations is an enquiry into the mechanical condition of soils as affecting plant-growth, in particular as regards Clover, the failure and difference in produce of which are shown to be clearly not due altogether to manurial poverty, but rather to the mechanical condition of the soil. It may be indicated tentatively that the practical outcome of the whole trial seems to be that among the plants usually cultivated on the farm, Clover demands in a special degree a soil, not necessarily firm and hard, as is generally supposed, but sufficiently cohesive, whether that cohesion is due to inorganic or to organic matter; and that when Clover growth is defective, such means should be taken as are fitted to secure this cohesive state. *J. J. Willis, Harpenden.*

### SCOTLAND.

#### FRUIT PROSPECTS IN SCOTLAND.

I HEAR that there is promise of an abundant crop of most kinds of hardy fruit. The unusually warm and dry summer of last year matured the growth of the trees, which came early to rest, and did not seem to be materially influenced by the wet autumn. Plums on walls are full of blossom; especially Jefferson's and Coe's Golden Drop on trees that were lifted. The useful Denyer's Victoria seldom fails, either on standards or on walls, although on heavy undrained land it is almost worthless, even when the crop is a heavy one. On wall trees the fruits are so fine that they scarcely seem to be of the same kind as those from orchard trees. Pears, as far as I have seen, are not so plentiful, except the hardier varieties. Apples are very promising, the shoots on nearly every tree being studded with blossom-buds. In most places where a proper selection of varieties was made, cultivators will this year, barring frosts, reap the reward of their pains.

All kinds of Cherries are as full of blossom-buds as I ever saw them; Morellos, especially, are clustered all over. On northern, eastern, and southern aspects, on low walls where the roots have been curtailed somewhat, and rich top dressings applied, the trees have formed natural fruit-spurs all over about an inch or two long. Small fruits will be very good, and bushes which have been lifted and require pruning never fail. The system of growing fruit-bushes that look like faggots is not to be recommended. It is premature to say what Strawberries in the north will be as a crop. While many varieties of late introduction have not become popular in the north, I learn that Royal Sovereign is likely to be retained as a useful variety, and I saw it lately at Keir being forced along with Keen's See-Hing, true, but it was not equal to the latter fine old variety. *M. Temple, Carron, N.B.*

### FOREIGN CORRESPONDENCE.

In the supplementary list of hybrid Orchids published in the *Gardeners' Chronicle*, on p. 431, allow one of your readers to correct an error concerning the origin of "Zygopetalum Perrenoudi," which is given with the name of M. Peeters as raiser.

This plant was raised from a cross between *Z. intermedium* and *Z. Gautieri* by the late M. Perrenoud, the well-known Parisian amateur, and exhibited at the meeting of the Société Nationale d'Horticulture de France on March 24, 1894, where it received an Award of Mérite of First-class.

I am the first one to recognise the well established reputation of the eminent orchidist, M. Peeters, but I think it right to call your attention to the error committed unconsciously to the prejudice of M. Perrenoud. *I. Cuype, Secrétaire de la Société Nationale d'Horticulture de France, Vésinet.*

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

DENDROBIUMS have formed a prominent feature in the Orchid-houses during the past few months, but the majority of the plants have now lost their flowers, and are developing new growths freely. Of such species and hybrids the following may be mentioned:—*D. Wardianum*, *D. crassinode*, *D. Findeyanum*, *D. priaulinum*, *D. albo-anguineum*, *D. crepidatum*, *D. Linawianum*, *D. superbum*, *D. cretaceum*, *D. nobile*, *D. Domini* X, *D. Ainsworthi* X, *D. splendissimum* X, *D. micans* X, *D. endocharis* X, *D. melanodiscus* X, and others. As the plants quickly emit new roots when the growths are only a few inches high, the roots should be supplied with fresh material at once, and thus prevent injury which would be likely to occur if the operation be delayed. Plants that are healthy and have sufficient root-room for further development, need only to be re-surfaced. If the young growths have not emitted any roots, the plants will presumably be comparatively dry, and in such condition the old soil is more easily removed. Carefully pick it out from between the roots as low even as the crocks, and, if necessary, additional drainage may be given. Plants which are unhealthy and have deteriorated from any cause, should be turned out of their pots, have all decayed roots cut away, and the remaining ones thoroughly cleansed. In re-potting such plants, use sphagnum-moss only, and put them in pots as small as possible. When re-potting well-established plants, do not disturb the roots unnecessarily, but break the old pot, and take away as much of it as is practicable without upsetting the drainage. Remove as much of the old compost as possible, and place the plant into a pot of convenient size, filling up with clean broken crocks to within half an inch of the rim. Over-potting is likely to prove sooner or later of detriment to the plants. Dendrobium roots very freely in an ordinary mixture of peat and sphagnum-moss, with a free addition of broken crocks. When fresh material is added, it should in all cases be pressed rather firmly around the plants. Strong-growing species, like *D. Dalhousieanum*, *D. calceolus*, *D. clavatum*, *D. fimbriatum*, *D. moschatum*, *D. dioxanthum*, *D. Paxtonii*, and the varieties of *D. nobile*, may be grown in pots, and after re-potting a plant, a sufficient number of the bulbs should be tied to neat stakes to make the plants firm. For young seedlings, dwarf-growing varieties, and those of pendulous habit, small shallow pans or baskets are preferable. The pans should have perforated sides, to admit of the circulation of air among the roots. Slender-growing varieties, as *D. micans* X, *D. rhodostoma* X, and its parents, *D. Huttonii* and *D. sanguinolentum*, *D. O'Brienianum*, *D. triadenium*, *D. purpureum*, &c., require a greater proportion of sphagnum moss, and less peat in the compost. *D. aggregatum* should be grown in shallow teak-baskets, with a very thin but firm layer of compost to root in; and *D. Jenkinsii* does thoroughly well if fastened on a block of dried Apple-wood, from which the bark has been removed, and suspended in a light sunny position. Any plants that are re-potted should be kept rather dry for a few weeks afterwards, and as the young growths emit roots, moisture, both at the root and in the atmosphere, may be gradually increased. When the roots have a firm hold around the sides of the pots, and the growths are making progress, syringe the foliage from the under side with tepid rain-water at closing time on warm sunny afternoons. All of the Dendrobiums mentioned should be grown in the warmest house, where they should be kept close to the roof-glass in full sunlight. *D. Bensonie*, *D. nodatum*, *D. Parishii*, *D. rhodopterigerum*, and *D. pulchellum*, must still be kept on the dry side until their flower-buds are well advanced.

PROPAGATION.—If desirable, all of the above-mentioned Dendrobiums may be increased in the following manner: Cut off some of the old bulbs, preferring those that have failed to bloom, and lay them down on some fresh living sphagnum-moss in a hot and moist propagating-frame. Young growths will soon appear upon the stems, and as soon as they commence to emit new roots take off these growths and pot them in moss only. Sometimes aerial growths are produced from the top of the old pseudo-bulbs, and these should be taken off when only a few inches high and potted, and given treatment identical with that advised for older examples.

THE COOL-HOUSE.—Plants of the brilliant, scarlet *Sephorites grandiflora* are now rooting from the growths that have just flowered. Afford a top-dressing of peat and sphagnum, or repeat those that may require space. Give them a light position, but out of the line of draughts from the top ventilators. Keep them well supplied with moisture at the root at all seasons. The curious *Habenaria Bonatea* (*Bonatea speciosa*), also the pretty little *Triphia orthoceras*, are now producing new growths, and will require to be repotted in a compost of finely-chopped peat, loam, and sphagnum-moss, in equal proportions. Water liberally during the period of active growth.

THE TEMPERATURES of each division at night may now be a few degrees higher. In the East Indian-house about 67°, allowing several degrees more during the day, or by sunheat 10° will be beneficial. The *Cattleya* and Mexican division should not fall below 60°, and the day temperature should be from 5° to 10° above these figures. Where there is a separate house for intermediate plants, the temperature both by night and day should be a few degrees below that of the *Cattleya*-house. The cool-house must be kept up to 50° by night, and a trifle higher if the weather be mild. Carefully ventilate the houses during the warm hours of the day.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

WALL TREES.—The disbudbing of the Apricot, Peach, and Nectarine should be carried on gradually in all cases. Borders should be examined in order to ascertain the state of the soil as regards moisture, affording water without delay if found to be dry; any neglect of this matter while the fruit is setting, causing loss from dropping later on. Enough water should be applied to thoroughly moisten the soil for 1 yard in depth; and it is well to remember that most of the roots are several feet away from the wall, more or less, according to the width of the borders. If manure-water is obtainable, it may be used in a tepid well-diluted state; and in the case of old trees or exhausted soils, it will act more beneficially than water alone. Peach and Nectarine trees, as soon as the blooms are set, should be well syringed with water on five days early in the afternoon. Keep a sharp look-out for aphid, black and green; as if once these pests are allowed to infest the trees, it is difficult to eradicate them completely. For insecticides, see p. 427.

STRAWBERRY-BEDS.—If new beds are to be made with the Strawberry-plants which have and are being forced, the latter, when cleared of their fruits, should be placed in frames and hardened off, care being taken not to neglect to water them when dry. Examine them for red-spider, and if any of these are observed, well syringe the under-sides of the leaves, or dip the plants in a mixture of sulphur and water. A good way to make this mixture is to throw a handful of flowers-of-sulphur into four gallons of boiling water and allow it to settle; when the water is sufficiently cool it is fit for use. The foliage may remain in the water for a few seconds. If the ground to be planted was well manured and trenched, and the surface left in a rough state, it may be broken down, levelled, and the rougher stones raked off. In planting, a small quantity of potting-bench refuse-mould may be placed round the mass of roots, which should be slightly set free at the sides. The new plantation may be laid out in beds with alleys between, or in rows at equal distances apart, having an eye to convenience of netting the plants when in bearing. I prefer to plant the Strawberries in beds 4 feet in width, with three rows to a bed, i.e., 18 inches between the rows, the same distance being kept between the plants in the rows. The alleys may be 2 or more feet wide. With bows of iron or wood and pieces of netting 2 yards wide stretched over them, the birds are kept out, and the fruits readily gathered.

### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Trin.*

PLANT PROPAGATION.—The raising of bedding plants will have been brought to a finish ere this, unless it be that of novelties desirable of increase. Rooted plants standing in pans or boxes in which they were struck, should be potted off, also seedlings that may have been pricked out into boxes. Such are *Verbenas*, *Ageratum*, *Petunias*, &c., which plant out in better condition if they are potted prior to being planted. Most of these plants will require to be stopped, so as to give bushiness. The entire stock of bedding plants should be arranged, each kind or variety being placed by itself, thus saving time and labour at

bedding-out time, besides affording the gardener a better idea of his stock of plants. When in batches, special attention can also be given to those which need it. Continue to prick off seedlings of Perilla, Petunia, Pyrethrum, Chilian Beet, and others, affording these slight warmth till they reach a fair size, then transfer them to cold frames prior to bedding-out.

**BEGONIAS.**—Tubers of bedding Begonias that may have been placed on the borders of fruit houses to start into growth, may be potted up, and if they are of fair size, and a larger stock of them is required, they may be cut up into sections, and have some powdered charcoal applied to the cut surfaces, and be potted like the rest. It is usual to arrange these plants in beds by themselves, and it is the most effective mode of planting them.

**DORONICUM PLANTAGINEUM**, and its varieties, now fast coming into bloom, give a peculiar beauty to the herbaceous perennial borders at the present time. As a cut flower it is one of the best, and is very lasting. The plant can be readily increased by division, and this should be done frequently, so as to secure strong healthy plants. Some gardeners grow *Doronicum* in flower-pots, and very useful they are in that way, and satisfactory also if grown cool.

**PRUNUS PISSARDI**, a useful and effective plant when in bloom, should be extensively planted. The young leaves are of a pleasing coppery tint, that contrasts well with the white flowers of the plant, and with others. It is said to bear forcing.

**CANTERBURY BELLS.**—To obtain strong plants for next season, the seed should be sown about this date in pots or pans filled with a light rich compost, and placed in a cold frame, transplanting them when large enough into boxes, &c., and planting them out in a rich border in the open in June. If planted at about 1½ foot apart, they may remain for flowering during the following season, otherwise they may go closer together in nursery lines. Canterbury Bells have a good effect when planted in groups of several plants, and the single and double varieties should not fail to be planted in every garden.

**HOLLYHOCKS.**—Seedlings of the present season should be gently grown on in cold frames till the middle of the month of May, and then be planted where they are to flower. It is always advisable to have plants which possess strength, rather than to set out small weak plants at an early date, the latter often doing unsatisfactorily. The soil for Hollyhocks should be rich, stirred to a depth of 2 feet, and the plants should receive a good soaking of water when put out.

**MISCELLANEOUS HINTS ON WORK.**—Continue to mow the lawns, trim edgings, roll and sweep gravel walks and drives when these are in proper condition, and if drying winds prevail, afford water to all the recently-transplanted trees and shrubs.

## THE KITCHEN GARDEN.

By C. HERAIN, *Gardener, Droptmare, Maidenhead.*

**SALSIFY AND SCORZONERA.**—Seeds of these useful winter vegetables should now be committed to the ground, drawing shallow drills for this purpose 15 inches apart. The land should have been prepared as for Parsnips. The so-called Sandwich Island Manmoth Salsify is an improvement on the common variety, as it attains to a much larger size, and it is equally good when cooked.

**SEEDS.**—Full sowings of Savoy, early and late Broccoli (to be followed by another in two or three weeks' time), Kales, Cabbage, Early London, Pearl, Eclipse, and Autumn Giant Cauliflowers, and Brussels Sprouts. In making a selection of curled Kales, preference should be given to those of medium-stem height, rather than choose those of great height or dwarfness, and Sutton's A1 may be taken as typical of a good variety for gardens. During the severe frosts of 1895 the very dwarf varieties in our gardens were nearly all killed, while those of middle height escaped with very few losses. Asparagus Kales should not be omitted, as it is a very hardy variety, coming into use rather late, after most of the others are over, and it has the merit of producing many gatherings of excellent tops, which are of nice flavour. Radishes and Lettuce should be sown often enough to ensure a regular supply; while Mustard and Cress seeds may now be sown in the open border and covered with hand-lights. On a warm border a few rows of Dwarf French Beans, such as No Plus Ultra, may be sown, but these will, probably, need some kind of protection against cold later on, and seed should not be sown in large quan-

ty. Where a frame can be spared, a batch may be sown in small pots, and brought on slowly for planting in the open border. If Beans are required at an early part of the season, Scarlet or other Runners may be similarly treated, otherwise it is preferable to wait till May, and sow in the open ground.

**GENERAL HINTS ON OPERATIONS.**—Young plants of Onions standing in boxes are now ready for planting, and, assuming that the ground was prepared similarly to that on which Onion-seeds have been sown, shallow drills should be drawn, and the plants put into them with a trowel, being careful not to plant too deeply. The advantages of planting in a drill is that water reaches the roots more readily than if the land is level; and the plants will require water in dry weather. Cauliflower plants growing in pots, or which have been pricked-out in a frame from the earliest sowing, should now be ready for planting out; and the ground should have been well dug and heavily manured. For Cauliflowers of the Snowball type, a distance of 20 inches from plant to plant will suffice. After planting, place branches thinly around them as a protection against wind and sunshine, and let these remain till the plants have got partly established, on cold nights inverting flower-pots over the plants. French Beans that were sown in small pots some time since may be planted in cold pits forthwith. The soil for French Beans should be moderately light and rich, and be made firm before planting. When planting, afford tepid water to settle and moisten the soil. Syringe the plants on fine days, close the lights early, and cover the frames with mats at night. Early-sown Turnips will require thinning, the plants being left at about 4 inches apart, cutting out each alternate plant with the hoe if so many roots are not required. Later sowings, and those just coming through the soil, should have a small quantity of soot scattered over the land, if the birds attack them. The land on which the Onion crop is now visible in the rows should be hoed in dry weather; and a timely use of the Dutch-heel amongst other crops will be of much use in keeping down weeds, and promoting quick growth in seedling and other vegetables.

## PLANTS UNDER GLASS.

By Jno. McINTYRE, *Gardener, Woodside, Darlington.*

**BOUVARDIAS.**—In few private places are these well grown, but no plants give better returns than do these if well grown. They do best when young, and being easy to propagate, there is no difficulty in keeping up a stock of young plants. Plants that having completed their bloom, were cut hard back, and placed in gentle warmth as soon as this was done, will have commenced to break by this time. Reduce the balls so as to get them into a lesser sized pot, place them in a warm pit, or in a hot-bed, and keep close for a few days. The soil for potting should consist of two parts leaf-mould, and one part loam and silver-sand. As soon as the plants are established, pinch off the points of the shoots, so as to induce bushiness. If partly-spent hot-beds are available, place a layer of soil of a light nature to a depth of 3 inches on the surface, and plant out the stock of Bouvardia plants therein, allowing 1 square foot to each; keep the frames close for a time, and syringe the plants overhead night and morning. Now is a suitable time for taking cuttings of Bouvardias. Some gardeners prefer root cuttings, and good plants are obtained in that way, but bloom seems to me to be more abundant on plants raised from cuttings of shoots. Having got ready some thumb pots, fill them with a very light kind of soil, mixed with silver-sand, insert one cutting in each, plunge the pots in bottom-heat of 75°, and when well rooted remove to a shelf near the glass, and as soon as the plants have filled the pots with roots, plant them in frames in the manner indicated for the old plants, but allowing about half the space afforded these. The shoots should be repeatedly stopped.

**FICUS ELASTICA.**—This useful decorative plant being a rapid grower, and soon getting out of bounds, should be propagated annually. As soon as a plant has attained a height of 2½ to 3 feet, the tops may be taken off 9 inches in length, and placed in a 3-inch pot, which should be plunged in a brisk bottom heat and shaded, when it will soon form roots; removing it, when this has taken place, to a shaded part of the stove. In a few months, it will have made a nice useful plant. The variegated variety is as vigorous a grower as the type, and by some persons it is considered more ornamental. In potting, clean well-drained pots and good turfy loam mixed with mortar

rubbish and wood-ashes, should be used. If a sufficient stock of plants is not obtainable by taking the tops, every mature leaf, if taken with an inch or so of the shoot or stem, can be turned to account, but a longer time is necessary to make a plant.

**ASPARAGUS PLUMOSUS.**—If the plants in stock have become unduly large, it is still time to improve their appearance, as well as increase the number of plants by division. In repotting after dividing, as well as when planting out in borders, &c., use turfy loam, peat, and charcoal in a coarse state, and make the soil quite firm about the roots. The plant requires a rather long rest after growth is complete, and to be freely and frequently afforded liquid-manure when in growth.

**ARALIAS.**—The finer species and varieties, viz., *A. Veitchii*, *A. V. gracillima*, and *A. elegantissima*, are almost indispensable table plants, and to have these plants in good condition they should be firmly potted in clean, not over large pots, in peat, leaf soil, and silver-sand. *A. Veitchii* and *A. V. gracillima* may be struck from cuttings, but it is a slow process, and it is better to graft on *A. Charbrieri* or *A. reticulata*, putting on the scion by means of cleft-grafting close to the level of the soil, so that the plants may be furnished with foliage down to the pot. In performing this operation, grafting-wax should be used, and the plants kept in a close warm case till a union is effected. Those who have not the right kind of stocks must purchase a few plants annually. When a plant has become of decorative size, less heat should be afforded, which will have the effect of preventing a too rapid growth.

## FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highlers Castle, Newbury.*

**STRAWBERRIES IN POTS.**—With the cold winds and hot sun generally prevalent at this season, care should be exercised in ventilating the house, so as to avoid currents of cold air coming in contact with flowers and fruit, as a check is afforded that is often fatal in its consequence. Shelves, &c., should therefore be placed well below or above the level of the inlets. In dull or wet weather it is advisable to distribute the pollen as the blossoms open with a soft brush or a plume of Pampas-grass. Thinning the fruit should be seen to as soon as a sufficient number is set and freely swelling, a dozen on a plant being a sufficient number for a crop, and half that number will secure the finest results. Water should be afforded in sufficient quantity and as often as may be required, which may be twice and sometimes thrice a day, always giving tepid weak manure-water; but when the fruit begins to colour, affording only clear water. Syringe regularly at closing time whilst the fruit is swelling to keep red-spider in check. Night temperature 65°, and 75° to 85° in the daytime with sun, closing at the latter figure.

**VINES: EARLY HOUSE.**—Where hard forcing is practised, red-spider is apt to put in an appearance, rendering necessary the sponging of the infested leaves with soap-suds, and the painting of the hot-water pipes with lime-wash and sulphur. If thrips appear on the foliage, which is probable if there are pot-plants in theinery, the best remedy is fumigation, which should be done for two nights in succession, and repeated after the interval of a week. For ordinary tobacco-paper Luff's Fumigator is the best I have used, the smoke being given out in a very cool state, and it is very effective in its operation. Grapes which are quite ripe should now be kept cooler and drier, but a moderate amount of moisture is still necessary to preserve the foliage in health, which, with freer ventilation, will not be detrimental to the ripe fruit.

**SUCCESSION-HOUSES.**—Attend to thinning the bunches and berries. Stop or remove laterals, especially where there is no room for their extension. Ascertain the state of the border as regards moisture, and afford water when it is found that the soil is dryish, old and weakly Vines being afforded tepid liquid-manure, or an occasional top-dressing of an artificial manure, which should be watered in. Guano-water may be frequently sprinkled about the house, and placed in the evaporating troughs.

**EARLY MELONS.**—Fruits growing fast, should be fixed on their supports in good time. A sufficient number of fruits being set, all flowers and superfluous growths should be removed, and warm liquid-manure afforded at the roots, securing plenty of aerial moisture by damping down twice a day, and syringing lightly when shutting up the house on bright afternoons. When ripening commences lessen the supply of water, affording sufficient to keep the foliage healthy, and leaving a small amount of air constantly on at the top of the house.



## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, APRIL 21 { Royal Horticultural Society's Committees, and National Auricula and Primula Show, at the Drill Hall, Westminster.

WEDNESDAY, APRIL 22 { Ancient Society of York Florists, Members' Show.

## SALES.

TUESDAY, APRIL 21 { Imported Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 22 { Carnations, Lilioms Begonias, Greenhouse Plants and Ferns, &c., at Protheroe & Morris' Rooms.

THURSDAY, APRIL 23 { Clearance Sale of Stove and Greenhouse Plants, Garden Implements, &c., at Ickworth Park, Rury St. Edmunds, by order of A. H. Wood, Esq., by Protheroe & Morris.

FRIDAY, APRIL 24 { Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—49°2'.

The "Royal Botanic" and its Conferences. WE may appropriately offer our congratulations to both of the metropolitan horticultural societies. It is refreshing to see the Royal Botanic at length realising more fully that it has other duties to Horticulture and Botany than those pertaining to fashion and frivolity. It is gratifying to Fellows of the Royal Horticultural Society, more especially to those who have taken an active part in its working, to find that the value and importance of the "Conferences" have been so far recognised outside the limits of the Royal Horticultural Society as to have received the very sincere compliment of the closest imitation. The Royal Botanic has this week held a Daffodil Conference, precisely on the same lines as the Conferences that have been so successful at Chiswick. We use the word successful without any direct reference to financial considerations. We fear, from the Treasurer's point of view, success did not result from those gatherings. If, however, we look to the mass of well-sifted and valuable information got together, say, at the Orchid Conferences, the Primrose Conference, the Conifer Conference, and the various similar meetings devoted to flower and fruit culture, then the dullest must admit the great advantages those gatherings have proved to horticulture generally. The Royal Horticultural Society has largely enhanced its reputation at home and abroad, and has taken a much higher position in the minds of competent judges than it once did. Previously it was looked on by some in the light of a mere source of amusement, by

others as a floral bazaar where those who have to sell display their wares before potential purchasers. We are far from deprecating these as functions of a great society, but these are not the only work of such societies, and we plead most earnestly for the simultaneous effort to realise higher ideals, to increase the stock of knowledge, to turn what we have already to better account; in a word, to promote the progress of horticulture. The great societies were established for this purpose alone, and in proportion as they have been true to their trust have they been successful. Whenever they have allowed the true interests of horticulture to be subordinate to other matters, then invariably have they fallen upon evil days. This circumstance has led us to observe with pain and apprehension that in the programme of the Royal Horticultural Society for the year no meetings of the kind we are considering, are announced to be held at Chiswick. On the other hand it is satisfactory to see the Royal Botanic breaking away from the stereotyped monotony of its proceedings by holding conferences on Daffodils and other subjects.

The list of papers arranged to be delivered at the Conference "at the Park" was an ample one, and it is not surprising that a few of the papers were taken as read, especially as the Conference was confined to the opening day of the exhibition. Held in the lecture-room of the Museum, more agreeable surroundings could hardly be wished, and had the weather been propitious, very probably the audience would have been a larger one. The walls of the room were almost hidden by numerous drawings and paintings of Daffodils, either representative of the different types of the flower, or of the botanical differences in the species. The Conference was honoured by the presence in the chair of Mr. J. G. BAKER, F.R.S., of Kew, and the opening address was delivered by Mr. F. W. BURBIDGE, M.A., F.L.S., Curator of Trinity College Gardens, Dublin. Previous to this being delivered, the chairman informed the Conference that he had the pleasant duty of presenting to Mr. BURBIDGE a Silver Cup, which had been given by Messrs. BARR & SON, in appreciation of the successful efforts made by Mr. BURBIDGE to popularise the flower they had met to discuss.

The further proceedings at the Daffodil Conference are alluded to more fully in another column.

Announcement is also made of a conference and show of Violas, "tufted," show and fancy Pansies, under the auspices of the National Viola Society, on a date to be fixed later on. A similar conference and show of English "Amateur Tulips," whatever they may be, will also be held on some date to be fixed hereafter.

ROYAL HORTICULTURAL SOCIETY.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, April 21, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 5 P.M. A paper on "Pineapples," by Mr. H. W. WARD, will be read at three o'clock. A point of special interest at this meeting will be an exhibit of several kinds of fruits and vegetables preserved in Messrs. DE LUCCA, HILL, & Co's patent self-closing bottles, which recently received an award of a Banksian Medal from the Fruit and Vegetable Committee. The fruits, &c., to be exhibited were bottled last summer, and they are in perfect condition. The system is so easy, simple, and economical, as to commend itself to all housekeepers and fruit-growers who wish to preserve fruit and vegetables for winter use.

MR. W. T. THISELTON DYER.—The University of Glasgow has conferred the honorary degree of LL.D. on the Director of the Royal Gardens, Kew. It cannot be said that the Universities have been premature in the conferment of honour in this case.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Wolverhampton and Staffordshire Auxiliary of this Institution held a successful meeting at Lichfield last Tuesday, under the presidency of the Mayor (G. ASHMALL, Esq.). Mr. G. A. BISHOP (Chairman) spoke at some length upon the advantages and benefits of the Institution. Mr. G. AMBROSE, Semerford Hall Gardens, also gave an appropriate address. The committee were pleased with the result of the meeting. Several influential gentlemen accepted the position of stewards, and promised to thoroughly canvass Lichfield for donations and subscriptions to the Institution.

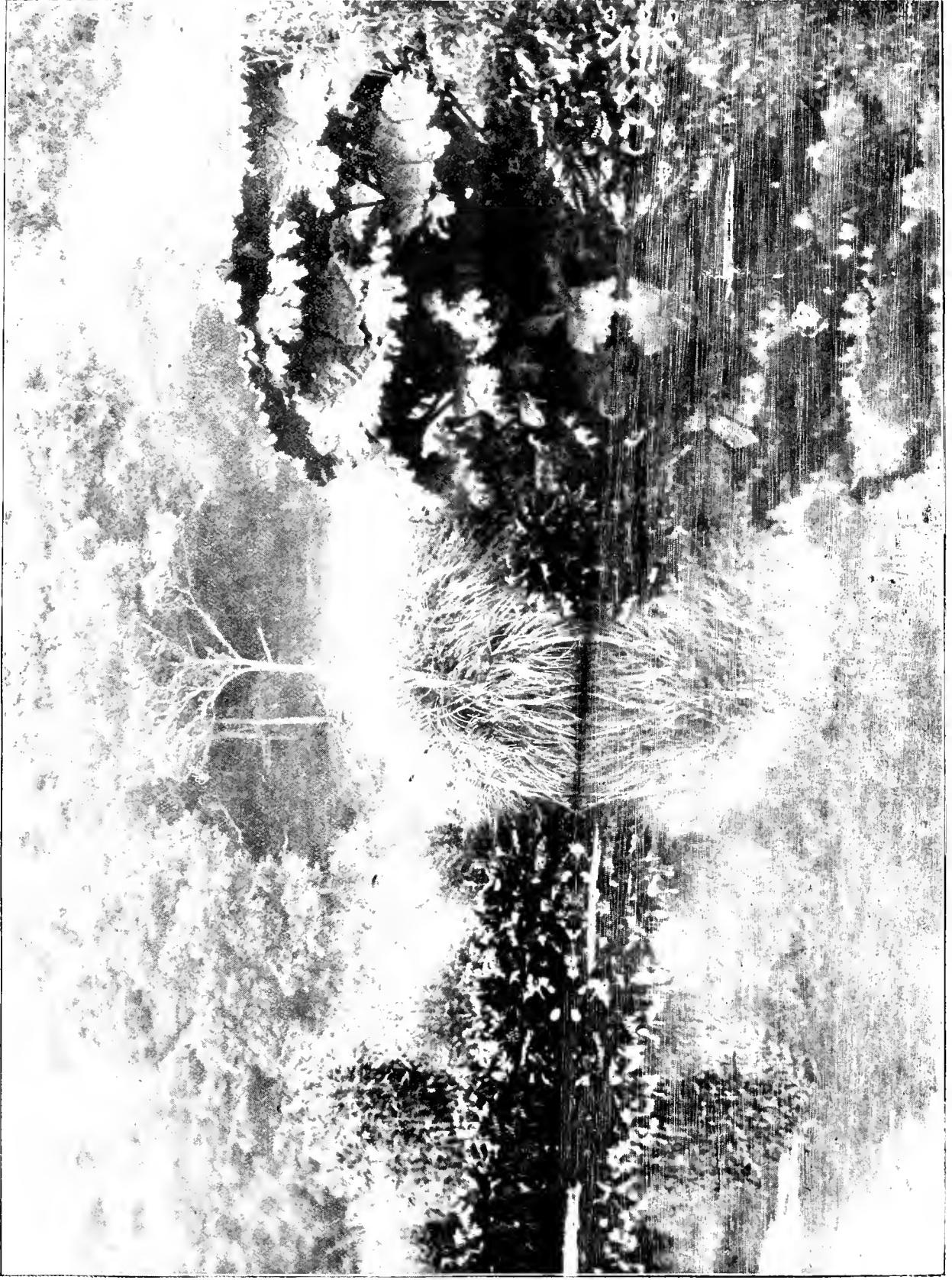
A TRIAL OF VIOLAS AT THE ROYAL BOTANIC SOCIETY'S GARDENS.—The Council of the Royal Botanic Society has given permission for an extensive trial of Violas to be carried out this summer under the supervision of the Viola Conference, of which Mr. A. J. ROWBERRY is Chairman, and Mr. RICHARD DEAN Secretary. The raisers and cultivators of new varieties have been appealed to, to send in plants of those sent out during the past five years, and particularly the new varieties of 1895-96. Some 3000 plants have been planted in the Rhododendron-garden, including a representative collection of the best of the older varieties for comparison. Contributions have been received from many parts of the country, and there is every probability that the trial will be as satisfactory as it is extensive. The varieties will be examined during the summer months by a representative committee of experts, who will report to a Conference meeting in the month of August. The re-organised National Viola Society will hold an exhibition in the Botanic Gardens, and a schedule will shortly be issued.

HORTICULTURAL CLUB.—The monthly dinner and *conversazione* took place on Tuesday evening last, but owing to the Easter holiday the attendance was not so numerous as usual. An interesting paper was read by Mr. F. W. BURBIDGE, Curator of the Trinity College Botanic Gardens, Dublin, on "Evolution;" the discussion afterwards upon it was joined in by all present, and a vote of thanks was given to Mr. BURBIDGE for his paper.

EALING GARDENERS' ASSOCIATION.—A numerous gathering attended the Annual Dinner and Prize Distribution of this flourishing body, held at The Feathers Hotel, Ealing, on Tuesday evening last. R. WILEY, Esq., the President of the Association, occupied the chair. From the statement of the Hon. Secretary, Mr. W. ROBERTS, in reviewing the useful work of the session just closed, it appears that twenty-five meetings were held, and sixteen new honorary members, and a like number of ordinary members, were elected. The Secretary threw out a good suggestion as to establishing a "Gardeners' Registry" in connection with associations of this description throughout the country, to which those in want of gardeners in their respective districts might apply, and be supplied therefrom with competent men.

ORCHID BLOOMS AT A PENNY A PIECE.—"Only a penny! An Orchid for yer buttonhole for a penny!" Such was the ejaculation that grated on my ears in Cheapside on Wednesday, says a writer in the *Licensed Victuallers' Gazette*. Itinerary vendors frequently play "spoof," and I at once concluded that the pretty girl who was selling Orchids at a penny-a-piece was at the good old game. But I was mistaken, for I purchased a bloom of *Odontoglossum vexillarium* for the twelfth part of a shilling!

PRIMULA SIEBOLDI.—A large number of plants of the type has been planted out in Regent's Park, and as they are growing freely, and promise to flower well, a very attractive and novel feature will be



A WATER-SIDE VIEW IN THE GARDEN OF THE HON. MRS. GILBERT, TRELISSICK, TRURO.



provided. Mr. JORDAN is to be commended for his spring arrangements, the beds of Tulips in particular are superb; the leading varieties, Proserpine, silken-rose; Keizer's Kroon, crimson, bordered with yellow, a magnificent bed; Joost Van Vondel, rosy-crimson, somewhat late, and others. The beds of single Daffodils are very fine; Emperor, Horsfield, and Sir Watkin are flowering very finely.

**STOCK-TAKING: MARCH.**—The holidays have interfered with the publication of the Trade and Navigation Returns for March. Trade continues to improve, and the imports for the month reached the sum of £38,314,750—an increase on those for the month of March, 1895, of £2,384,860. Our usual extract from the "Summary Table" of the month's business is as follows:—

IMPORTS.	1895.	1896.	Difference.
Total value of imports	£ 35,959,890	£ 38,314,750	+2,384,860
(A) Articles of food and drink—duty free ... ..	10,691,199	12,132,204	+1,441,005
(B) Articles of food and drink—dutiable	2,450,617	2,188,624	-261,993
Raw materials for textile manufactures ... ..	8,049,763	7,094,103	-955,660
Raw materials for sundry industries and manufactures	3,131,237	3,330,295	+199,058
(A.) Miscellaneous articles ... ..	1,251,395	1,226,724	-24,581
(B) Parcel Post ..	81,853	90,718	+8,865

The principal increase was in articles of food and manufactures. Indian corn increased in value by £306,000, and wheat, meal and flour by £260,000—principally imports from Russia, which country also sent a large quantity of oats. Butter showed a rise of £270,000, chiefly in the production of Denmark. The sum of £627,000 of increased value is placed to the sugar account—the refined article being chiefly from Germany; whilst France was first in the un-refined. Except in Tobacco, dutiable articles show a reduction—Tea being lower by £44,000; Coffee, by £78,000; and wine, by £107,000. By the way, the increased value of Tobacco was £121,000.

The increase on manufactured articles foots up no less than £1,369,000—silk, from France (principally), standing at £431,000; leather goods from India and the United States increased by £242,000. Textile materials are less than in March of last year—the decrease in the value of wool from Australia being very great; Jute fell £329,000; whilst raw Cotton went up by £549,000; and Flax and Hemp increased in value; imports of timber gained some £70,000. Here we place our usual figures representing business done in foreign fruits, roots, and vegetables.

IMPORTS.	1895.	1896.	Difference.
Fruits, raw:—			
Apples ... .. bush	219,373	179,938	-48,435
Cherries ... .. "	—	—	—
Plums ... .. "	14	17	+3
Pears ... .. "	4,247	124	-4,123
Grapes ... .. "	2,131	2,430	+299
Unenumerated ... ..	29,679	52,265	+22,586
Onions ... .. "	425,696	283,705	-141,961
Potatoes ... .. cwt.	322,261	31,559	-290,702
Vegetables, raw, unenumerated ... .. value	£74,574	£115,141	+£40,567

By the way, there may be some connection between the falling off in wine imports and the decreased product in France during the last season, when, though 600,000,000 gallons of Burgundy and claret were registered as the result of the Vine harvest, that was less than the outcome of 1894 by 272,000,000 gallons! Possibly also the outlook for 1896 may not be more promising. In the matter of

**EXPORTS.**

there is a good account to render. The returns for March show a total of £20,422,419—an increase of £1,839,389. The three months give us £61,233,643,

or an increase of £3,512,682 over the same period last year. This is a fine exhibition of industry, and textiles contribute of this amount a sum of £837,000. Cotton piece goods increased by about £534,753, Indian buyers taking more than previously. What reduction there was in woollen goods taken by America was made up for by increased purchases for the Continent. To the increase of £455,000 in metals, railway iron, &c., Australia and India contributed largely; but in tinplate to the United States there was a fall of one-half. South Africa took largely of machinery; and of cycles, it is worthy of note, that our exports to all countries keep on rising—the gain for March being £34,000. Altogether the increase in exports is rather over 16 per cent. as compared with the same period last year. And the revenue for the year exceeds that for its predecessor by more than £7,000,000!

**"LONDON TRIFLES."**—"I am going to ask you to call attention to a little matter—a trifle, in fact, which I think ought to be publicly noticed. You know how particular horses are in having their fodder clean and sweet, and that the hay-dealer never uses his hay-cart for carrying any manure, or for any dirty work. Why should not human beings have the same attention paid to them? But you find that the carts and waggons, which come in the early morning to Covent Garden Market laden with vegetables, return about mid-day full of reeking stable-manure. You can see this any day and every day on the Uxbridge Road; and, as the late agent of the Duke of Bedford stated in evidence before a Parliamentary Committee, it has been the practice to use the vegetable waggons in this double capacity time out of mind. Is it not about time this bad habit ceased?" *John Lloyd, in Times.* [This is assuredly not a trifling matter. It is one against which the horticultural press has protested time out of mind, but without avail. ED.]

**POTATO DISEASE AND STRAWSONITE.**—In answer to Mr. McDERMOTT (Kilkenny, N.), Mr. GERALD BALFOUR (Leeds, Central) said:—"The results of the experiments conducted in 1895 by the Agricultural Department of the Land Commission for the purposes of testing the value of Strawsonite and other solutions as preventives of the spread of Potato disease in Ireland are fully detailed in the report recently presented to Parliament. These experiments, on the whole, were most successful and satisfactory in their results, and indicate that a timely application of the solutions is beneficial, not alone in prolonging the period of growth of the plant, but in lessening the ill effects of the disease, and increasing the relative yield of Potatos. I may remark that the experiments, which were originated in the year 1891 at the request of the Irish Government, have since been carried out from year to year, and the results attained, with other information, have been embodied in leaflets, and very extensively circulated throughout Ireland amongst the farming classes and other interested persons. I now propose to ask the Land Commissioners to issue the recent report to Poor Law Boards, agricultural societies, and other bodies interested in the matter, as well as to the Press, and also to continue the circulation of the leaflets. *The Times, March 31.*

**VEGETATION IN THE SOUTH OF IRELAND.**—A correspondent of the *Bristol Times and Mirror*, writing under date of April 4, from county Cork, remarks:—"The roads and fields in the south of Ireland just now present a scene of surpassing loveliness. It is a particularly early season, even in the south of Ireland, and the golden Gorse and the white blossom of the Blackthorn are exquisitely enchanting. Go wherever you may just now, the golden bouquets of the Gorse will meet your eye in all directions.

**PLANT PORTRAITS.**

**BACCARIS TRIMERA.**—A very curious and interesting species, with spreading, deeply-three-winged branches. *Revue Horticole, April 1.*  
**CATASBFUM SPECIES.**—A series of very interesting forms introduced by the collectors of the Horticulture Internationale. *Lindonia, tt. 503, 504.*

**NEW INVENTION.**

**STEAM-HEATING OF GLASSHOUSES.**

THE heating of glasshouses in gardens by means of steam is not a novelty in principle, and the only departure that we observe in the system of Messrs. Babcock & Wilcox, Ltd., lately brought under our notice, is that the steam generated in a central boiler is conveyed by means of underground pipes to the houses to be heated. Instead of being used directly to heat the houses, the steam is conveyed into hot-water heaters, which furnish the hot-water with which the structures are heated. The steam is applied to the water in these heaters by means of a coil of pipe, and becoming condensed in its passage through this coil, it is conveyed as warmed water back to the central steam-boiler. If a group of houses has to be heated, two water-heaters may be used, with the pipes so arranged that one or both may be used at the same time. One great advantage of this method of heating is, that the existing system of piping in glass houses may be used, nothing being done away with. The saving of fuel is very great, it being a well-known fact that a great deal of heat is lost in the ordinary boiler-furnace, and the combustion is imperfectly carried out; moreover, there is a saving in manual labour.

Another advantage is claimed in the tall boiler-house chimney, which carries the products of combustion high up into the air, not diffusing unpleasant odours and "blacks" to render glass opaque and besmireh everything around, like the low chimneys usually afforded the ordinary hot-water boiler.

The system has been carried out with success at Alnwick Castle, where not alone the glass-houses are heated by it, but the laundry and apartments in the Castle; and also at the residence and in the gardens of H. S. Leon, Esq., Bletchley Park, where the steam is also used to drive an electric-lighting engine, and for pumping purposes.

As bearing on this application of steam to heating purposes, we publish the following communication from Mr. G. Harris, of Alnwick Castle Gardens:

"Respecting the working and general efficiency and adaptation of the use of steam to the heating of water in existing hot-water-pipes in horticultural buildings, I may say that the system has been in operation at Alnwick Castle for many years, and so far as I know it was first applied here on a large scale to heating glasshouses and other purposes. Some few difficulties cropped up, and one was to estimate the amount of steam required to heat a certain quantity of piping, and for the many purposes for which it is used at the Castle, which are difficult to estimate. Again, it was necessary to ascertain the proportion of steam coil pipe to the pipes to be heated, and the form of passage through the valves in the steam pipes. These difficulties, however, were surmounted, and I can truthfully say that at the present time the system is working far more regularly than any apparatus heated by tubular or saddle-boiler, where the water is heated direct by the fire. We have night and day stokers, and steam is constantly kept up. The furnaces are fed by self-feeding hoppers, which renders the use of small coals a necessity, the hoppers being driven by a small engine. I am not able to say anything as to the economy or otherwise of this system of heating, but I know that the steam plant is very costly, and would only be suited to places where it can be used extensively in a variety of ways. It is of great advantage in gardens situated near to the mansion, so that it may be put to a variety of purposes. Here it is used for boiling and cooking in the kitchen; for boiling and drying clothes in the laundry; for heating the Castle by several methods, viz, steam pipe, hot-air and hot-water. It was originally estimated that the equal of 25,000 feet of 4-inch pipe was heated, but there have been frequent additions, so that that estimate is too low. The main steam pipe is about 600 yards in length; the boilers are placed near the middle of this pipe, and owing to the great length the steam has to travel there was some considerable loss of heat by condensa-



tion, but this loss is reduced largely by the pipes being encased in non-conducting material. With this system there should always be duplicate boilers, so that if one is under repair, which is somewhat frequent, there is no break in the heating. The system is attached to the hot-water pipes in each of the old stove holes, and the old boilers are retained in working order. Through the regularity of the heat afforded by steam, vegetation grows somewhat faster. Some essential particulars are, to have the steam under perfect control by means of taps that are furnished with a graduated slot; and a steam-gauge fixed to the main steam pipe that leads to the glasshouses, so that whatever the pressure of steam in the boiler, it can be controlled at the glasshouse. With these appliances and safeguards it is a splendid system of heating, very convenient in winter for the gardener to turn on heat during severe weather late at night, with the certainty of finding all the houses of a proper degree of warmth in the morning. This is a great comfort, and one can really sleep when there is a trustworthy stoker in attendance. I have an electric tell-tale bell in my bed-room, so that if steam should run down during the night, which very rarely happens, the occurrence is indicated. The smoke from the boiler furnace is largely consumed where the apparatus is equal to the work, and has not to be hard driven. *George Harris.*

Steam used in this manner has none of the disadvantages and evils of direct heating by steam, the air not being rendered inimical to plants by coming in contact with highly-heated pipes; the heat is regular, not intermittent, and there is no danger of pipes bursting within the houses, and no necessity for altering the plant where such exists.

#### A NEW INSECTICIDE.

We have received from Messrs. Lawton & Co., 3, Savage Gardens, London, a sample of a new insecticide known by the name of "Bala," and recommended by them for the cleansing of plants of any description. After testing the preparation on a variety of subjects, it has been observed that "Bala" kills aphids instantly. It leaves no deposit on the foliage, nor does it injure the young and tender growths upon plants. In the case of red-spider or thrip, this insecticide does not appear to be so satisfactory.

## HOME CORRESPONDENCE.

**AMERICAN SPECIES OF LARCH.**—Referring to Mr. Webster's letter respecting Larch trees, the trees which have been grown at Boynton for eighty or ninety years under the name of Red and Black Larch, are the two trees described in London as two varieties of *Larix americana*. I had planted here a few years ago two or three plants of *Larix occidentalis*, but they have not thriven, and are all, I think, dead. The Red and Black Larches are very different from one another in all respects. The Red Larch is more like the European Larch, and in loose, rather wet, sandy soil, grows at Boynton as fast, and to as large a size; but we do not consider the wood to be quite as good as that of the common Larch. The Black Larch is a slower grower; even those grown in swampy ground can hardly be described as "of large size," although perfectly thriving and healthy. Although I have not been able to try it, I suspect that the wood is harder, heavier, and more durable than that of either of the others. *C. W. Strickland.*

**VEGETABLES AND VEGETARIANS.**—The note on p. 458 does not deal with what is, unfortunately, the real difficulty; i.e. that cooks and housewives, who know how to cook vegetables properly are the rarest curiosities. We always have three or four vegetables to dinner, and without being vegetarians, I depend more upon these for my dinner than on anything else. When away from home, either in private houses or in the best hotels, I make a rule of avoiding vegetables, with the rarest exceptions, for the simple reason that they are almost invariably badly cooked and unpalatable. In our thirty-five years of experience in house-keeping we have never yet met with a really good vegetable cook who has not required a long training; some appear to be quite incapable of learning how not to spoil a large proportion. The full demand for vegetables which is possible will never

exist until the way to cook them is better understood. Like some other things, "they do these better in France;" and in the foreign restaurants in that country one is pretty sure that the vegetables are, as a rule, good, and properly cooked. *T. F.*

**THE CROWDING OF HERBACEOUS FLOWERS AT SHOWS.**—This matter does not receive the attention it deserves at the hands of some show committees, and the present seems a suitable moment to point to what should be avoided, and how the various exhibits can be best presented to the visitors. At the last year's show at the Temple Gardens, there was much left to be desired, both in arranging the exhibits, and regulating the traffic through the tents. A good system prevails in some provincial centres in which herbaceous plants are well grown. Instead of one great gathering of cut flowers of herbaceous perennials, they are cut up into three or four classes, beginning with competitions of six, and ending with forty-eight, thus enabling the various competitors in the different classes of six, twelve, twenty-four, thirty-six, and forty-eight to contend on something like equal terms. Of course, if thought desirable, there might be at such shows as those of the Temple, the Crystal Palace, York, Manchester, and Edinburgh, open trade classes for an unlimited number, but for general purposes and for small growers, forty-eight would be about as many as could be shown in perfection. There might likewise be a limit put to the number of spikes to be shown, or of the bunches, as the case might be. This would enable the onlookers to judge of the beauty of the individual flowers or spikes, and would not handicap the small growers. The correct and careful naming of everything shown is very desirable on account of the educational value to the public generally, and the convenience of judges and reporters. *D. T. F.*

**THE HYACINTH AS A TOWN PLANT.**—If any one desires an illustration showing the fitness of the hyacinth for towns, he will get it by inspecting the beds of Hyacinths in Parliament Square, Westminster. The regularity with which the bulbs have grown and bloomed, and the effective symmetry of the beds, with their bold and striking masses of colour, attract the attention of passers by. As a rosy-pink variety for massing, *Gertrude S. R.* appears to be perfect, and is more desirable than a variety of a deeper tint; this variety throws a medium-sized and very symmetrical spike. As a blue, *Charles Dickens* is perfect, it is both bright and effective. *Lord Byron*, as a delicately tinted silvery grey-blue, is scarcely effective, it is too creamy; a delicate pink, like *Norma*, would perhaps be better, or a deeper tint of sky-blue, like *Leonidas*. *Sir Henry Barkly* is of a dull hue of claret, and is too dark to be effective in the open. *Alba maxima*, as a white, is very good. Clear bright tints of bright rose or lively pink, blues of intermediate tint, neither too dark nor too light, pure whites, or a good bluish-white, all tell against the setting of green grass about the beds, and that should be borne in mind. Still, it is a charming garden of Hyacinths, and does the planter and caretaker great credit. *R. D.*

**THE LARCH DISEASE.**—In continuation of the subject of my remarks, see p. 435, I will record my observations of the manner in which the disease originates and develops in the tree. I have seen it distinctly in the plants in the seed-bed two years old, but could never detect it in the one-year seedlings; and from this I infer that the disease originates early in the season—probably in April and May, and before seedlings are above ground, whereby they escape for the first season, but are less or more exposed to it ever afterwards. But what is the producing cause of this disease? Is it frost, unsuitability of the soil, unfavourable situation, unselected seed, seed from unsound trees, or what? This is the question of questions, and I shall endeavour to answer it as best I can, and leave it to the intelligent forester to say how far I have succeeded or failed. I do not believe it is frost that produces the blister in question, although frost may be capable of so doing; neither is it the soil, for although unfavourable soils produce other forms of disease, both in the Larch and other trees, yet there is no reliable evidence that it produces blister. Nor is it the locality or situation that produces it, for although it is one of the influences at work in producing the blister, yet of itself it does not do so. Nor again is it from the seed that the blister is caused; nor does it matter whether the trees are of foreign or home-growth, seeing that we have diseased and sound ones alike from both. Although none of these is the direct cause of blister, it is not to be inferred that none of them has a distant and remote influence in producing it. Having indicated several suspected

causes of blister, but such as will not stand careful scrutiny, we turn next to another cause which above all others is chargeable with the complaint, viz., the tender and sensitive bark of the tree. I have not arrived at this conclusion in a day, a week, or a year, but through the careful observation and study of many years. It is not enough to make an assertion, however strong, upon anything, but rather to marshal facts together and go to work, taking evidence as from witnesses in a court of law. If it were to take me as long time in describing the process gone through in finding out the cause of Larch blister, as in finding it out, many who might hear the Alpha would never hear the Omega. It is, however, patent to everyone that all trees, whether fruit or forest trees, that have a smooth, thin, and tender bark, are more liable to disease than those with a thick, rough, corky bark. Some trees have a thick corky or leathery bark from their very earliest stages of growth, such as the Oak, Elm, Spanish Chestnut, Birch, Geau, &c., and these are singularly exempt from bark disease; indeed, except from accidental injury to the bark, they seldom or never contract bark diseases. On the other hand, smooth, thin, and tender-barked ones, as the Ash, Beech, Larch, and others, suffer severely in blister and other diseases of the bark. It is necessary, however, to draw a line of distinction between trees that are tender in the bark at one stage of growth, and which become more proof against infection at another stage. Some are only tender at an early stage, and quite hardly later on in life; while others remain tender from the seedling upwards. The Beech belongs to this class, as is seen in the thin sensitive bark of a tree 100 years old, which never becomes thick or corky. Another class, again, to which the Larch and Scots Fir belong, is alike tender and sensitive in the bark till of a certain age. In the Larch, with which we are now dealing, the stem assumes the hard scaly and corky covering when about twelve years old. That is to say, the tree that has grown twelve years, takes on the corky covering on the lower part of the stem at that age; next year another year's growth is covered with the corky bark, and so on year by year. By these means it might be thought the whole stem of the tree would be covered with the corky bark, when the tree would be safe and beyond all further risk of injury from blister. This, however, is not the case, since the tree, which is being covered with corky bark at the bottom, is making new top growths, and these too require covering as much and in the same manner as the lower part of the stem referred to. Not only is the stem exposing new tender bark by every year's growth at the top, but it is liable to blister the same or nearly the same as at the bottom or lower part of the stem; and every branch of the tree, and every twig of the branch, is undergoing the same process as in the main stem, that is to say, the first formed and oldest part of the branch assumes the corky bark part first, and year by year so much additional, but at the same time the branches and twigs are adding to their length at about the same ratio as the other end is taking on the corky bark. In this way the tree, as long as it is growing and adding to its height of stem and length of branches, is keeping the tree in the same critical state as to blister as it was when only twelve years old, when it assumed the first coating of corky bark at the base of the stem and lower branches. I purpose to treat of the origin and development of the disease, and wherein it differs from other bark diseases of the same class, such as exists in the Beech, Ash, and Scots Fir, &c., on a future occasion. *C. Y. Michie, Cullin House, Banffshire.*

—Mr. Michie was quite right in saying that the Larch disease affects young trees, but whether so young as the seedling stage I am not prepared to say. Many thousands of plants ranging from three to five years old were killed outright in Wales, and to make sure that this was caused by the Peziza, I forwarded part of the sample that had been sent to me by the owner for identification to Professor Marshall Ward, who corroborated my statement that it was the Larch disease. Mr. Elwes, of Colesbourne Park, pointed out to me many in a plantation of three years' growth that were affected. *A. D. Webster, Boarwood.*

**MAGNOLIA CONSPICUA.**—I was pleased to see the notice in your issue of the 11th inst., of this splendid spring-flowering shrub at Gunnersbury House, Acton. It is not often that it is seen to perfection in the north of England; but on the south aspect of Mr. T. G. Horsfall's residence, Hornby Grange, Northallerton, I saw a

plant recently upwards of 30 feet high, reaching to the eaves, and trained across above the window and door, thus forming a huge cross of white flowers. At the time of my visit there were upwards of 2,000 blooms open; and one small branch, 15 inches square, was noticed, which had forty-two expanded flowers. Trained around the windows on each side are two beautiful plants of *Pyrus japonica*, which were also in full flower, the scarlet blossoms forming a nice contrast to those of the *Magnolia*. *J. G. Wilkinson*.

**GARDENERS AND STEAM LAWN-MOWERS.**—Your correspondent, Mr. R. M. Newbury (p. 464), of the garden being kept as a place of quiet refreshment. But what about the gardener, for whom he says half the motive-power of a 22-inch machine would be good exercise on a hot day? I would ask what strong and healthy man is likely to endure such labour for any length of time? Why, following the plough all day is play compared to it. I have had considerable experience with lawn-mowers of almost every make, and I have found an 18-inch machine (of the best make) quite enough for any two men to work all day, if they have to follow it up all through the season, unless the lawn is exceptionally even and clean. It is generally the poor man, with a large family dependent upon him, who has to submit to this excessive drudgery; and I have known several poor fellows whose lives have been made a misery to them thereby. It is all very well to go and spend an hour or so at the mowing-machine—one can walk away feeling rather refreshed; but it is another matter when the labour is constant. Mr. Mawson's opposition has probably done much good in making known to many the existence of such a thing as a steam or electric lawn-mower. *Alfred J. Knapp*.

**DOUBLE VIOLET LADY HUME CAMPBELL.**—This is the finest variety for outdoor culture, being much hardier in constitution than *Marie Louise* and others. It withstood the severe frost of 1894-95 in the outside beds here, its only protection being the snow, and it flowered profusely afterwards. The flowers resemble those of *Marie Louise* very closely, but the foliage is taller and stronger, and it does not suffer in hot summer weather so much as do some varieties. The first propagated plants are much earlier in flowering the next season. Those taken from frames, broken up, and planted out last season on April 19, were in full flower here on March 20 in a sheltered and sunny spot; others slightly divided and planted when the beds were cleared in the third week in June, are quite a fortnight later in flowering, although they are growing by the side of the others. It is well to remember when transplanting Violets into the beds in the autumn, that very little growth will be made before flowering. The plants should be placed fairly close together in order to cover the ground well in the spring. *W. H. Divers, Belvoir Castle Gardens, Grantham*.

**AUTUMN-FRUITING STRAWBERRIES.**—The note on this subject brings up an old grievance against many of your correspondents, i.e., the place where the experiments were made is frequently not stated. England, Ireland, and Scotland have not one universal and uniform climate and soil; things which are possible in the west are impossible in the east; and a plant grown successfully in Devon and Cornwall may prove a failure in Aberdeen or Stornoway. The place where an experiment is made, or a result obtained, must always be given if the majority of readers are not to be misled, and without this knowledge the chances of failure are too numerous to make the trial worth repeating. *Thos. Fletcher, Grappenhall, Cheshire*.

**POSOQUERIA LONGIFLORA.**—I read the note on this plant in a recent issue with pleasure. In all my peregrinations, I do not remember to have seen plants of it in cultivation. Why that is so, is difficult to account for, considering its many fine qualities; and even when not in flower, its foliage and habit of growth are more ornamental than many other occupants of the plant-stove. We have no plant that surpasses it in its flowering season. At Nostell Priory there is in one of the stoves a large specimen in a pot which always flowers well in the spring months, and whose perfume pervades the house. Visitors never fail to admire the plant when they chance to see in bloom. *J. Elster, Nostell Priory Gardens*.

**PHALÆNOPSIS SPECIOSA.**—This species, through an error, appeared in the list of "Hybrid Orchids" published on p. 431 in *Gardeners' Chronicle* for April 4, 1896, as a "natural hybrid" between *P. Luddemanniana* and *P. tetraspis*. Major-General

Berkeley, who was the discoverer, and the only successful importer of this plant, in a note on the matter, says that neither *P. Luddemanniana* nor *P. tetraspis* grow on the island where he found *P. speciosa*. This species is described and figured, together with the varieties *Imperatrix* and *Christiana*, at p. 745 in *Gardeners' Chronicle* for December 9, 1882, by Professor Reichenbach. *H. J. Chapman*.

**CATTLEYA × EMPRESS FRIDERICK** (C. Mossie ♀, Dowiana ♂), one of the finest hybrids that has ever been raised, appeared on p. 10, *Gardeners' Chronicle*, July 6, 1895, as having been raised by Messrs. F. Sander. This is a mistake. The plant was raised by Mr. Seden, in the nurseries of Messrs. J. Veitch & Sons, and passed into the collection of Baron Sir H. Schroder, The Dell, Staines. *H. J. Chapman*.

**THE WINGED ELM.**—I might supplement the article on the above by stating that the Winged Elm is an excellent tree for planting on exposed and wind-swept ground, and good examples of it may be seen within a hundred yards of what was known as Cook's Quarry, at fully 600 feet altitude, on a spur of the Snowdon range of hills. It does well at Penrhyn Castle, and has there attained to fully 40 feet in height on the margin of a disused gravel-pit. *A. D. Webster, Bozemoor*.

**FORMING HERBACEOUS BORDERS.**—I do not think the wording herbaceous border can properly be designated a "misonomer" on the grounds furnished by Mr. Crump at p. 465, seeing that pretty well ninety per cent. of the subjects growing therein are herbaceous plants in every sense of the word, and the appellation "mixed border," which your correspondent thinks would be more accurate, would be somewhat vague and inappropriate under the circumstances indicated. A "mixed border" of what? A herbaceous border in which bulbs—say, to the extent of ten per cent. are planted, is still a herbaceous border, nothing more or less. I certainly should have no hesitation in disqualifying an exhibitor who happened to stage spikes of flowers of bulbous plants in a class for "herbaceous" flowers, as one is quite distinct from the other. I quite agree with what Mr. Crump says about the effectiveness of bulbs planted in grass when in flower, as we have several acres so planted in that portion of our grounds known as the "underwood," or wilderness—in which, among the trees, alongside of walks, &c., masses of Snowdrops, Daffodils, Bluebells, Crown Imperials, &c., show off to great advantage—the lines of Snowdrops on either side of the walks extending about three miles in the aggregate. In conclusion I may say, that all herbaceous borders that I am acquainted with include more or fewer bulbous plants—*Lilium candidum* (common garden Lily), *Hyacinthus candideus*, &c. *H. W. W.*

**FRUIT BOTTLING MADE EASY.**—Some such phrase as this is, may well be applied to the simple and almost automatic capsule Mr. G. V. de Luca brought before the Fruit Committee at the recent Drill Hall meeting, and to which a Bronze Medal was awarded. The principle is very simple, and the method seems to be extremely efficacious; whilst once possessed of the bottles and appliances, it is possible for any housewife to preserve whole her own fruit, whether home-grown or purchased, with the greatest ease. There have been many apparently simple methods for sealing down bottled fruit presented from time to time, and judging by what is seen in the products of the trade preservers, with complete success; still none seems to have been entirely adapted to meet the wants of the household where fruit bottling is done in an amateur fashion. In the case of the Luca capsule it seems impossible to go wrong, because so largely automatic. Bottles can be purchased, with capsules to fit, at very moderate prices. They are stout, and with ordinary care should endure for many years. They can be had in varying sizes admirably suited for domestic requirements, or for particular kinds of fruit. The principle of the capsule, which is of metal, is that in heating the fruit in the bottles, a vacuum is created, and the moment that is done, the external air pressure fixes the capsule so tightly, that it is not only air-tight—through the help of a small india-rubber band or ring which is fixed just beneath the capsule flange—but cannot be liberated until external air is admitted, by forcing a small hole through the centre of the capsule by the aid of a small bradawl or large needle; when the air pressure being removed the capsule is at once liberated. The hole thus made in the capsule can be closed again with the help of a drop of hot solder. The fruits are placed in the bottles closely packed, and, just as

may be desired, have the fruit covered with either cold water or syrup. The bottles are then stood in a large pot or deep stew-pan, which also contains cold water, and is stood over a slow fire. The capsules, with rings of rubber, are placed on to the mouth of each bottle, and held in place by spring holdfasts. The water in the pot is gently boiled, and the pot is at once removed to cool the water. When that is done, it is found that the steam generated in the bottles has expelled the air, because the automatic capsules are then not fixed; but the moment the steam condenses, and thus creates a vacuum, the capsule, hermetically under external air-pressure, seals the mouth of the bottle, the spring holdfast is removed, and the process is complete. Then, as before said, it is but needful to pierce a tiny hole in the centre of the capsule to admit air, and the capsule at once loosens. So far as present knowledge goes, this method seems to be about the easiest and most elementary one known in relation to fruit preserving. It has special value in households where bottling is neither sufficiently understood nor practised. It is true that bottled fruit may be purchased very cheaply, but that need not absolve the housewife from performing similar work in thousands of homes. It is specially valuable practice where fruit is abundant, and, but for such preserving, might be practically wasted. In our fruit culture we think far too much of market sale and profit, and not nearly enough of home use. That is a point to which greater attention should be directed, and this new and interesting appliance may do much, if widely known, to encourage domestic preservation of fruit by bottling. *A. D.*

**THE STEAM LAWN-MOWER.**—The fact that steam is being put to a good use in propelling the heavy, lumbering mowing-machine of cast-iron and steel is getting up heat among those who suppose that much-valued quiet of the garden is going to be disturbed for ever and aye by the snorting, smoking, abominable thing working all day long, and always just in front of the drawing-room windows. How long, I should like to know, would the gardener be allowed to indulge his mechanical tastes, if he had any, by thus arranging the hours during which the mowing is executed? He would soon be told that as the machine was capable of doing much more work in a shorter space of time than a pony or manual machine, he must get the mowing finished off in those hours when the inmates would be least disturbed by noises. This is the case now with mowers of the present type; and the rule as to machine-mowing was very stringently enforced in those days before the watch-chain gearing was fitted to the driving-wheels of mowers. With perfectly-fitted, smooth-running gearing, and smokeless fuel or electricity, the newest mowers should certainly make less noise and disturbance than the pony-machine, besides being a gain to the gardener in the short time occupied with the work. *Rusticus*.

**DAFFODILS POISONED BY SOOT.**—In the autumn of 1895 I put in boxes a large number of Daffodils for forcing. Soon afterwards, a large sack of fresh soot was delivered, and placed temporarily against one of the boxes, and subsequently fell across one end of a box remaining upon the soil for several days. During the time it was in this position we had one very wet night, when the rain fell in torrents. When I observed the position of the soot, I had it removed at once, and for this time forgot the occurrence. The growth of Daffodils this season has been excellent in every way with the exception of a portion of a large box, from which I was not able to gather a single flower of any worth. The bulbs being of my own stock, I knew they were healthy, and had concluded that the soil at one end had in some way been poisoned. It was distinctly a case of poisoning, inasmuch as the usual symptoms of disease were absent, by the wretched and contorted form of the flowers in their vain endeavours to struggle forth. In February when clearing out the boxes, I made an examination of the bulbs and soil. The bulbs were of first size, and had made abundance of roots, but the soil was more like soot, and nearly black. This fact reminded me of the circumstance alluded to above, and which to my mind is obviously a case of soot-poisoning. *J.*

**STRAWBERRY ROYAL SOVEREIGN.**—There are probably few, if any, cultivators of forced Strawberries who have not now given this variety a trial. Should there, however, be any such, I can without hesitation recommend it to them, as it responds admirably to that kind of treatment. I have not tried it as a first early, having hitherto depended upon *Vicomtesse Héricart du Thury* and *La Grosse Sucrée* for that purpose, but I had it in splendid con-

dition by the last week in March. Its fruits are very large, conical in shape, brightly coloured, and of rich flavour. It is, moreover, firm in texture, an important property where fruit has to be sent a distance. The habit of the plant when forced is not compact, as the leaf-stalks and flower-spikes are long. These are, however, matters of small moment, and in respect to the long flower-spikes it is advantageous to be able to easily expose the fruit to the air. Last season, owing to the hot summer and mild autumn, an unusual number of plants burst into flower in late autumn; particularly was this the case with early-potted *Vicomtesse Héricart du Thury*, and President was not exempt from this failing. *Royal Sovereign*, however, showed no fruit, neither were any of the plants "blind." Its constitution is strong, and it yields runners freely. I have not forced *Stevens' Wonder*, but have a plantation of it for layering from this year. Will anyone who has given it a trial for forcing, kindly state their experience with it? *Thos. Coomber*.

**PROTECTING PEAS FROM THE BIRDS.**—No doubt many of your readers suffer from the depredations of birds on Peas in pod, but I do not think it is generally known that birds are kept off by crossing the rows with black or white thread at a distance of 12 or 15 inches apart. I did this last year, fastening the thread to the Pea-sticks here and there to keep it up, and found hardly a pod was touched by the birds. Of course, every one knows about netting, and cotton is, no doubt, much used to protect the Peas when just commencing to grow; but I do not think it is widely known that black or white thread, preferably the former, is so effectual in protecting the pods. *S. J.*

## SOCIETIES.

### ROYAL BOTANIC.

APRIL 14, 15.—On Tuesday last was opened an exhibition of Daffodils in the gardens of the Royal Botanic Society, Regent's Park, and in connection therewith a Conference was held in the lecture-room of the Museum. The exhibition itself was not an extensive one; nevertheless, there were several very large and representative collections from members of the trade. It was in the competitive classes that the weakness of the display was most apparent, and in many instances there lacked any real competition. The Silver Cup offered by Messrs. P. Barr & Son for the best collection in the leading class was withheld, and the better of the two collections shown was awarded the 2nd prize only. There are several explanations for the paucity of exhibits. No doubt the arrangements for holding the exhibition were not undertaken so long beforehand as is frequently the case when large conferences and shows are concerned. Again, in many gardens the majority of the Daffodils have passed, and it is very likely that a fortnight ago would have proved a more convenient date for the competitors. Several of the exhibits came from Scotland. The comparative meagreness present in the Daffodil classes, however, was in some measure compensated by a good number of exhibits from nurserymen and others of a miscellaneous character. As may be seen below, there were first-class collections of Roses, Hippeastrums, hardy plants, &c., that played a useful part indeed in furnishing the stages that would otherwise have been empty. If the policy of holding periodical conferences be persisted in by the society, a greater share of success will doubtless attend succeeding efforts. The few competitive classes were not arranged in a manner convenient to the judges or the press.

### COMPETITIVE CLASSES.

The principal competitive class for Daffodils was one for a collection of flowers (not to include *Polyanthus Narcissus*). The 1st prize offered was a Silver Cup by Messrs. BARR & SONS; 2nd prize, the Society's Silver-gilt Medal; 3rd prize, a Silver Medal. There were only two collections exhibited in this class, and neither of these were deemed worthy of the 1st prize, which was withheld accordingly. The 2nd prize was awarded to Mrs. MARGARET CRAWFORD, Ardnamont, Scotland, who had a fairly representative, but not quite satisfactory collection, though we think it would have been more graceful had the 1st prize been given; Miss SPURRELL, Manor House, Norwich, was 2nd.

Dr. CRAWFORD was awarded a 1st prize in the class for eighteen distinct varieties, single flowers, five or more blooms of each sort (*Medio coronati* or Trumpet Daffodil). He had *grandis*, J. B. M. Cunn, rugilobus, albicans, W. P. Milner, Golden Spur, Glory of Leyden, Emperor, Horsfieldii, Mrs. Walter T. Ware, Major, Mrs. Thompson, Princess, Princess Ida, &c.

The best eighteen distinct varieties of *Medio coronati* (or

*Incomparabilis*, *Barrii*, *Leedsii*, *Buckhousei*, and *Nelsoni*, varieties), were shown by R. MAITLAND, Esq., Wardour Lodge, Sunningdale. He had *Duchess of Brabant*, *Stella*, *Nelsoni*, *Mayor*, *Mrs. Langtry*, *Barrii conspicua*, *Autoerati*, *Frank Miles*, *Leedsii* (type), *rugilobus*, *Kathleen Spurrell*, *Incomparabilis Leedsii*, *L. aurantius*, *Princess Mary*, *Flora Wilson*, *Jas. Bateman*, *Geo. Nicholson*, and *Mable Cowan*, and *M. Magdoline de Graaff*.

The 1st prize for a collection of Daffodils, in ten distinct varieties of the *Medio coronati* group, including *Incomparabilis*, *Barrii*, *Leedsii*, *Buckhousei*, and *Nelsoni*, was taken by Mrs. G. P. HAVDEN, Hatfield Vineage, Doncaster, who had very fresh clear looking flowers of much attractiveness. Mrs. MARGARET CRAWFORD had a similar award in the class for six distinct varieties of the *Parvi coronati* group (*Burbidgei* and *Poeticus Narcissus*).

The 1st prize for twenty distinct varieties of any kinds of Daffodils was won by Mrs. MARGARET CRAWFORD, who had also an equal award in the class for six distinct double

prize was awarded to an arrangement in which but very few blooms indeed were included, shown by Mr. A. P. YOUNG. The devices in which the blooms and ornamental foliage were placed were not without attraction, but there were decidedly fewer Daffodils used than there might have been, without making the appearance at all heavy. 2nd, Mrs. W. MOLE, 5, The Avenue, Kew. 3rd, Mr. J. PREWETT, 11, Lancaster Terrace, W.

An excellent display of dwarf-growing hardy plants in flower made by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, was awarded a 1st prize. Large well-grown specimens of *Primula Sieboldii*, in variety, a *P. cashmeriana*, and other species supplied an abundance of colour, and large masses of white were the groups of *Spiraea multiflora compacta*, and *Spiraea stilloides*. *Anemones apennina*, and *nemorosa*, the very dwarf flowering and pretty *Iris pumila inazurea*, *cerulea* and *atro-cerulea* varieties, *Ranunculus amplexicaulis*, a very free flowering species with fine white flowers, *Cypripedium pubescens*, and several varieties of

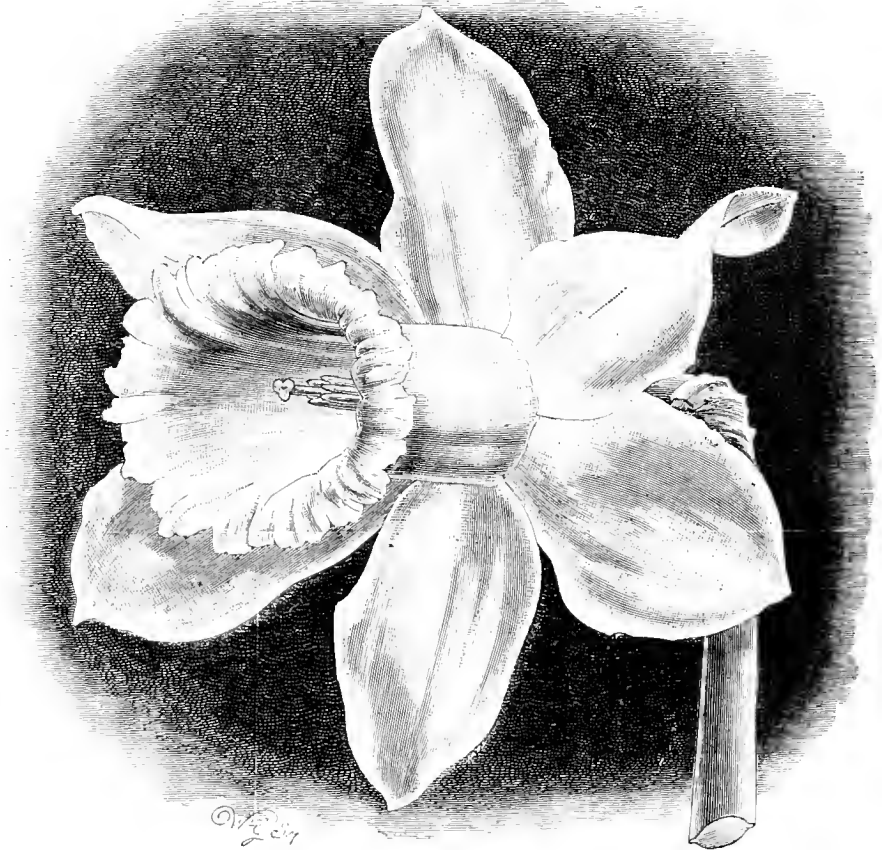


FIG. 76.—TRUMPET-DAFFODIL MADAME DE GRAAFF. (SEE P. 497, COL. A.)

varieties, in the latter case exhibiting *Capax*, *Orange Phoenix*, *Sulphur Phoenix*, *Butter-and-Eggs*, &c.

The finest Daffodil bloom of the *Medio coronati* section was the well-known variety *Sir Watkin*, exhibited by Mrs. MARGARET CRAWFORD. The same exhibitor had also the best flower in the *Magni coronati* section, showing a bloom of *Glory of Leyden*. Other 1st prizes obtained by this exhibitor were for ten distinct varieties of Trumpet Daffodils, six pots of Daffodils (distinct), and for the finest Daffodil in the show of the *parvi coronati* section.

A Certificate of Merit was awarded to a Trumpet Daffodil named *Cormoran*, exhibited by the Rev. WOLLEY DOD, Edge Hall, Mdpas, Cheshire. The long fine trumpet of this flower is rich deep yellow, and the perianth light sulphur-coloured.

The 1st prize for a bouquet of Daffodils was won by Mr. A. F. YOUNG, 15, Tower Road, Dartford. It was a very simple arrangement, and not exceptionally remarkable. Mr. W. GREEN, Jun., Harold Wood, Essex, was 2nd.

Miss L. HUDSON, Gunnersbury House, Acton, won among many competitors in the class for a bowl of Daffodils. She exhibited her flowers, however, in a vase rather than a bowl; while in the 2nd and 3rd prize exhibits low shallow bowls were used. Mrs. W. MOLE, The Avenue, Kew, was 2nd, and Mr. J. PREWETT, 11, Lancaster St., Bayswater, 3rd.

There were six exhibits of a table of Daffodils, and the 1st

*Saxifraga*, were some of the more noticeable in this representative collection, and there were a number of pretty forms of *Fritillaria* also, while *Adonis vernalis* made quite a patch of gold.

The only group of *Tuberous Begonias* in flower was that from Mr. T. S. WARE, Tottenham, but his collection was a very excellent one to be exhibited so early as April, and was awarded 1st prize; it contained many very pretty and commendable varieties. A double-flowered variety named *Miss Lila Lawford* is especially worthy of mention, being large in size, of fairly good form, and possessing the most lovely bright rose colour, with milky white towards the base of the florets. *Triumph*, a deep but wonderfully bright crimson double, and *Mrs. Robert Brown*, very delicate rose colour, and in shape also similar to a *Rose*, are likewise good. *Miss Alice Sparrow* represents a variety the flowers of which were not developed, but it appeared to possess a very unique shade of colour near to apricot-salmon.

Mr. RUMSEY took a 1st prize for six *Roses* in pots, with a collection including four *Tea* varieties, and capital plants of *Magna Charta* H. P. and *L'Idéale* (Noisette).

Mr. DOUGLAS, gr. to Mrs. WHITBOURNE, Ilford, Essex, was the winner of a 1st prize for a group of comparatively dwarf plants of *Cineraria* capitately flowered. The varieties of which many had names evidently belonging to an excellent strain,



Twelve *Hippeastrums* were shown best by Mr. Perkins, gr. to Hon. W. D. SMITH, Greenlands, Henley-on-Thames; Mr. Douglas also exhibiting well as 2nd.

The 1st prize for twelve *Auriculas* was well won by Mr. DOUGLAS, who staged a dozen well-flowered plants of good merit, many of them being seedling varieties.

#### HONORARY CONTRIBUTIONS.

A very imposing display of *Daffodils* was that from Mr. THOS. S. WARE, Halo Farm Nurseries, near Tottenham. In this collection the blooms were massed closely together, *Princeps*, *Emperor*, *Barrii conspicuus*, *Nelsoni Major*, *Burbidgei*, *cernuus pulcher*, *bicolor grandis*, *Sir Watkin*, *Burbidge*, *Model*, and others in large masses were very effective, and such varieties as *Glory of Leyden*, *Madame de Graaff*, and rarer kinds were represented by a few flowers. A large Silver Medal was recommended this exhibit.

The largest and most representative collection of *Daffodils*

and *Mabel Cowan* (*Incomparabilis*), a rather small flower, with finely shaped perianth, having good segments, and a pretty orange crowned cup. A large Silver Medal was awarded Messrs. BARR & SONS.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, contributed a group of *Narcissus* flowers, including very considerable variety. The groups or varieties were together, and each of these created a fine effect. The flowers generally had a brighter appearance, and the colours were clearer, than was the case in most of the collections of these flowers. We noticed numerous varieties of *Incomparabilis*, also *Humel*, *bicolor*, *Polyanthus* *Narcissus*, the deep yellow *N. maximus*, *Leelsii*, *Minnie Hume*, a splendid lot of *Emperor*, *Barrii conspicuus*, and the very fine *Poeticus* *Poetrum* (a large Bronze Medal was awarded).

Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, staged a group of very fine *Hippeastrums* and *Cliveias* in flower, interspersed with *Boronia*, and graceful *Palms*, and faced with a band of *Adiantum Ferns*. *Empress of*

A few skilfully-wrought models of *Daffodil* flowers were exhibited by Mrs. R. A. EMERY, 6, St. Charles Square, Kensington, W., which were so nearly alike in appearance to real flowers of the varieties mimicked, that few of the visitors detected their spurious nature (Certificate).

#### DAFFODIL CONFERENCE.

Mr. J. G. BAKER, the Curator of the Herbarium, Kew, presided at the Conference, which was held in the lecture-room and museum of the society. In opening the proceedings, he observed that he did not propose to trouble them with many remarks, as he had said all he had to say on the subject in the *Gardeners' Chronicle*, 1869, and the general principles then laid down in his Review had been very little changed. Since that time he was very glad to see how enormously the *Daffodil* had increased in popularity. It was a democratic flower—a flower that responded to the careful attention of growers of all classes, and it was a most interesting flower from an artistic point of view. The first paper which would be read that day was by his old friend and colleague, Mr. Burbidge, and he had the pleasant duty of asking Mr. Burbidge to accept a Silver Cup presented by Messrs. Barr & Sons in acknowledgment of the great services he had rendered in popularising the *Narcissus*. Mr. Burbidge happily combined the three graces—"Literature, Science, and Art." Until Mr. Burbidge published his book in 1879—when he was quite a young man—there was no hook which dealt adequately with the *Daffodil*, and he was sure Mr. Burbidge was exceedingly gratified at the result of his labours as seen at that exhibition and throughout the country. He then handed the cup to Mr. Burbidge.

#### PAST, PRESENT, AND FUTURE OF THE NARCISSUS.

Mr. F. W. BURBIDGE, M.A., Curator of Trinity College Botanic Gardens, Dublin, read the opening address, and took for his subject "The Past, Present, and Future of the *Narcissus*." He said:—

In Egypt and in Greece, some of these flowers were well known and highly valued 3,000 to 4,000 years ago. There are to-day, in the Museum at Cairo, and in the Herbarium at Kew, actual dried specimens of *N. tazetta* and other flowers taken from mummy cases, well known to have been entombed fully 2,000 years before the Christian Era. These specimens prove that the *Narcissus* was a flower of value at such an early date, because people in all ages have laid their finest flowers in the grave with their dearest friends. The Egyptian mode of embalming and enwrapping, and the peculiarly dry climate, have alike favoured the preservation of these funeral wreaths in the most successful manner.

Students of eastern literature know that flowers enter into their languages in many ways. In Persian and Hindustani, for example, the word *Narcissus* is often used as typifying the eyes, Roses the cheeks, and Tulips are supposed to represent the mouth, just as Sloes, Roses, and Cherries were so used by the poets of pre-Elizabethan times. Kushal Khan, the poet of the Afghans, has a poem in which the refrain is always the same—

"Black *Narcissus* are thine eyes,  
Thou dear one, so beautiful, so gay."

Some etymologists tell us the root of the word *Narcissus* is *Narces* (= stupor), because the essential principle of these plants is a narcotic one. This connection, together with the eastern custom of connecting the *Narcissus* with the eyes, may be more subtle than we at first imagine; for what narcotic is so potent or hypnotic as the light of beautiful eyes!

The plant we call *Narcissus poeticus* is not the true *Narcissus* of the Greek and Latin poets at all. The real poet's *Narcissus* of Egypt, Greece, and of the east, is *N. tazetta*, and it is of this plant that the earliest and greatest poets of the world have sung. This is the *Narcissus* of Homer and Sophocles, and of all the early poets of south Europe and the east. This bunch or cluster-flowered *N. tazetta* is very variable, and it extends as a wild plant from the shores or basin of the Mediterranean, through Persia, Cashmere, and N. India, to China and Japan.

The purple-ringed *N. poeticus*, common in Italy, was given the honour of being the true *Narcissus*; while the *Daffodil* (or *N. pseudo-Narcissus*) was stigmatised as the false or spurious kind. Modern researches point to the fact that if any *Narcissus* at all was seen and sung by Homer, Sophocles, and Bion, it was decidedly *N. tazetta*, and not *N. poeticus*, which, as a wild plant, is not known in Greece. This, without a doubt, is the flower *Persophone* pulled in G-edian meadows; this the one that Helen of Troy and Cleopatra wore for its subtle fragrance in their sun-kissed hair, just as do the daughters of Egypt, Greece, Persia, and Cashmere to this day. We may leave southern Europe and the East and come nearer home. The only *Narcissus* really native to our English soil is the Lent Lily—the *Daffodil* that "comes before the swallow dares"—*Narcissus pseudo-Narcissus*. All the others are simply aliens naturalised, or their offspring bred as hybrids on our shores.

But how, when, and where did the European *Narcissus* first come over to us? It seems natural to assume that they were brought either by our own first voyagers to Europe or their

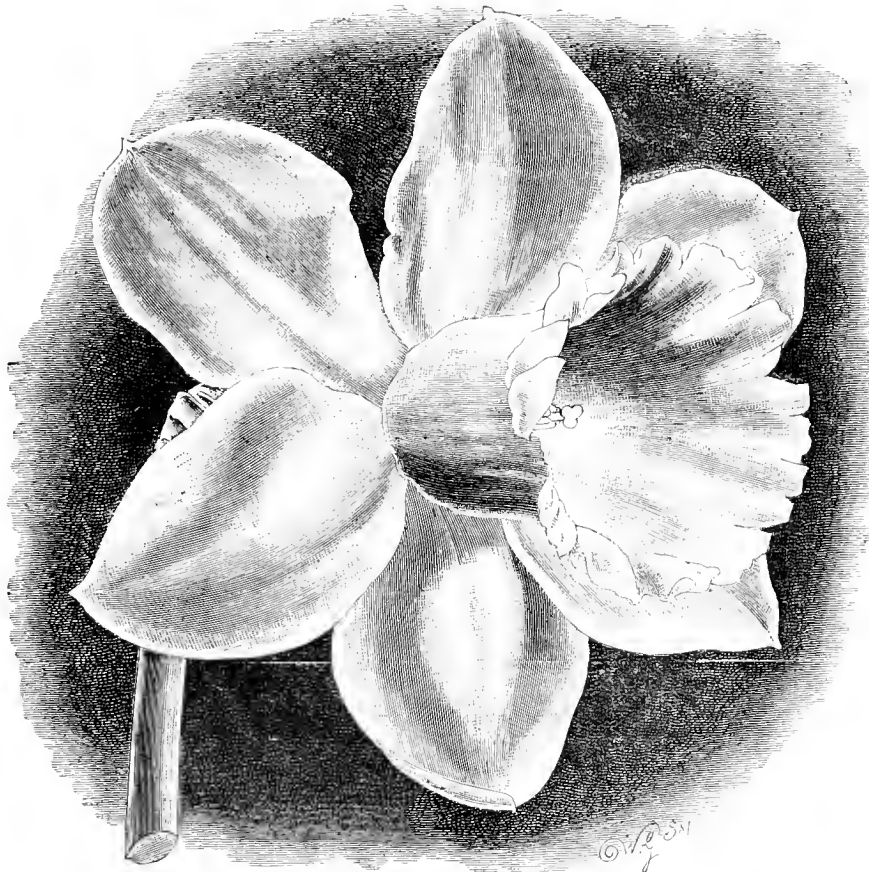


FIG. 77.—TRUMPET-DAFFODIL GLORY OF LEYDEN. (SEE COL. A.)

was one from Messrs. BARR & SON, King St., Covent Garden. Doubtless there were very many of the best varieties in each section represented in this large display. We noticed at least thirty choice ones. Certificates of Merit were recommended to the following:—Mrs. C. Bowley (*Burbidgei*), with pale perianth segments but not quite sufficiently clear, and a pretty orange-coloured cup. *Madame de Graaff* (see fig. 76) a very lovely trumpet flower with pale lemon trumpet and lighter perianth, the mouth of the trumpet reflexed evenly, and a very distinct flower; *Weardale Perfection*, of which three magnificent blooms were exhibited in Messrs. BARR'S stand. The large and well-formed trumpet of this flower is a very pretty yellow, with pale sulphur-coloured perianth; the flower has good substance, and the segments of the perianth are wide, making the flower an excellent one. *Queen of Spain* (*Johnstoni*), a flower of a uniform shade of yellow, in form not unlike *N. triandrus*, but much larger. *Glory of Leyden* (see fig. 77), trumpet rich golden yellow, and the perianth a mixture of sulphur and yellow colour, trumpet prettily fringed. *Madame Plomp*, rich golden-yellow trumpet and light sulphur-coloured perianth, a smaller flower and differing in form from the preceding one. *Commander* (*Incomparabilis*), light sulphur-coloured perianth, with fine orange-coloured cup prettily fringed. *Dorothy E. Wemyss*, a flower with very large pale perianth, crown or cup very deep orange, a capital variety;

*India*, *Dazzle*, *Distinction*, *Holloway Belle*, *General Bouanger*, and *Dr. Masters*, were the best varieties of *Hippeastrum*; and *Ambrose Verschaffelt*, *Martha Reimers*, and *Firefly*, were the varieties of *Cliveias* (Large Bronze Medal).

From Mr. FRANK CANT, Braiswick Nursery, Colchester, was exhibited an excellent display of Rose blooms, including four large boxes, each containing twenty-four flowers. The varieties were numerous, and represented 11 P.'s, *Noisettes*, and *Teas* in capital style (Small Silver Medal).

Mr. JOHN WALKER, Thame, Oxon, was the exhibitor of forty-eight fine flowers of *Marichel Niel* Roses, twenty-four blooms of *Niphetos*, and a number of *Garden*, *Noisette*, and other varieties, shown in bunches of expanding buds (Large Bronze Medal).

Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, made an exhibit of various shower bouquets of *Daffodils*, also baskets of same; and as an unusual novelty, there was a lady's hat, green in colour, with pale yellow bow of wide riband, and profusely furnished with *Daffodils*! A basket of *Roses*, and a bouquet of *Lilies of the Valley* were pretty (Bronze Medal).

Mr. WM. RUMSEY, Joyning's Nurseries, Waltham Cross, Herts, staged a very commendable group of *Roses* in pots on the floor of the large conservatory. Boxes of cut blooms faced the group and a band of *Adiantum Ferns*. A large Silver Medal was awarded.



return, or that foreign immigrants to our island brought them to us.

Now as European and Eastern civilisations were far ahead of ours down to the times of Elizabeth at least, I think we may assume that they were brought by people who knew of them and appreciated them for their medicinal uses or for their beauty before we did so ourselves. Assuming they were brought, there remains when and where to be considered.

Now the first records of trade and civilisation in our islands takes us to Cornwall and St. Michael's Mount, to which islet the Phœnicians and the Jews came to barter their products for our native tin; and from personal investigation, I believe that to Cornwall first of all the Narcissus of the South and East of Europe were brought by the early traders.

No other soil and climate in the British Isles suits these flowers quite so well as that of Cornwall, and it was the early-blooming *N. tazetta* growing so vigorously and flowering so early and so profusely on St. Michael's Mount, that led to the cornucopia trade now carried on in these exquisite flowers in the Scilly Islands of to-day.

*The Present.*—The mention of the Scilly Isles brings us to the present day interest of the Narcissi, for in Cornwall—bereft to-day of its monopoly in tin—and in the Scilly Isles, the Narcissus is the most profitable crop grown.

A crop of Narcissus to-day, on soils and in climates that suit these flowers, is like the ideal sheep-farms of the past—you get two or three profits from the same source. In the case of sheep, before Australian mutton and Australian wool, we had in England—mutton, and lambs, and wool; and so the Narcissus farmers to-day have done well on a double profit crop of cut flowers and dry bulbs. Given the best conditions of soil and climate, and special intelligence or knowledge of good culture and the best markets, and Narcissus farming is an Eldorado of its kind. But the business is like a puzzle lock—all the rings, or factors, must agree together, or focus as it were, or you will lose money even in Narcissus farming.

I believe I am correct in saying that the growth of the best fruit is even more profitable than growing the finest of Narcissi; and I say this with trepidation, because it looks as if men and women to-day valued something to eat, more than they value the most beautiful of flowers.

It is the successful grower of Narcissi and other flowers, who in one sense is an artist—a minister—who brings freshness and sweetness, and light or beauty, into the homes of the people. I dearly love all our thoroughly hardy, thoroughly national, or what I may be permitted to call "democratic" flowers. They are really worth keeping in a double sense. Such are the Narcissi that "come before the swallow dares."

I have hinted more than once that the Narcissi are not only beautiful but profitable as well. After all, this is merely a foregone conclusion. "Take care of the beautiful," said the wise Greeks, "for the good and the true will take care of themselves;" and this is what the Narcissi have done for themselves, and we in helping them have reaped a rich reward.

Near Boston in Lincolnshire, all around London, and in Cornwall and the Isles of Scilly, the culture of Narcissi has really been the salvation of tenant and landlord alike during the past ten or twenty years.

The moral of land culture in England seems to be this, our corn, and wine, and oil—in a word, our food and clothing, can to-day be grown for us and brought to us, more cheaply than we can do it for ourselves, but our beautiful flowers can be best grown at home. An acre of Wheat, or an acre of Potatoes, may be put down as worth from £20 to £30, according to locality and variety, &c., but an acre of choice Daffodils may be worth anything from £50 to £500, or even much more. Again, when glass-house shelter is judiciously added to the open-air culture of Narcissi, the gains are multiplied, as it enables markets to be supplied during bad winter weather, when open-air flowers are scarce, and flowers are at their highest value.

To give some idea of the traffic in Daffodils and other produce from the Scilly Isles, I may say, that on one day in March of this year, twenty-seven tons of these flowers were sent from that part to England; and on March 17th, 199 railway-trucksloads of Broccoli and Wallflowers were dispatched from Cornish stations in eight special trains. The flower trade in Scilly has been a growing one: 65 tons in 1885, 85 tons in 1886, 100 tons in 1887, 188 tons in 1888, and 198 tons in 1889; but during the past five or six years even this gigantic record has been exceeded. This record is for cut flowers alone, and in addition many bulbs have been sold, and from actual trial I can say that the best Narcissus bulbs from Scilly and from Ireland are finer and healthier, and more floriferous, than those from the Continent or elsewhere.

In a word, we are progressing in bulb culture and can grow Narcissi, Crocus and Tulip roots quite as well in Great Britain and Ireland as it is possible to produce them elsewhere. This is a most important point, and may have a wide-reaching influence on our land culture in the future.

*The Future.*—Now, what is to be the future of our favourite flower? It is an old proverb, "Never prophesy unless you know," but, if "coming events cast their shadows before," then at least we may observe the shadows! And as I see them, the shadows form a good augury for our favourite Narcissi.

Flowering as they do in early spring, shelter is for them a great necessity; and shelter from wind and sea-spray, absence of severe frosts, and abundance of winter sunlight, are the secrets of success in the Scilly Isles. The mean winter temperature in the Scilly Islands is as high as that of many places in S. Europe.

The future of the Narcissus industry will consist of a more rigid selection, and the rearing of kinds far better than even the best we have at the present time. In a word, it is not so much extension as improvement that is necessary. It is easier to increase existing kinds of moderate quality than it is to rear new seedlings better in all ways than are the best of the older ones.

There are in all twenty to thirty wild species of Narcissi known to botanists, but of these five or six only are of use to those who rear Narcissi for our gardens and the flower markets.

1. The Daffodil (*N. pseudo-Narcissus*), N. W. Europe.
2. The so-called Poet's Narcissus (*N. poeticus*), S. W. Europe.
3. The true Poet's or Bunch-flowered Narcissus (*N. tazetta*), S. Europe to Syria, Cushman, N. India, China and Japan.
4. The Jonquil or Rush-leaved Narcissus (*N. jonquilla*), S. W. Europe.
5. The Reflexed Narcissus, or Angel's Tears (*N. triandrus*), S. W. Europe.

These five species, with their hybrid offspring, really give us all the countless phases of inter-mixed garden Narcissi. The species all come true from seed, and they all hybridise freely with each other, as Herbert proved in the past, and as the Rev. G. H. Engleheart has proved, and is proving for us to-day.

*N. pseudo-Narcissus*, *N. poeticus*, and *N. tazetta*, are the three great species, forming, as it were, the backbone of the race now popular and profitable in our gardens. All the other fifteen or twenty wild species may be grown, and they may be hybridised, but their progeny is not hardy enough, and showy enough, and productive enough, to merit what I may call rough-and-tumble cultivation in the garden or on the flower farm.

Looking around the Narcissus here to-day, you may naturally ask me, what do you want that is not already obtained? Well, we want substance, flowers of stout texture that will carry well, and endure longer than even the best now known. We want a golden flower like *N. maximus*, or even like *N. obvallaris*, that will grow more freely in all soils, and flower more profusely than these now do.

Then we want colour—tricolors it may be, instead of bicolors, or at least we want Horsefield's Daffodil with an orange or scarlet trumpet.

It is suggestive that our highest coloured kinds—those having red cups, are hybrids of *N. poeticus* and *N. tazetta* with varieties of the Daffodil, such as N. C. J. Backhouse, N. Mary Anderson, N. Queen Sophia, and various forms of Barrii or Burbridgei.

The most pure and brilliant varieties as yet raised were obtained in Ireland some years ago by Mrs. Lawrenson between *N. princeps* × *N. poeticus*, and have crane-like white perianths and scarlet crowns, and so far these are the earliest and highest-coloured of all the hybrids known to me. Good form and good colour also will be obtained by crossing the finest formed wild Daffodils of France and Spain with the most shapely and highly-coloured *N. poeticus*. It is also most conducive to success if pollen is used from flowers grown at some distance from the seed-bearing parents.

The vigour of wild parents is sometimes far greater than is that of garden-grown specimens, and there is not much advantage in trying to cross the finest of garden hybrids together. Crosses between "Sir Watkin" and "John Horsefield" for example, give but poor results.

The natural tendency of wild plants is to improve under garden culture, but the best of garden seedlings seem to be at a tension point, so long as they are well grown and undisturbed, but if you re-hybridise them, they frequently seem glad to revert, rather than to improve—i.e., atavism seems to overcome the power we call evolution.

Every one who grows Narcissi in suitable soils and climates, where they seed naturally, should hybridise their best kinds and rear seedlings.

The finest bicolor Daffodil, "John Horsefield," was raised by a Lancashire hand-loom weaver, in a little back garden; and the finest white Daffodil, "Madame de Graaff," is a lucky chance seedling, reared by Mynheer Simon de Graaff, in his nursery at Leyden.

The main point is to multiply the natural chances—keep on crossing, and keep on raising seedlings. Constant increase by seed means new life and added vigour, and often additional beauty or usefulness as well.

Constant vegetative increase by offsets or bulb division, more often means a loss of vigour, unless the offsets are constantly replanted in fresh soil, and even then there is no chance of variety.

#### THE CULTIVATION OF NARCISSI BY AMATEURS.

The Rev. E. S. BOURNE (Dunston Vicarage, near Lincoln) read a paper on this subject. At the outset he said that a general rule should be that a portion of the garden should be set apart, so that the flower may receive special attention, and not merely share the attention bestowed on the garden as a whole.

*Soil.*—The most important matter was to be careful to secure good drainage. It was quite true many robust kinds will flower almost anywhere, but Narcissus bulbs as a rule resent being water-logged. The best soil is a good loam of medium consistency and a certain amount of grit.

*Situation.*—This should be shaded, or partially shaded, during the hottest part of the day, but the flowers should be able to get some sun in the morning or afternoon. The bed should be raised 4 inches above the level of the garden, and

the surface should slope so as to be protected from winds. Mr. Bourne finds that the White Trumpet Daffodil gets on better when it has to make a struggle for existence, and he has some which have done wonders when the bulbs had been sown among the roots of shrubs.

*Time of Planting.*—Every bulb should be in the ground as early as possible in August. The maxim should be—"Plant early." The surroundings should be fairly solid, and the planting should be done when the ground is nicely moistened by showers, and not when it is soddened. The depth, as a general rule, should be from  $\frac{2}{3}$  to  $\frac{3}{4}$  inches below the surface, and the bulbs should be placed gently but firmly on the ground so that there should be no air space beneath.

*Nourishment.*—The rows should be sufficiently wide apart to allow of hoeing. Great care should be exercised in the use of manure. This should be very old horse-manure, and should be applied as a mulch in autumn. Some varieties resent the use of manure.

*Lifting.*—After three years they should be lifted if fine flowers were wished for; and as by separation each bulb would get plenty of room for nourishment, strong sorts should be frequently lifted. The proper time for lifting is when they are ripe and at rest. That period is very short indeed, but the maxim to be followed is better to be too early than too late. The exact time can only be known by observation and experience. Generally, the beginning of July was a very good time, in the Midlands. In the South of England it would be a little earlier. The best varieties should not be pulled but cut apart. The bulbs should not be exposed to the sun, and should be placed in a cool place, under cover to dry gradually, and then afterwards they should be kept in some cool, dry, airy room. He did not generally keep his out of the ground more than a month.

*Varieties.*—The lecturer impressed upon beginners the old maxim that the best was the cheapest in the end. The grower should not hamper himself with inferior qualities which cease to be of any value in a short time, whereas one good stock would in the same time become more valuable.

#### THE DAFFODIL IN ART.

Mr. W. J. CAFARS (Oundle) dealt with the subject of the Daffodil in art. He illustrated his discourse by drawings of many old coloured prints of Daffodils, dating back to five or six centuries [?]. He displayed quite a paternal fondness for the flower, and pointed out its innumerable beauties. He said he had come to the conclusion that when there were Daffodils in all their perfection there was no art to make them known. When we had the art there were no Daffodils, but now we had both Daffodils and art, Daffodils would live through art.

#### THE DAFFODIL AS AN EXHIBITION FLOWER.

Mr. J. D. PEARSON contributed an interesting paper on the Daffodil as an exhibition flower. He dealt with the method of treatment of exhibition blooms, with their cutting, packing and arrangement. He gave some useful information with respect to suitable vases for house decoration. He said one great point was that flowers should be exhibited in their natural positions, as, to the artistic eye, there was nothing more painful than to see beautiful blooms twisted out of their natural forms on wire frames. The Daffodil, for instance, was often seen exhibited with the trumpet staring one in the face, whereas it would, if permitted, always modestly droop its head.

#### THE DAFFODIL IN DECORATION.

Miss MARIE LOWE read a paper on the Daffodil from a decorative point of view. She alluded with deep regret to the poorness of present-day decorative arrangements. The history of the Daffodil in design, she asserted, had yet to be created. Blooms need not necessarily always be displayed in foliage when natural foliage was scarce, nor should they be packed in vases in great bunches. They certainly in that case gave a great display of colour, but the individual blooms were crushed out of all shape. She impressed upon her hearers that flowers should never be put into vases which bore floral decorative designs. In every such case the whole decorative effect was spoilt.

#### THE BASAL ROT.

Dr. CRAWFORD contributed a paper, which, in the author's absence, was read by Mr. Sowerby, the Secretary of the R. B. Soc., on "Basal Rot and the conditions necessary for the healthy culture of the Daffodil." Dr. Crawford said of all the difficulties met with in growing the Narcissus either on a large scale for commercial purposes or on a small scale for pleasure, none was so disappointing as that insidious decay which the Rev. Wolley Dod was the first to describe and call by the name of basal rot. The whole question of the successful culture of the Narcissus was intimately bound up with this fact, for while an occasional bulb might go down before the ravages of the Narcissus-grub, whole plots of certain varieties might be swept away in two seasons by the decay. He had proved that the Narcissus flourished best in virgin soil, for our own Lent Lily, which had a wide distribution over the whole of the western counties of Scotland, was found in its greatest luxuriance in the sloping glens where the soil had been undisturbed by the hand of man. When the plant was put into cultivated soil it went down immediately, and reasoning from that data they might arrive at the conditions for healthy culture.

Plant food largely consisted of four things—nitrogen, phosphoric acid, potash, and lime. Those four were essential

to all perfect plant formation, yet they found whole families of plants that had a special preference for one element more than another. The Narcissus was a phosphate and potassium-loving plant, and the slightest quantity of free nitrogen or ammoniacal compounds were poisonous to it. The first sign of a bad bulb was that of brown, thumb-like markings. The markings might be very slight. Such varieties should avoided however little they were marked, as they were already infested with the Penicillium, which was the cause of basal rot. This scourge might be conquered by yearly lifting. Placing round the bulbs when sown antiseptic screens such as rough sand, soil from the banks of rivers, and road grit, had been found to be only partially successful. He had found a layer of marl—pure carbonate of lime—most useful, as no germs could possibly be present in it. There was no doubt that Dutch growers largely saved their stocks by yearly lifting, and by ascertaining that the soil contained the elements necessary, and not antagonistic, to the life of the plant. The healthy culture of the Narcissus consisted in choosing a mellow soil, free from nitrogenous compounds, or in rendering the soil mellow by first growing on it a crop which would free it of nitrogen, and perhaps the best crop for that purpose was grass.

OTHER PAPERS.

Mr. W. ROBINSON contributed a paper on "The hardy Narcissus, and their artistic use for planting in grass, &c." Mr. C. W. COWAN dealt with "Successes and failures of growing Daffodils in Midlothian." Mr. C. STUART prepared a paper giving a description of the miniature Whitehall group of Daffodils and their origin, and dealing with the subject of "Crosses, and how the different varieties were produced;" and Mr. J. ALLEN gave an account of "Daffodil hunting in the Pyrenees." The papers of Mr. Cowan, Mr. Stuart and Mr. Allen will be published by the Royal Botanical Society in due course; and for the same reason that they were not read—viz., want of time—no discussion took place on any of the papers.

A Vote of Thanks was accorded to the writers of the papers. Mr. BIRKETT, Chairman of the R. B. Society's Gardens, proposed a vote of thanks to the Chairman. He took advantage of the opportunity to say that the Council of the Society were delighted at the result of the exhibition, and he hoped it would not be the last time that the Society would have the honour of meeting them again. He took upon himself the responsibility of saying that the Council would feel delighted to have conferences and exhibitions relating to other flowers as well as the Daffodil.

Major COTTON seconded the motion which was duly carried. The Chairman in responding said, although the weather had been against them, the exhibition and the conference had been a great success.

were (1) animal, (2) excrementitious, (3) vegetable, and (4) mineral substances. Dead animals were sometimes used, for Vines especially, in a raw state, but carcasses should be decomposed and mixed with earth to render their manurial value easily assimilable. Night-soil properly mixed with loam formed one of the richest fertilisers. Corporations sadly neglected their opportunities in this matter, and farmers had not realised the value of night-soil as manure. There were about 36,000,000 people in the kingdom, and reckoning the value of the refuse from each at 5s. yearly, the manure which was now so largely wasted was worth £9,000,000 annually. Destructors were condemned by Mr. EASTWOOD, who contended that night-soil should be properly prepared, and agri culturists encouraged to utilise it. Experts would be better employed in giving attention to this matter than in investigating and recommending artificial manures, which, he thought, tended to exhaust the soil, besides being so expensive. If night-soil were made the most of, nobody would lose, but everybody would gain by it. The difficulty was to avoid the eye-sore and nose-sore that night-soil deposits were at present. This could be done by providing proper sheds for storage, and if the manure were properly mixed and kept under cover, its value would be enhanced. All vegetable refuse in gardens should be collected in heaps, covered with earth, and allowed to rot before use. Lime was a valuable manurial agent, mixed with peat and fibrous loam, and burnt earth and sods, mixed with soot, burnt hedge-clippings, and drenched with house-slops. Mr. EASTWOOD also spoke of sugar-boiler refuse and ground bones as valuable fertilisers. Ground bones should be soaked with water, and by adding sulphuric acid and covering the heap with earth, a rich compost for Turnips and Potatoes would be produced. Great stress was laid by Mr. EASTWOOD on the necessity of preserving all compost from the rain and weather, otherwise its manurial value would be seriously depreciated.

Mr. H. S. GOODYEAR said that twenty years ago the Wakefield Corporation took up the night-soil question with some vigour, but after seven or eight years abandoned it because there was no demand for the manure by the farmers, and the operations resulted in a loss. There would be great difficulty in dealing with the enormous quantity of night-soil from the city by mixing it with loam, as Mr. HUDSON suggested; and as to mixing night-soil with ashes, he might say that he knew of acres upon acres around Wakefield which in a few years would be utterly worthless for agriculture or gardening, owing to being overloaded with ashes. He advocated the burning of all vegetable refuse, which would give potash.

Mr. CORDEN said the Manchester Corporation had for twenty years done a great trade in night-soil properly prepared, and made a considerable profit by selling it as native guano.

vases containing Narcissus blooms in about sixty varieties. The blooms in this collection, by means of wire holders, were made to appear stiff, but the foliage relieved the effect to some extent.

Messrs. J. R. PEARSON & SONS, of Chilwell, Notts, also had a fine collection of Narcissi, the blooms in which were arranged with foliage on a black velvet ground, and without wires.

Messrs. BARR & SON, King Street, Covent Garden, London, also sent a good collection of varieties of the same flower, including some of the rarer and less-known kinds.

Messrs. CURRIE & SONS, Highgate, London, staged a number of excellent plants in pots of the Rose Crimson Rambler, carrying an abundance of flowers; also a number of Boronias, Carnations, small Orange trees, carrying fruits, in pots; Ericas in variety, Azaleas, &c.

In the group of Messrs. SANDER & CO., St. Albans, was noticed the winter-flowering Begonia Gloire de Lorraine, Sarracenia flava, Cattleya citrina, Cymbidium Lowianum, Heliconia illustris rubricaulis, fine plants of Draecena Sanderiana, and miscellaneous Orchids.

Messrs. B. S. WILLIAMS & SONS, Holloway, London, staged a group of their Hippeastrums, also a collection of Cliveas, and a quantity of Mignonette in pots, Peonies, Azalea mollis, &c.

The effect of the above-mentioned groups, combined with the cut-flowers, was a most pleasing one, and it is hoped that the results of the exhibition will be a pecuniary advantage to this useful institution.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

ROYAL HORTICULTURAL.

Scientific Committee.

APRIL 7.—Present Mr. J. T. Bennett-Poë (in the Chair), Mr. Douglas, Rev. W. Wilks, and Rev. G. Henslow (Hon. Sec.).

Potato Perforated by a Subterranean Stem.—With reference to the specimen brought to the last meeting, it is said that the penetration was effected by the secretion of a solvent substance or ferment. This was the conclusion drawn by M. Prunet (Rev. Gén. de Bot., vol. ii., p. 166, 1891). On the other hand, G. J. Peirce would attribute the penetration to mechanical pressure, and not to the action of a diastatic ferment (Bot. Zeit., lii., p. 169).

Bitter and Bergamot Oranges from La Mortola.—Mr. Henslow exhibited specimens from the Marchese Hanbury. The former was raised by him from a pith of an Orange from a tree at Rome, said to have been planted by St. Dominic about A.D. 1200, which still exists at the monastery of St. Sabina. It is supposed to have been one of the earliest trees introduced into Europe. The Bitter Seville, or Bigarade Orange (Citrus vulgaris, Risso), is believed to have been the first kind cultivated. Mr. Henslow observed that the so-called "wild Orange" used for stocks in Malta bears a quite uncatchable fruit of a similar kind. The Bergamot is a small Orange (2½ to 3 inches in diameter). The peel is smooth and thin, abounding in essential oil of a peculiar fragrance, strongly suggestive of eau de Cologne. It is cultivated at Reggio, in Calabria, and is unknown wild. It first appeared in the latter part of the seventeenth century (Pharmacographia, p. 121).

Violets.—Mr. Henslow also showed some Violets from Mentone remarkable for their large size. When dried they were 1½ inch in diameter. They are commonly sold in the Riviera, but are mostly very deficient in scent. They may be the source of the Violet Princess of Wales, which is of French origin.

Fasciated Brussels S. roots.—Mr. Smee sent a very remarkable specimen. The stem was cylindrical at the base, but widened out into a broad paddle-shaped and flattened extremity, covered with minute buds. He also exhibited excellent photographs of the same.

WAKEFIELD PAXTON.

APRIL 2.—The Paxton Society met at its room, Wakefield, on the above date. Mr. J. EASTWOOD, Stanley, read a paper on "The Compost Heap." A gardener without compost, he said, was like a general without an army. There were many ways of making compost, but the most important materials

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

APRIL 9.—The Wolverhampton and Staffordshire Auxiliary Branch of this Society held their second annual show of spring flowers and decorative plants in the Drill Hall, Wolverhampton, on the above date. The Staffordshire Auxiliary, owing to the energetic action of the committee, has been very successful, and the amount subscribed to the parent society last year was something over £60. The spring show is held for the purpose of acquiring funds, and consequently no money prizes are offered, but in their stead diplomas are awarded. Amongst those who contributed to the display were the following—

The Right Honble. Lord WROTTESLEY (gr., Mr. Simpson), put up a well-arranged group of very miscellaneous character, Begonia semperflorans gigantea rubra profusely flowered, some finely-bloomed zonal Pelargoniums, White Stocks, Spireas, Deutzia gracilis, were included, as also were Dracaenas, Caladiums, Adiantum Farleyense, Ficus clastica, and Kentia australis.

Mrs. EARP, of Dunstall Hall, Wolverhampton (gr., Mr. Hugh Jones), staged a group consisting of well-bloomed plants of Azalea indica, Cologynne cristata, Cinerarias, Pandanus Veitchii, Primulas, Ferns, Coleus, &c.

Colonel the Honble. STAPLETON COTTON, Somerford Hall, Brewrod (gr., Mr. Ambrose), staged a grand well-flowered plant of Crinum latifolium, which was brought by the Colonel from Zululand after being engaged in the war there.

A group sent by Mr. BAKER, Waterdale, Wolverhampton (gr., Mr. Shingler), contained well-grown plants of Kentia australis, Azaleas, and other spring-flowering plants.

A group of well-flowered Orchids was sent by Mr. THOMSON, of Walsall, an amateur grower.

Of the local trade-growers, Mr. R. LOWE, Exchange Street, Wolverhampton, arranged a pretty group of plants, containing fine specimen Palms, Aralias, Goniolistas, Azaleas, Ferns, Hydrangeas, &c.

Messrs. TOM B. DODDS & CO., of Queen Square, Wolverhampton, staged a group of plants arranged with statuary, and containing Lilacs, tall Kentias, Lilies, &c.

Mr. JOHN E. KNOBT, nurseryman, Dudley Street, Wolverhampton, made a grand display of Palms and Azaleas in variety. This group contained a quantity of Narcissus Sir Watkin, and seedling Calceolarias.

Nurserymen from a distance included Messrs. JAMES VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, London, who exhibited a quantity of Narcissus in seventy varieties.

Mr. THOS. S. WARE, of Tottenham, London, staged 150

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	Above (+) or below (−) the Mean for the week ending April 11.	ACCUMULATED.			No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.				
0	4 + 28	0	+ 81	− 272	10 + 81	20.0	13	16
1	6 + 48	0	+ 85	− 204	1 − 57	5.5	83	26
2	7 + 58	0	+ 95	− 197	3 − 45	4.4	44	24
3	5 + 53	0	+ 72	− 221	2 − 55	5.6	26	24
4	5 + 53	0	+ 90	− 231	2 − 50	4.8	27	22
5	5 + 60	0	+ 99	− 227	4 − 47	4.6	19	23
6	4 + 44	0	+ 103	− 204.0	aver 68	13.0	29	21
7	4 + 48	0	+ 126	− 227	1 − 59	8.7	31	22
8	4 + 53	0	+ 121	− 187	3 − 54	7.3	29	25
9	4 + 49	0	+ 134	− 211	1 − 64	10.0	21	19
10	3 + 55	0	+ 160	− 192	3 − 58	9.3	23	21
* 3	+ 63	0	+ 197	− 108	3 − 57	5.1	31	31

The districts indicated by number in the first column are the following:—

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—
- 6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending April 11, is furnished from the Meteorological Office:—

"The weather in the north of Scotland was unsettled and rainy throughout the week; in all other parts of the kingdom, however, the conditions were fair and dry until the period drew towards its close, when changeable, showery weather, with hail at times, extended to all parts of our islands. Thunder and lightning occurred at some of the Scotch stations during the night of the 10th.

"The temperature was considerably above the mean, the excess ranging from 3° in 'Ireland, S.' and the 'Channel Islands,' to 4° or 5° in most other districts, 6° in 'Scotland, E.,' and to 7° in 'England, N.E.' The highest of the maxima were registered either on the 7th or 8th, and ranged from 66° in 'England, E. and N.E.,' to 56° in 'Scotland, N.' The

lowest of the minima were recorded, as a general rule, on the 16th or 11th, when the thermometer fell to 31° in 'Scotland, N.,' 32° in 'Scotland, E.,' and to between 33° and 39° in most other districts; in the 'Channel Islands' the lowest reading was 44°.

"The rainfall was much in excess of the mean in 'Scotland, N.,' and just equal to it in 'Scotland, W.:' in all other districts, however, there was a considerable deficit.

"The bright sunshine exceeded the mean in 'England, N.E.:' but in nearly all other parts of the kingdom there was a deficiency. The percentage of the possible duration ranged from 44 in 'England, N.E.:' and from 33 in 'Scotland, E.:' to 19 in 'England, S.:' and to 13 in 'Scotland, N.:'

CULTURAL MEMORANDA.

PROPAGATING AUBRIETIAS.

GROWERS often complain of the difficulty experienced in successfully removing this plant after it has been used for spring bedding, and I have known it to be left in the beds throughout the summer owing to this reason. As it only forms a dull green mass during that time, it is not desirable. There is considerable risk of losing the greater part of the stock if it is much disturbed at the roots during hot, dry weather; and if the operation cannot be done at another time, the plants should be quickly replanted on a north border mulched with old Mushroom-dung or half-decayed leaf-soil, and attention given to affording water when necessary afterwards. A better practice than this is to raise a fresh stock of plants every year. Reserve a few of the plants when bedding-out in October, and pull these to pieces in April, securing a small amount of root to each division, and then plant out at about 9 inches by 12 inches apart on well-prepared ground in an open position. Small pieces, if so treated without delay, will make nice plants for filling the beds in the autumn, provided they are planted firmly and watered occasionally until they commence rooting. The variegated form is very useful as a carpeting plant or for edgings, but is much slower in growth than the green-leaved varieties. The best of the latter are *A. græca*, blue; *A. g. Leichtlinii*, crimson; and *A. g. Hendersoni*, crimson-purple. None of them can be depended upon to come true from seed; division of the clumps is the only sure means of increase. *H. H. Divers, Belvoir Castle Gardens, Grantham.*

VARIORUM.

SHOW AT NEWCASTLE-ON-TYNE.—The Durham, Northumberland, and Newcastle Horticultural Society held its spring exhibition at the Town Hall, and Corn Exchange, Newcastle, on Wednesday and Thursday last. It was of a particularly fine description, but owing to our lack of space, the report will be held over till next week.

PUBLICATION RECEIVED.—*Useful Notes for Travellers in Europe* (PITT & SCOTT, 25, Cannon Street, London, E.C.).

MEXICAN VEGETATION.—The Cuernavaca train, issuing northward from the Buena Vista Station, in Mexico City, first swings around to the west over salt meadows, then turns southward just back of the heights of Chapultepec, crowned with national buildings, to pass over Scott's battle-field of Molino del Rey, through Tacubaya and other suburban towns, most interesting with their magnificent villas, surrounded by parks and gardens, and over dry glades bristling with plantations of Magney. About ten miles out the foot of the Sierra de Ajusco is reached. Here, after passing through a scattered forest of Pinus leiophylla, a symmetrical tree of medium size, with the slenderest leaves and densest among Pines, we are confronted by lava-beds covering the mountain-side, and spreading for miles over the valley at its foot, a wild waste, almost impassable even on foot, black, brown, or red rock, but half concealed by vegetation. Down the slope innumerable streams of molten lava once poured, crowding upon and overrunning each other, heaping up ridges and hillocks

or ploughing out channels, seething and swirling, and, as they cooled, cracking into chasms, or, by upheavals of crust, forming frequent little grottoes. Right over this pedregal, through devious loops and up toilsome grades, our train mounts to the summit of the Sierra. To scan the scenes through which we pass yields intense interest. This pedregal is seen to be a preserve of plants from far and near. For beauty, it is like a flower garden. From nooks and crannies of the rough rocks, or from open patches amid masses of lava, spring Dahlias and Begonias, Senecios and Stevias, Pentstemons and Salvias, flowering shrubs and flowering trees—in every colour to make the scene bright and pleasing. On driest crags stand great Cotyledons and Sedums, and in the partial shade of little grotts rugged walls are softened by delicate Ferns. Thus, on a gigantic scale, Nature has here wrought at wild gardening with surpassing results. One catches glimpses of a thousand pieces of rock-work which the gardener would covet and long to transport to his city parks. Higher up the scene changes for a brief space to one of extreme desolation, where fragments of lichen rock strew the slope. Then, as we near the summit over such open slopes, our eyes turn to survey the Valley of Mexico, that wonderful valley, in the praise of whose beauty and grandeur the Spaniard exhausted the riches of his language. No better point of observation could be chosen. We are some 2000 feet higher than the level of the valley, and are here sitting at our ease in a railway train. Nothing obstructs our view of the entire valley some fifty miles in breadth. We look down upon the great city in its midst, with its 200 towers and domes; see the causeways, marked by bordering lines of Willows and Australian Gum-trees, which radiate from it across green meadows; count scores of villages nestling amid greenery and shade, and trace the shining lakes, white-rimmed by bare alkaline flats. We follow the complete circle of mountains which embrace this valley. Over against us in the south-east, and seemingly face to face with us at this height, dominating all the circle, stand the two great snowy mountains which are the crown of all the scene. *C. G. Pringle, in "Garden and Forest," March 11.*

MARKETS.

COVENT GARDEN, APRIL 16.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. BR.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Fiens elastica, each 1 0-7 6
Aruna lilies, pr. dz. 5 0-3 0	Foliage plants, doz. 12 0-24 0
Aspidistra, per doz. 12 0-30 0	Genistas, per doz. 6 0-9 0
—specimen, each 5 0-15 0	Hyacinths, per doz. 6 0-9 0
Azalea, per plant 2 0-3 6	Hydrangea, various
—mollis, per doz. 12 0-24 0	per doz. ... 9 0-24 0
Cineraria, per doz. 6 0-9 0	Lilium Harrisii, pr.
Cyclamen, per doz. 9 0-15 0	dozen pots ... 18 0-36 0
Dicentra, per doz. 9 0-12 0	Marguerites, p. doz. 6 0-10 0
Dracena, each ... 1 0-7 6	Mignonette, p. doz. 6 0-9 0
—various, p. doz. 12 0-24 0	Palms, various, ea. 2 0-8 0
Ericas, various, doz. 9 0-24 0	—specimens, ea. 10 6-84 0
Evergreen Shrubs,	Primula sinensis,
in variety, doz. ... 6 0-24 0	per dozen ... 3 0-4 0
Ferns, small, doz. ... 1 0-3 0	Spineas, per doz. ... 8 0-12 0
Ferns, various, doz. 5 0-12 0	

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples from Nova Scotia, per barrel ... 14 0-22 0	Grapes, Gros Colmar, 1st quality, lb. 4 6-5 0
—Tasmanian, 1st quality, per bushel case 14 0-16 0	Peaches, per doz. 15 0-18 0
—do., 2nd do. ... 9 0-10 0	Pine-apples, St. Michael, each ... 2 0-5 0
—do., inferior do. 6 0 8 0	Strawberries, morning-gathered, Paxtons, per lb. ... 5 0-6 0
Cobs, per 100 lb. ... 25 0-31 0	—packed in bxs. per lb. ... 3 0-4 0
Figs, per doz. ... 6 0-8 0	—seconds, per lb. 2 0-2 6
Grapes, Hambrough, per lb. ... 4 0-5 0	

VICTORIAN AND TASMANIAN APPLE.—S. S. Battara, with 21,000 boxes, due for sale on Monday, 20th inst. In comparison, the Tasmanian fruit, by *s.s. Oruba*, last week, turned out much finer than those of the Victorian growth. The prospect is very favourable for a successful season. *J. B. Thomas.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Arunis, p. 12 blooms 2 0-4 0	Narcissus, Various, per 12 bunches ... 6 0-1 6
Azalea, 12 sprays ... 0 4-0 8	Orchids:—
Bouvardias, per bn. 0 6-1 0	Cattleya, 12 blms. 6 0-12 0
Carnations, 12 blms. 1 0-3 0	do on to glossum crispum, 12 bn. 3 0-6 0
Daffodils, double, doz. bunches ... 1 0-2 0	Pelargoniums, scarlet, per 12 bun. 4 0-6 0
—single, 12 bun. 3 0-6 0	—per 12 sprays ... 0 6-0 9
Deutzia, doz. bun. 3 0-4 0	Pyrethrums, 12 bn. 2 0-4 0
Eucharis, per dozen 4 0-8 0	Roses, Tea, per doz. 0 3-2 6
Gardenias, per doz. 2 0-4 0	—coloured, p. doz. 2 0-4 0
Hyacinths (Roman) 12 sprays ... 0 1-0 6	—pink, French, dz. 3 0-6 0
—per doz. spikes 2 6-4 0	—yellow (Marechal), per doz. 3 0-6 0
Lapageria, 12 blms. 0 6-1 6	—red, per dozen 2 0-4 0
Lilac, French, p. b. 3 0-5 0	—Saffran, p. doz. 1 6-2 0
Lilium Harrisii, bu. 3 0-5 0	Spirea, doz. bun. 2 0-5 0
Lily of the Valley, per doz. sprays, 0 6-1 0	Stephanotis, 12 sps. 6 0-9 0
Maidenhair Fern, per 12 bunches ... 4 0-8 0	Tuberose, 12 blms. 0 9-1 6
Marguerites, per 12 bunches ... 3 0-6 0	Tulips, various, dz. 0 3-0 6
Mignonette, 12 bn. 4 0-6 0	Violets, 12 bunches 1 0-1 6
Narcissus, White, 12 bun. ... 1 6-2 6	—Parme, French, per bunch ... 2 0-3 0
	—Czar, do. ... 2 6-2 6

ORCHID-BLOOM IN VARIETY.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Asparagus, Worcester, p. bundle 3 0-3 6	Potatoes, Channel Islands, per lb. ... 0 2-0 5
—Colchester, p. bundle ... 5 0-6 0	Radishes, Channel Islands, doz. bun. 0 8 0 9
Beans, per lb. ... 0 10-1 0	Seakale, per punnet 0 9-1 3
—Madeira, p. bus. 8 to 10 lb. ... 3 0-3 6	Tomatoes, English, per lb. ... 1 3-1 6
Cucumbers, per dz. 2 0-3 0	—Canary Islands, per case, 12 to 14 lb. ... 6 0-7 0
Mint, per bunch ... 0 2-	—Canary, boxes, 4 to 4½ lb. ... 2 0-2 6
Mushrooms, per lb. 0 6-0 8	
Peas, Channel Islands, per lb. ... 0 10-1 3	
Onions, Eng., cwt. 3 0-4 0	

OLD POTATOES. Outlook very gloomy.

NEW POTATOES.

Very heavy arrivals are now due, both from the Canary Islands as well as from Malta. Prices for best Malta Kidneys 12s. to 16s.; ordinary, 9s. to 11s.; small, 7s. to 7s. 6d.; rounds, 8s. to 10s.; Canary Kidneys, best, 12s. to 15s.; ordinary, 7s. to 10s. per cwt. The prospects are good for an early season from Cornwall and Channel Islands. Jersey reports general gathering of their crops first week of May, and from the sheltered spots on 27th inst. *J. B. Thomas.*

SEEDS.

LONDON: April 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the market for farm seeds now exhibits a greatly improved feeling. The strong seasonable consumptive demand that prevails, coupled with an increasing speculative inquiry for holding over, and both acting on very moderate stocks and unusually low prices, has naturally brought about a good business. Red Clover seed especially shows marked improvement. For Trefoil, White, and other descriptions, the tendency is also upwards. There is no change in Tares. The trade for bird seeds is featureless. Peas and Haricots are decidedly more lively.

FRUIT AND VEGETABLES.

BOROUGH: April 11.—Quotations:—Savoys, 4s. to 5s., and Cabbages, 2s. 6d. to 3s. per tally; Onions, 2s. 9d. to 3s. 9d. per bag; Carrots, 2s. 3d. to 2s., and Turnips, 2s. to 2s. 9d. per dozen bunches; Horseradish, 1s. to 1s. 2d. per bundle; Apples, 4s. to 5s. per bushel.

SPIRALFIELDS: April 14.—Quotations:—Cauliflowers, 4s. to 6s. per tally; Cabbage, 1s. to 3s.; Bunch Greens, 2s. to 2s. 6d. per dozen; Spring Onions, 1s. 6d. to 2s. per dozen bunches; Leeks, 1s. to 1s. 6d. per dozen; Parsley, 1s. to 1s. 6d. per dozen bunches; Seakale, 8d. to 10d. per punnet; Broccoli, 9d. to 1s. per bag; Kale, 9d. to 1s. do.; Rhubarb, forced, 10d. to 1s. 3d. per dozen bundles; natural, 1s. 3d. to 2s. do.; Parsnips, 6d. to 8d. per score; Turnips, 1s. 9d. to 2s. per dozen bunches; Carrots, 2s. to 2s. 6d. do.; Turnips (per ton), 25s. to 40s.; do. Carrots, 21s. to 40s. do.; Apples, dessert, 7s. to 8s. per bushel; cookers, 6s. 6d. to 7s. do.; Cucumbers, 2s. 6d. to 3s. per dozen.

STRATFORD: April 14.—Quotations:—Cabbages, 4s. to 6s. per tally; Greens, 1s. to 1s. 6d. per bag; do., 1s. to 1s. 6d. per dozen; Cauliflowers, 1s. to 1s. 6d. per dozen; do., 4s. to 7s. per tally; sprouting Broccoli, 9d. to 1s. per bag; Beetroot, 4d. to 6d. per dozen; Horseradish, 1s. 1d. to 1s. 2d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Rhubarb, forced, 10d. to 1s. do., field, 1s. 6d. to 2s. do.; White Turnips, 1s. 6d. to 2s. 3d. per bag; Leeks, 1s. to 1s. 6d. per dozen bunches; spring Onions, 1s. to 1s. 6d. do.; salad, 1s. 6d. to 2s. per dozen punnets; frame Cucumbers, 2s. to 3s. 6d. per dozen; Carrots, household, 2s. to 2s. per ton; do., cattle feeding, 14s. to 20s. do.; Parsnips, 3s. to 6d. per score; Mangels, 14s. to 18s. per ton; Swedes, 12s. to 16s. do.; Onions, English, 80s. to 100s. do.; do. Dutch, 3s. to 3s. 6d. per bag; do. Egyptian, 5s. to 6s. do.; Apples, English cookers, 5s. 6d. to 7s. per bushel; do. Nova Scotia, 18s. to 22s. per barrel.

FARRINGTON: April 16.—Quotations:—Cauliflowers, 1s. per dozen; Broccoli, 6d. per bushel; Greens, 6d. do.; Leeks

1s. per dozen; Soakale, 1s. per punnet; Cucumbers, 3s. per dozen; Mushrooms, 9d. per lb.; Horseradish, 1s. per bundle; Beets, 2s. per bushel; Tomatoes, 8d. per box; Parsley, 2d. per bundle; Apples, Tasmanian, 12s. to 15s. per box; do., American, 23s. per barrel.

**POTATOS.**

**BOROUGH:** April 14.—Quotations ranged from 30s. to 93s. per ton.

**SPITALFIELDS:** April 14.—Quotations.—Black lands, Bruce, 30s. to 40s.; Reading Giants, 25s. to 40s.; High lands, Main Crop Kidneys, 35s. to 50s.; Bruces, 35s. to 45s.; Drones, 45s. to 55s.; Saxony, 60s. to 80s.; Sutton's Abundance, 50s. to 65s.; Magnums, 35s. to 45s.; Imperators, 40s. to 50s.; Scotch Bruces, 40s. to 50s.; Main Crop Kidneys, 45s. to 55s.; Dunbars, 70s. to 80s. per ton.

**STRAATFOOD:** April 14.—Quotations.—Dark soil, Bruce, 20s. to 25s.; light do., 25s. to 60s.; Reading Giants, 30s. to 40s.; Sutton's Abundance, 20s. to 45s.; Scotch Main Crop, 40s. to 50s.; Dunbar Magnum, 60s. to 80s. per ton.

**FARRINGDON:** April 16.—Quotations.—Hebrons, white, 75s. to 85s.; Main Crop, 65s. to 70s.; Bruces, 40s. to 50s.; Magnums, 30s. to 40s.; Giants, 40s. to 50s. per ton.

**LONDON AVERAGES:** April 15.—Saxons, 70s. to 85s.; Dunbar Maincrop, 60s. to 75s.; Bruces, 60s. to 70s.; Sutton's Abundance, 45s. to 55s.; Maincrop Kidneys, 40s. to 50s.; Imperatoris, 25s. to 40s.; Magnums, 25s. to 35s. per ton; New Jersey and Guernsey, 3½d. to 4d. per pound.

**HAY.**

**Averages.**—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 6s. to 87s. 6d.; inferior, 38s. to 60s.; hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 80s.; and straw, 20s. to 40s. per load.

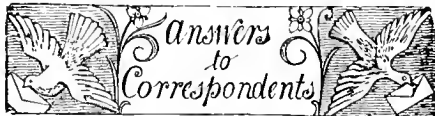
**CORN.**

**Averages.**—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending April 11, and for the corresponding period last year:—1896: Wheat, 24s. 6d.; Barley, 21s.; Oats, 13s. 1d. 1895: Wheat, 20s. 4d.; Barley, 21s. 3d.; and Oats, 13s. 11d.

**ENQUIRY.**

"He that questioneth much shall learn much."—Bacon.

Will any readers kindly inform me through your columns of the addresses of any continental growers of alpine and Pyrenean plants? I already know of Sunderman of Lindain, and Herr Gusnus, Klagenfurt, Austria.—H. Correvo, Geneva.



**ABUTILON:** T. E. S. The cross between a yellow variety and the white Boule de Neige has resulted in a showy large, striking flower, rather coarse, as seen, but which may become refined when grown from cuttings. A good variety for large conservatory, as covering for walls, pillars, tie-rods, &c.

**BOOKS:** A. M. C. *Fruit Farming for Profit*, by G. Bunyard; free by post, 2s. 9d., of F. Bunyard, 29, Week Street, Maidstone.—*Vines and Vine Culture*, by A. F. Barron (Publisher, 171, Fleet Street, E.C.). A pamphlet on *Cucumber Growing* is published by Upcott Gill, at 170, Strand, W.C.

**BOXES, &c.:** *Trec Fern*. If you will send your full name and address, we will communicate with you by letter.

**CARNATIONS DISEASED:** *Hawkstone*. Although there are as yet no external manifestations of the mould on your Carnations, we have no doubt, from appearances, that they are infested with the black mould, called *Heterosporium echinulatum*; see *Gardeners' Chronicle*, August 21, 1886, and 1870, p. 382. We can suggest no cure, since the plants are doomed when once affected; and the only preventive is to root out and destroy all infested plants for the protection of the rest. We do not imagine that fungicides will help at all in such an endophthal disease, but a copper solution might be tried as a forlorn hope. M. C. C.

**CORRECTION:** For name at foot of article on *Freesia refracta*, p. 458, for Hurt read Sturt.

**CATTELEYA-FLY** (see fig. 78).—*Three Correspondents*. The accompanying illustration will help you to identify the Cattleya-fly. The best way of getting rid of it is to cut off and burn affected roots and buds, and to search diligently both in the daytime and evening for the mature insect.

**DENDROBE:** X. Y. Z. You seem to have grown your *Dendrobium thyrsiflorum* remarkably well, but you expect too much from it. The plant having but one lead, the two spikes which are maturing are quite sufficient. Those which appear on the old imported pseudo-bulbs may have matured, if the others had not got the start of them. It is better to be content with one good leading growth than to have two indifferent ones. The same applies to the *Cattleya labiata*. The back eyes are only brought into use in case of accident to the leader. If you must propagate, cut the back bulbs off and crock them up.

**INSECTS:** P. W. A., W. Jones, J. S. The "worms" in your Peas and Beans are young millipedes (*Julus*). It is possible the eggs may have been in the manure, but it does not necessarily follow the same remedies as for wireworms. Try one of the approved insecticides for such cases, as what you have done appears of no avail. See that the earth is clean before making a fresh sowing. R. McL.

**NAMES OF PLANTS:** W. C. S. *Bifrenaria atropurpurea*.—L. C., *Manchester*. *Dendrobium super-*

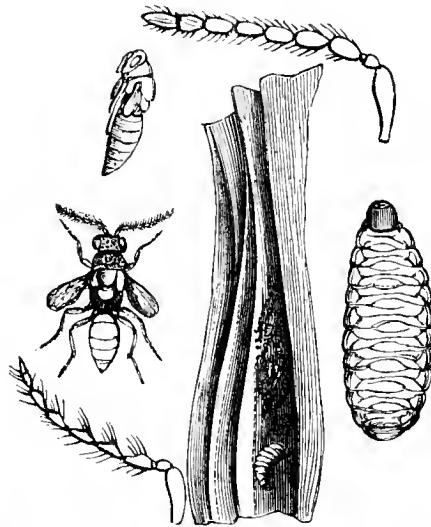


FIG. 78.—THE CATTELEYA-FLY: ISOSOMA ORCHIDEARUM.

bum, commonly called in gardens *D. macrophyllum*.—*Paekham*. So far as we can judge by the single, rather dry, flowers sent, the small white flower is *D. barbatulum*; the other, *D. transparens*.—*In blue box*. No name. 1, *Cœlogyne cristata*; 2, *Dendrobium densiflorum*; 3, *Anthericum lineare variegatum*.—C. C., *Oxford*. 1, *Dendrobium Pierardi*; 2, *Celsia cretica*; 3, *Pulmonaria officinalis*.—C. L. *Fittonia Verschaffeltii*, often called *Gymnostachyum*, *Adiantum gracillimum*, and *Dendrobium superbum anosuam*.—Q. R. *Amygdalus nana*.—Mrs. A. J. *Prunus triloba*.—W. K. D. 4, *Cupressus* (*Retinospora*) *pisifera*; 5, *Morrea fimbriata*; *Rhododendron* next week.—P. K. 1, *Ilex latifolia*; 2, *Erica colonodes*; see fig. 74, p. 487; 3, *Olearia argyrophylla*; 4, *Leiophyllum thymifolium*; 5, *Andromeda polifolia*.—E. R. ? C. C. Paper-box packed with grass. 1, *Eranthomum*; 2, *Forsythia suspensa*; 3, *Spiraea*, not in flower; 4, *Amygdalus nana*; 5, *Lycium barbarum*. S. M. *Ornithogalum nutans*.—G. B. 1, *Dendrobium Heyneanum*; 2, D. *Pierardi*.—F. H. *Milton*. *Scrophularia vernalis*, a rare British plant. —C. Collett. *Lathraea squamaria*.—Petite. 1, *Brunfelsia americana*; 2, *Begonia glaucophylla*; 3, *Asclepias curassavica*; 4, *Cyperus laxus*; 5, *Carex brunnea variegata*; 6, *Lavandula dentata*.—H. G. D. 1, *Diosma ericoides*; 2, *Sempervivum tortuosum variegatum*; 3, *Pyrus* (*Cydonia*) *japo-*

*nica*; 4, *Diplacus glutinosus*.—F. M. C. 1, *Ribes aureum*; 2, *Forsythia suspensa*.—C. W. 1, *Erica herbacea*; 3, *Pyrus japonica*; 4, *Nuttallia cerasiformis*, see fig. 75, p. 489; 5, *Ribes aureum*; 6, *Forsythia suspensa*.—K. L. 1, *Epimedium pinnatum*; 2, *Asarum europæum*; 3, *Ilesperis matronalis*; 4, *Omphalodes verna*; 5, *Linaria cymbalaria*; 6 and 7, *Aubrietia deltoidea*.—A. C. 1, *Cerasus pseudo-cerasus fl.-pl.*; 2, *Staphylea colchica*. Both are quite hardy.—T. A. 1, *Fittonia Pearcei*; 2, probably *Crassula jasminea*: send when in flower; 3, *Pilea microphylla* (*muscosa*).—S. Ridley. *Sprekelia formosissima*.—G. F. Apples next week, if it is possible to determine them now; 4, *Pinus excelsa*; 5, *Picea Morinda*; 6, *Cupressus macrocarpa*.—A. B. *Ribes sanguineum*, double rose form; *Primula* var. *Epimedium alpinum*.—W. B. *Pulmonaria officinalis*.—H. P. *Acer platanoides*, the Norway Maple.—W. G. *Pittosporum undulatum*.—W. W. 1, *Fuchsia splendens*; 2, *Oxalis Ortigiesii*.—W. B. *Amelanchier canadensis*.—No name—in wooden box. 1, *Accoanthera spectabilis*; 2 and 3, forms of *Symphytum officinale*.

**NECTARINE:** W. W. The shoots are badly blistered, you should have sprayed them with Bordeaux Mixture some time since. It might be of service now but in any case pick off the leaves and burn them.

**ORANGE:** F. S. M. Cut the fruit down through the middle, and you will see that there are two rows of carpels one above the other. It is not uncommon in Oranges.

**ORCHIDS:** J. O. Probably *Cœlogynes*, but you should send some for our inspection another flowering season. The shrivelling may be due to exhaustion from excessive flowering, or over-dryness, but as you give no information concerning the kind of treatment employed, we cannot say which is the cause.

**PEACH-HOUSE:** *Young Beginner*. Let the trees come on without fire-heat, and do not use the syringe for the present, excepting on days that are warm and sunny; only harm is done by rendering the trees and everything about them moist on cool days—in fact, it is a good way of inducing mildew. Later on, in May and June, you may syringe the trees afternoon and morning. Disbud regularly at short intervals, and keep the border moist.

**PELAGONION LEAVES:** J. C. Try a solution of flowers-of-sulphur and water, in the manner described by Mr. Woodgate in "Hardy Fruit Garden" Calendar, in present issue; or use the Bordeaux Mixture in a rather weaker state than the normal strength. Formula often given in these pages.

**PRIMROSE:** S. C. A very good double ivory-white, of good form and substance.

**ROSE NIPHETOS:** W. R. The petals have retained their original leafy condition; why, we cannot tell you.

**SOIL FOR MELONS:** J. G. The soil being very light and poor, you should add heavy loam and a small quantity of well-rotted farmyard or stable manure to it, well mixing the whole together. If you could put a layer of clay under the hillocks on which the plants will grow, it would do good by retaining moisture about the roots. The soil should be well compacted together when put into the frames. It is useless to use bones in the soil, the plant being too short-lived.

**STREPTOCARPUS:** J. L. Two flowers combined into one.

**VINE LEAVES:** R. W. Specimens of leaves too small for investigation. You should send shoots, and more and larger leaves, as well as the tips of shoots.

**WISTARIA SINENSIS:** Scot. By layering in pots or in the borders. Varieties may be grafted or inarched in stocks of *W. sinensis* so obtained. Sometimes seed of Continental growth of the species can be obtained here.

Mr. ROBERT LINDSAY has retired from the Curatorship of the Royal Botanic Garden, Edinburgh, on March 31; present address, Windsor House, Ferry Road, Edinburgh.

**COMMUNICATIONS RECEIVED.**—E. C. L., New York.—W. R.—J. E. G.—J. R. J.—J. R.—D. T. F.—G. A. B.—J. M.—W. P. W.—W. J. B.—J. A.—J. D.—F. P.—W. E., Broadway.—Godard (telegram).—A. B.—W. L. S.—R. M.—W. Williams (next week).—Col. H. T.—J. B.—W. K.—G. W.—G. H.—R. C.—J. W.—R. L.  
**SPECIMENS RECEIVED, WITH THANKS.**—A. F.—J. A.—D. C.



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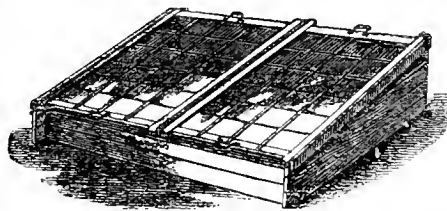
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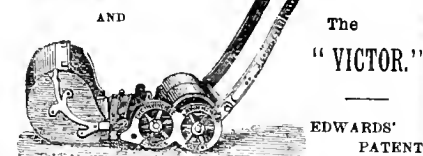
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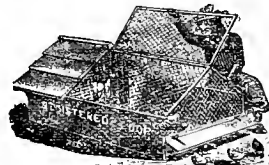
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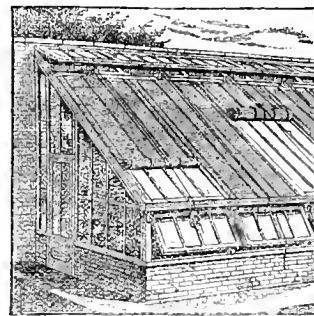
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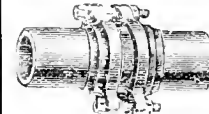
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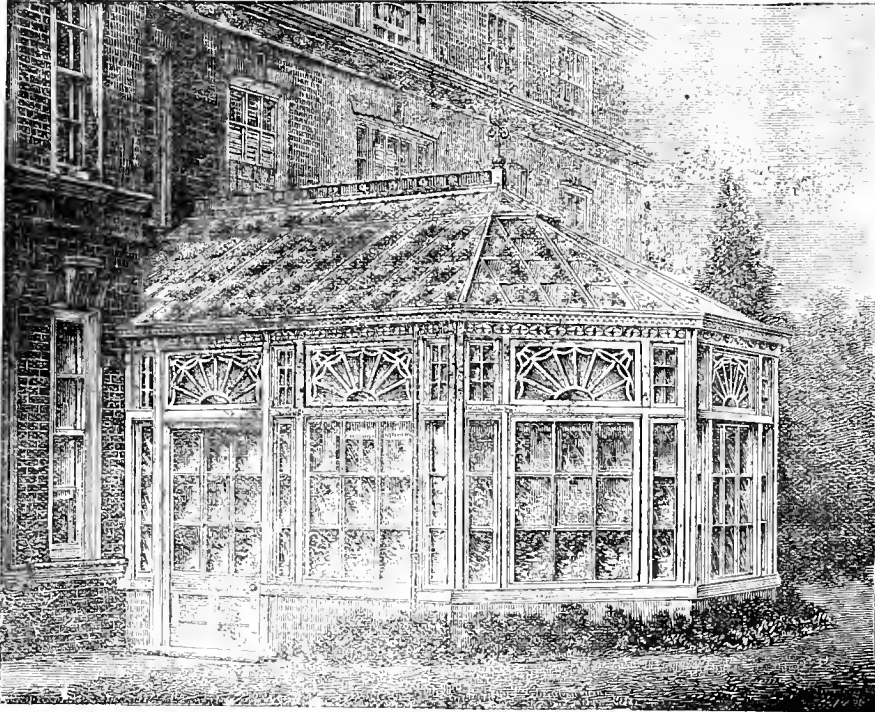
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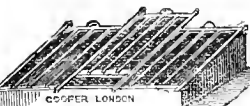
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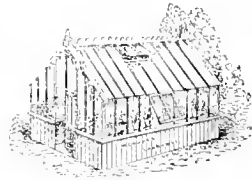
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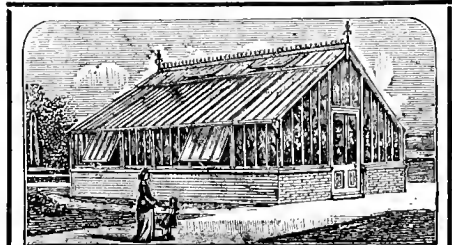
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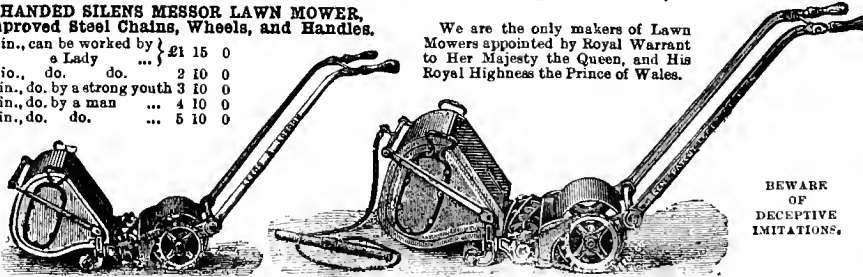
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- To cut 14 in., do. ... 5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



Beware of DECEPTIVE IMITATIONS.

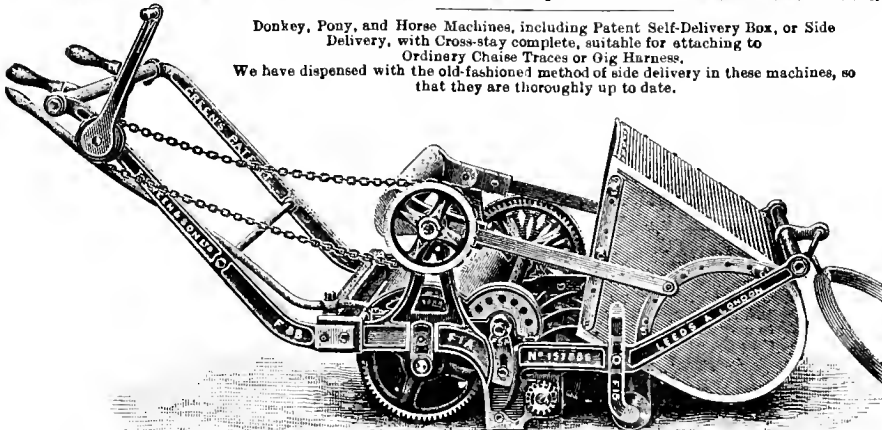
## DOUBLE-HANDED LAWN MOWER.

- To cut 16 inches, can be worked by one man on even lawn ... £3 10 0
- To cut 18 inches, do. man and boy ... 7 10 0
- To cut 20 inches, do. do. ... 8 0 0
- To cut 22 inches, can be worked by two men ... £3 10 0
- To cut 24 inches, do. do. ... 9 0 0

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Oig Harness.

We have dispensed with the old-fashioned method of side delivery in these machines, so that they are thoroughly up to date.



## DONKEY AND PONY MACHINES.

- To cut 26 inches ... £14 0 0
- To cut 28 inches ... 18 0 0
- To cut 30 inches ... 18 0 0
- Leather Boots for Donkey ... 1 0 0
- Leather Boots for Pony ... 1 4 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

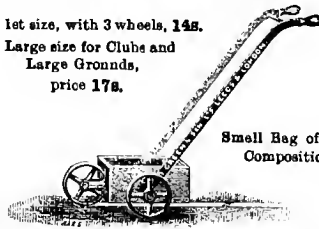
## HORSE MACHINES.

- To cut 30 inches ... £22 0 0
- To cut 36 inches ... 28 0 0
- To cut 42 inches ... 30 0 0
- To cut 48 inches ... 34 0 0
- Leather Boots for Horse ... 1 9 0

## GREEN'S PATENT LAWN TENNIS COURT MARKER (No. 3412).

The Best Marker made.

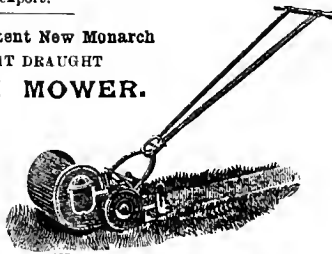
- 1st size, with 3 wheels, 14s.
- Large size for Clubs and Large Grounds, price 17s.



Small Bag of Marking Composition, 9d.

## Green's Patent New Monarch LIGHT DRAUGHT LAWN MOWER.

It is superior to any Mower of this class yet brought out. Very suitable for Small Lawns and Banks.



- SIZES AND PRICES.
- To Cut ... 6 8 10 12 14 16 inches.
  - Without Grass Box 30s. 35s. 40s. 50s. 60s. 70s. each.
  - Grass Box extra ... 5s. 5s. 5s. 6s. 6d. 6s. 6d. 6s. 6d.
  - If fitted with a Long Handle for cutting banks, &c., 5s. extra.

No charge for packing cases, except for shipment.

Carriage paid to all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

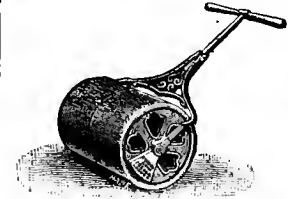
N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c. Descriptive Illustrated PRICE LISTS Free on application to

**THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;** or they can also be had of any respectable Ironmonger, Seedsman, Merchand, or Factor in the United Kingdom.

## GREEN'S PATENT Ordinary IRON and WATER-BALLAST ROLLERS

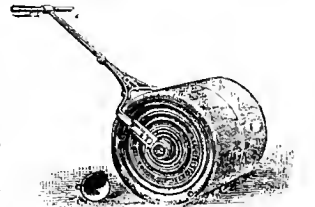
FOR Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths.



PRICES OF HAND ROLLERS.	cwt. qr. lb.	Diam.	Length.	Reduced Prices
PRICES OF	2 1 0	16 in.	by 17 in.	£2 5 0
	3 0 0	20 in.	22 in.	3 0 0
	5 2 0	24 in.	18 in.	4 5 0
	4 2 0	26 in.	23 in.	5 10 0
HAND ROLLERS.	8 2 0	31 in.	32 in.	7 5 0

## GREEN'S IMPROVED WATER & SAND BALLAST ROLLERS. IN TWO PARTS.

They can have the weight regulated to suit the requirements of the ground, and also have it increased up to 45% on the empty weight of the Rollers.



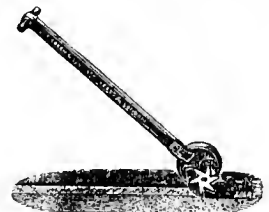
Delivered, Carriage Free, at all the principal Railway Stations and Shipping Ports in Great Britain.

PRICES, INCLUDING FUNNEL.	cwt. qr. lb.	Diam.	Length.	Reduced Prices
PRICES, INCLUDING FUNNEL.	2 1 14	18 in.	by 17 in.	£1 0 0
	3 1 0	20 in.	22 in.	4 0 0
	5 2 0	24 in.	26 in.	5 5 0
	6 2 0	28 in.	28 in.	7 0 0
	8 2 0	32 in.	33 in.	9 5 0

These Rollers possess many advantages over all others; they are made in two parts, and are free in revolving on the axle, which affords greater facility for turning, and the outer edges are rounded off or turned inwards, so that the unsightly mark left by other Rollers is avoided. They are manufactured of the best materials, bored true in the lathe, turned on the inner edges, fitted on polished shaft, and are got up in a manner surpassing any hitherto brought out.

## GREEN'S IMPROVED PATENT GRASS EDGE OLLIPER. THE "HANDY."

The work it does is clean, neat, and effective, and we have every confidence in recommending this useful "Handy" implement. It is fitted with long handle, works steadily and with ease.



Price, 30s.



# The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2887.

No. 487.—Vol. XIX. { THIRD }  
SERIES. }

SATURDAY, APRIL 25, 1896.

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## CONTENTS.

Asplands, The, New-church ...	520	Pine apple culture ...	530
Australian wild flowers	526	Plant, new or note-worthy—	
Bamboos in general		Cologne uniflora ...	516
Hutchinson's garden, Bournemouth...	524	Prince Memorial Fund, the ...	525
Barron, Mr. A. F., presentation to ...	524	Profitable land and the use of nitrate of soda	528
Bitter Oranges ...	527	Roses, new, for forcing and cutting ...	522
Broccoli ...	527	Scotland, early vegetation in the south of ...	520
Douglas Fir, the	527	Societies—	
Early-flowering shrubs at Fintona, N.B.	519	Brighton and Sussex Horticultural ...	531
Edinburgh Summer School of Art and Science ...	526	Ledebur International National Auricula and Primula ...	531
Elm, the Winged ...	527	Newcastle-on-Tyne ...	531
Flower shows and their uses ...	515	Royal Horticultural ...	529
Fruit crop of 1895, the ...	518	Sheffield Chrysanthemum ...	531
Fruit prospects ...	527	Spring bedding in Regent's Park ...	516
Fruits, the thinning of choice ...	532	Strawberry Stevens' Wood-dor ...	527
Gardeners' references ...	525	Trees and shrubs	519
Heating glass-houses with steam ...	528	Weekly work, the—	
Horticultural season, the interdependence of plants and animals ...	517	Abiary, the ...	523
Larch disease, the ...	528	Flower garden, the ...	522
Law notes—		Fruits under glass ...	522
Williams v. Vavasour ...	528	Hardy fruit garden ...	522
Obituary—		Kitchen garden, the ...	523
Say, Léon ...	524	Orchid houses, the ...	524
Orchid notes and gleanings ...	518	Plants under glass ...	522
		Westonbirt, Gloucestershire ...	517

## ILLUSTRATIONS.

Bamboos in the gardens of Owthorpe, Bournemouth ...	525
Freias, as grown at Round Oak, Englefield Green ...	521
Juniperus procera ...	519
Portrait of M. Léon Say ...	527
Prunus pseudo-cerasus, new variety ...	517

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

### H. Cannell & Son's PRIMULAS, CINERARIAS, and CYCLAMEN.

Never in the history of floriculture has such great beauty of flowers, with so dwarf and robust habit been seen, or plants so near perfection as those recently shown, and for which we were awarded high honours. Our FLORAL GUIDE or PLANT CATALOGUE (post-free) is by far the best book on flowers, beautifully illustrated, and with full particulars. We are gathering new seed, and are anxious to supply from the actual plants exhibited. Every Conservatory must lose considerably in effect without Primula "The Lady," a beautiful new type, forming a pleasing symmetrical pyramid 18 inches high, and charming everyone who enters. Similar extraordinary improvements have been made in our "March Past" Cinerarias and Cyclamen, plants of the latter exhibited bearing 106 finely-developed flowers. Seed 2s. 6d. and 5s. per packet.  
SWANLEY, KENT.

The Sensation of the Century.  
**CROZY'S NEW FRENCH GLADIOLUS-FLOWERED DWARF CANNAS** produce gorgeous masses of brilliant colour, either in the flower garden or conservatory. Strong dry roots of best kinds, Free by Post, 9s., 12s., and 18s. per dozen.—B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

**GIANT ASPARAGUS.**—Extra strong transplanted clumps. Low price to clear. Samples free.  
WILL TAYLER, Hampton, Middlesex.

## A BEAUTIFUL DISPLAY of ASTERS can be ensured by sowing

**SUTTON'S SELECTED VARIETIES.**  
For all the best sorts, see pages 100 to 103 of SUTTON'S AMATEUR'S GUIDE IN HORTICULTURE for 1896.

**SUTTON'S 10s. 6d. COLLECTION of ASTERS** contains a packet (mixed colours) of each of the following varieties:—Sutton's Dwarf Bouquet, Sutton's Reading Beauty, Dwarf Peony Perfection, Dwarf Victoris, Dwarf Chrysanthemum-flowered, Sutton's Cockade or Crown-flowered, Comet, Sutton's Giant French, Sutton's Victoria, and Sutton's Quilled Victoria.

**SUTTON'S ASTERS, Dwarf Classes. Choicest mixed, including all the finest races of Dwarf Asters, per packet, 1s.**

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**SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.**

**100 ACRES of DAHLIAS.**—The Dahlias we send out in one season are sufficient to plant 100 acres. Our price for all sections, out selection, is 5s. per dozen. In every dozen Double Cactus varieties we shall include either "Lady Penzance" or "Matchless," and deal as liberally with selections from other classes.  
DOBBIE AND CO., Florists to the Queen, Rothessy.

**THE BEST PEA for LATE SOWING**  
IS  
**SHARPE'S QUEEN.**  
Price 2s. per quart. Trade Price on application.  
CHARLES SHARPE AND CO., LIMITED, Sleaford.

**KENT, THE GARDEN OF ENGLAND.**—GEORGE BUNYARD & Co., The Royal Nurseries, Maidstone, are the largest growers and the best cultivators of fruit trees. CATALOGUE, six stamps. 800 kinds, tree to name.

**JOHN NATHAN, Covent Garden Market, is open to RECEIVE CONSIGNMENTS of strawberries, Peaches, Nectarines, Melons, Grapes, &c. Terms, 5 per Cent. References, London & County Bank, C. G. Branch. Sale accounts daily; cheques weekly. Telegrams: "Nanittator, London."**

**MORTIMER'S PRIZE MEDAL DAHLIAS.**—Strong, healthy plants of Show, Fancy, Cactus, and Pompon, in all the very best varieties, 4s. per dozen. CATALOGUES containing all the best novelties, on application.  
S. MORTIMER, Swiss Nursery, Farnham.

**NOW IS THE TIME to PLANT GLADIOLI, DELPHINIUMS, and PYRETHRUMS.**  
Catalogue of KELWAY AND SON, Langport, Somerset.

**VERBENAS, Crimson, Scarlet, Purple, Pink, or White, 5s. per 100. CALCEOLARIA, Golden Gem, 5s. per 100. HELIOTROPE, Miss Nightingale, 5s. per 100. LOBELIA, Empereur William, 2s. 6d. per 100, or 10s. per 1000. Free on Rail. Cash with order.**  
P. BOULTON, Beechenlea Nursery, Swanley.

To the Trade.  
**MANGEL WURZEL and TURNIP SEEDS.**  
**H. and F. SHARPE** are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, Crop 1895, at exceptionally low prices, which may be had on application.  
SEED GROWING ESTABLISHMENT, WISBECH.

**NEW PALM SEEDS, Kentia Belmoreana** and Forsteriana, Corypha australis, Phoenix rupicola and reclinata, Scaevolaria, &c., 100 in variety, 2s. 6d.; 400, 10s., carriage free. Price per 1000 or 10,000 to the trade on application. Liliun auratum, 3s., 4s., and 6s. per doz., extra fine.  
MOREL AND CO., Importers, The Conservatories, Finchley Road, N.W.

**WANTED, SEAKALE SETS.**—Price per bushel. Must be cheap.  
H. J., 1, Midway Road, Romford.

**LINDEN'S ORCHIDS.**—SALES BY AUCTION, in London, are held on the First and Third Thursday in each Month, at Mr. J. C. STEVENS' Great Rooms, 38, King Street, Covent Garden, W.C. Catalogues on application.

**BARB'S SEEDS.—UNEQUALLED.**  
VEGETABLE SEEDS, best in the world for growth. FLOWER SEEDS.—Upwards of 2000 species and varieties. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Tigridias, &c. PLANTS.—Hardy Perennials and Alpines for beds, borders, rockwork, and to cut for vases and bouquets.  
DESCRIPTIVE CATALOGUES of above sent free on application.  
BARR AND SON, 12, King Street, Covent Garden, London.

**250,000 PANSIES and VIOLAS.**—One dozen very fine named Varieties of each—26 Plants in all, free by Parcel Post for 6s. One dozen Violas, including several recently-introduced varieties of great merit, post free for 2s. 6d. One hundred in 50 distinct varieties, for 20s.—DOBBIE & CO., Florists to the Queen, Rothessy.

**LARGE PALMS & DECORATIVE PLANTS.**  
Immense Stock.  
All sizes up to 20 feet for Sale or Hire.  
Inspection invited. Prices on Application.  
B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Demy quarto, printed on fine paper in green, gilt top. Price, £1 11s. 6d.  
**THE ART and PRACTICE of LANDSCAPE GARDENING.** By H. E. MILNER, A.M.I.C.E., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & Co., Ltd.

**DWARF-GROWING EVERGREEN LAWN GRASS SEEDS** of best qualities for forming New Lawns, and also for renovating old ones. See our special pamphlet containing valuable practical hints, gratis and post-free on application.—DICKSONS, Royal Seed Warehouse, CHESH'EB.

**CARNATIONS! NEW MALMAISONS!!**  
JAMES DOUGLAS, the noted Carnation Specialist, is now sending out plants, well established in pots, from his unrivalled collection of 20,000 plants.  
CARNATION SEED—Saved from the best named varieties at Bookham, 1s. 6d. to 2s. 6d. per packet.  
Catalogues on application.—Great Bookham, Surrey.

**CARNATIONS.**—For full particulars of the oft-certificated Grand New CARNATIONS Buccleuch Clove and Yulestide, and every other variety of merit, see FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 146 pages. Free on application.  
JOHN FORBES, Hawick, Scotland.

**GISHURST COMPOUND,** used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

**GISHURSTINE** keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRIOR'S PATENT CANDLE COMPANY (Limited), London.

**FOWLER'S LAWN SAND.**—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a fertilizer, and improving the growth and colour of the grass. Price in tins, 1s., 2s. 6d., and 5s.; kegs, 6s. 6d., 18s., and 30s. Sold by all Seedsmen.  
CORRY AND CO., Ltd., London, E.C.

**HORTICULTURAL MANURE.**—Chiefly composed of Blood and Bones. The best fertilizer for all purposes. Sold in tins, 1s. & 2s. 6d.; also in six-tyt bags, 4 cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentes of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address: "Hortulanus, London." Telephone, No. 8728.



**SALES BY AUCTION.**

**Tuesday Next, April 23.**

By order of Mr. P. MCARTUR, The London Nurseries, Maida Vale, N.

A valuable consignment of the **GIGANTIC CATTLEYA "GLUCKIANA"** (QUITE NEW). It produces its enormous flowers in February. **CATTLEYA MOSSLE VAR. SELENDENS**, from a new district. Some remarkable forms have opened in the cases, unsurpassed by any previous varieties that have been introduced. **CATTLEYA LABIATA PERCIVALIANA**, quite distinct from the ordinary type. This variety blooms at Christmas; its flowers are large, and richly coloured. **ANGULOA RUCKERI SUPERBA** (True).—It is many years since this grand variety was introduced. **HOULETTIA ODORATISSIMA**, violet scented. **ODONTOGLOSSUM SCHILLERIANUM**, very rare. **ODONTOGLOSSUM STELLIMONIANUM**, O. NEVADENSE, O. WALLISII, and O. LUCIANUM.

And many other rare ORCHIDS. Also 1200 **DENDROBIUM FORMOSUM GIGANTEUM**, the very best Burmese variety, received direct. (Another property.)

**TO BE SOLD BY AUCTION, BY MESSRS. PROTHEROE AND MORRIS** at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., at half-past 12 o'clock, On view morning of Sale, and Catalogues had.

**Wednesday Next, April 29.**

**GLADIOLI**, 500 **BEGONIAS**, HERBACEOUS PLANTS, ORNAMENTALS, 100 Lots of FERNS, ORNAMENTAL STOVE and GREENHOUSE PLANTS, AMARYLLIS, DAHLIAS, in variety, &c.

20,000 American PEARL TUBEROSES, KUHARIS AMAZONICA, 29 Baskets JOSS LILIES, MONBETRIAS, GLOXINIAS, OXALIS ANEMONES.

Also at 2 o'clock—

100,000	Seeds PHENIX RUPICOLA (true).
110,500	" KENTIA FORSTERIANA.
204,250	" BELMOREANA.
1,000	" MCARTHURII.
24,000	" CORYPHA AUSTRALIS.
35,000	" ARECA BAUERII.
35,000	" LUTESCENS.
32,000	" CALAMUS MONTANUS.

Three Cases containing 380 lb. RED PEPPER. 121 fine climbing RAPHIS FLABELLIFORMIS. 44 HUMULIS. 50 plants DAPHNE GENKWA, and 70 roots HEMEROCALLIS AURANTIACA MAJOR.

**MESSRS. PROTHEROE AND MORRIS** will SELL the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on WEDNESDAY NEXT, April 29, at 12 o'clock. On view morning of Sale, and Catalogues had.

**Phenix rupicola (True).**

100,000 SEEDS of this elegant Greenhouse PALM just arrived. The seed can be relied upon as good and true—that often sold for it not being true. Also, 2000 SEEDS of CALAMUS MONTANUS, a rare and beautiful cool-house PALM, not in cultivation.

**MESSRS. PROTHEROE AND MORRIS** will include the above (in small and large lots to suit purchasers) in their SALE on WEDNESDAY NEXT, April 29, at Two o'clock. On view morning of Sale, and Catalogues had.

**Friday Next, May 1.**

**GRAND SALE** of IMPORTED ORCHIDS, by order of Messrs. W. L. Lewis & Co., Southgate, N., comprising LELIA TENEBROSA, a choice lot. **ODONTOGLOSSUM LONDESBOROUGHIANUM**, a very fine importation. **ODONTOGLOSSUM MADRENSE**, in the finest possible condition. **BARKERIA ELEGANS**, in good order. **CATTLEYA HARRISONII VIOLACEA**, our noted strain. CRISPA, in fine pieces. **ODONTOGLOSSUM ROSSII MAJUS**, in quantity. **MILTONIA SPECTABILIS**, **EPIDENDRUM VITELLINUM MAJUS**, **ONCIDIUM CRISPUM**, &c. **CATTLEYA LABIATA AUTUMNALIS**, some choice plants. **L. LIA PENDUNCULARIS**, very choice and scarce. **CATTLEYA WARNERII**, and many other good things.

**MESSRS. PROTHEROE AND MORRIS** will SELL the above by AUCTION, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY NEXT, May 1, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

**Friday Next, May 1.**

By order of Messrs. HUGH LOW & Co. **CATTLEYA MOSSLE** (Low's famous type). The last Sale of the Season—**CATTLEYA DOWIANA** and **DENDROBIUM CRASSINODE**.

**MESSRS. PROTHEROE AND MORRIS** will SELL the above by AUCTION at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on FRIDAY NEXT, May 1, at half-past Twelve o'clock. On view morning of Sale, and Catalogues had.

**Friday Next.—By Order of Mr. P. McAthur.** IMPORTATIONS of **CATTLEYA MOSSLE**, C. GLUCKIANA, ANGULOA RUCKERI SUPERBA (true), ODONTOGLOSSUM SCHILLERIANUM, and 100 lots of ESTABLISHED PLANTS.

**MESSRS. PROTHEROE AND MORRIS** will include the above in their SALE on FRIDAY NEXT, May 1, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

**Wednesday Next.**

A Consignment of **PALMS, DRACENAS, IMANTOPHYLLUMS**, and other PLANTS, in fine order from Ghent; several thousand **PALM SEED**, from Central Africa; 500 choice-named **BOSES**, from a celebrated German grower, in three sizes of Standards, Dwarfs, Climbers, and others, including many of the leading varieties. A Collection of rare and curious **ORCHIDS**, **CATTLEYAS** as received, a large Collection of **BORDER PLANTS, JAPANESE LILIUIMS, HARDY BULBS**, including **GLADIOLI** to name, **ANEMONES, AMARYLLIS, PEARLTUBEROSES**.

**MR. J. C. STEVENS** will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 29, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

**Thursday Next.**

THE SOMERHILL COLLECTION OF ORCHIDS. **MR. J. C. STEVENS** will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, April 30, at half-past 12 o'clock precisely, by order of the Executors of the late Sir Julian Goldsmid, Bart., of Tonbridge, the Remaining Portion of the well-grown COLLECTION of ESTABLISHED ORCHIDS, in splendid condition, including many fine specimens and varieties.

On view morning of Sale, and Catalogues had.

**Thursday Next.**  
**HALF-A-MILLION PALM SEEDS.**  
**MR. J. C. STEVENS** will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, April 30, a grand importation of **PALM SEEDS**, just received direct, comprising:—457,000 KENTIAS. 12 CASES of COCOS WEDELLIANA. And a large quantity of SEEDS, in growing condition, in a Case.

The sender writes that this is all 1896 crop, the harvest is over, and all are well-developed seeds, and the crop is the smallest known. On view morning of Sale, and Catalogues had.

**ORCHIDS! ORCHIDS!**

**JOHN COWAN & CO., Ltd.,**  
Have just received a large and splendid Importation of:—

**EAST INDIAN ORCHIDS,**  
Including grand lots of  
**DENDROBIUM FARMERII, D. THYRSIFLOBUM,**  
**D. WARDIANUM LOWII GIGANTEUM, D. DEVONIANUM,**  
**D. DALHOUSIEANUM, D. FALCONERII,**  
**D. FIMBRIATUM OCULATUM, D. HETEROCARPUM,**  
**CYMBIDIUM LOWIANUM, VANDA CERULEA,**  
&c., &c., all in the finest condition.

The Company have recently received **SPLENDID IMPORTATIONS** of **CATTLEYA LABIATA AUTUMNALIS**, and they expect to receive another **LARGE IMPORTATION** by the time this advertisement appears.

**INSPECTION INVITED.**

Priced and Descriptive **LISTS POST FREE**, on application to the Company—  
**THE VINEYARD and NURSERIES,**  
**GARSTON, near LIVERPOOL.**

**WANTED, to PURCHASE** a good **FLORIST and NURSERY BUSINESS.** State lowest price and all particulars to—  
**VINE, 98, Prince Wales Road, Norwich.**

**To Nurserymen and Florists commencing Business.**  
**HAMPTON-ON-THAMES**, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. **FREEHOLD LAND** for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

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The Committee have the pleasure to announce the following  
further amounts, which have been promised or remitted:—

His Grace the ARCHBISHOP of YORK	£5 0 0
His Grace the DUKE of PORTLAND	5 0 0
Geo. F. WILSON, F.R.S.	5 5 0
Messrs. FRENCH BROTHERS	10 10 0
ARTHUR W. SUTTON	5 0 0
Mrs ARDEN, per W. Bennett	10 10 0
WORSHIPFUL COMPANY of GARDENERS, per Mr. Warden Sherwood & list	2 2 0
E. POOLE	10 10 0
F. HARDY	10 0 0
A. LODGE	10 10 0
MIDLAND CARNATION SOCIETY, per R. Sydenham	5 5 0
H. F. COOKSON	10 10 0
JAMES LEE	10 10 0
WOLVERHAMPTON AUXILIARY, per Geo. A. Bishop	6 5 0
R. RICKETT, per H. J. Cutbush	1 1 0
P. KIRKALDY, ditto	0 10 6
J. BEDDON, per W. Whalley	2 2 0
Mrs. FULLER, ditto	1 0 0
A. WATKINS	2 2 0
JOS. WILLIS	3 3 0
R. JORDAN	2 2 0
Per GEO. MONRO, Junior	0 16 0
J. JEFFERY	0 10 0
J. DONNAN (Annual)	1 1 0
W. H. EVANS (Annual)	1 1 0
A. GALT (Annual)	1 1 0
T. GASCOIGNE (Annual)	1 1 0
Mrs. GRIEVE (Annual)	1 1 0
Miss E. J. GIBBONS (Annual)	1 0 0

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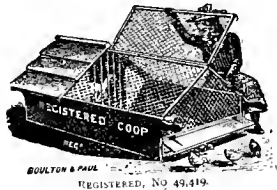
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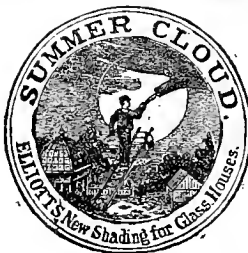
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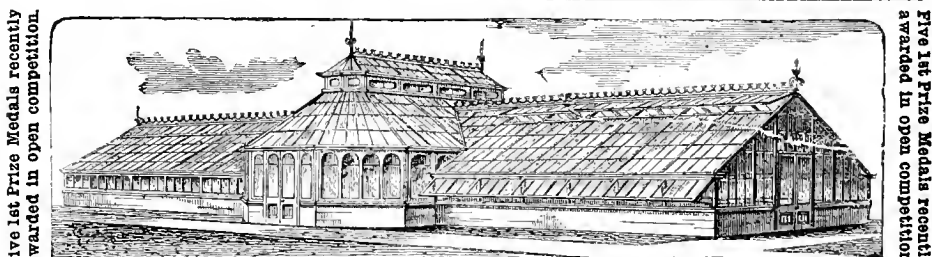
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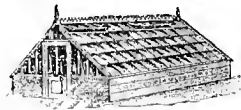
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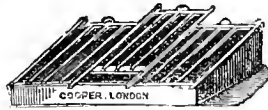
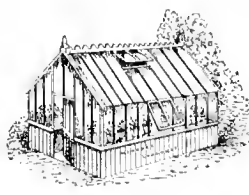
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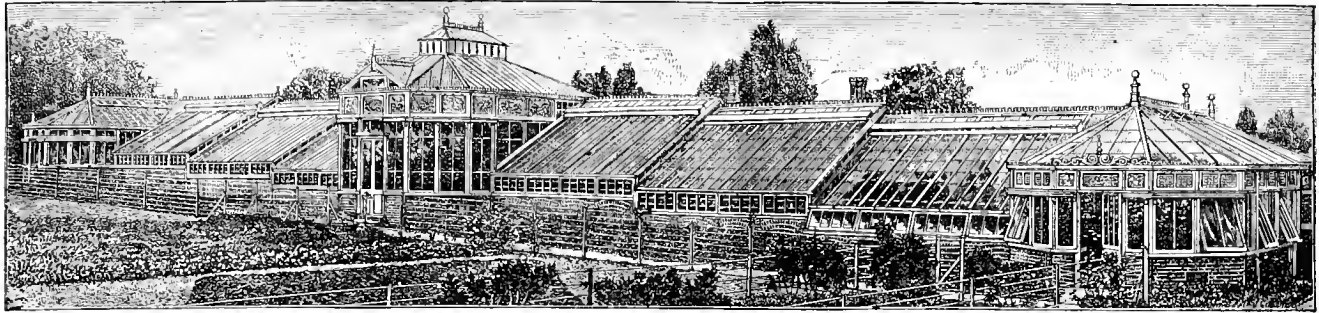
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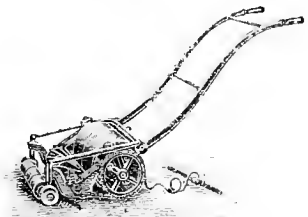
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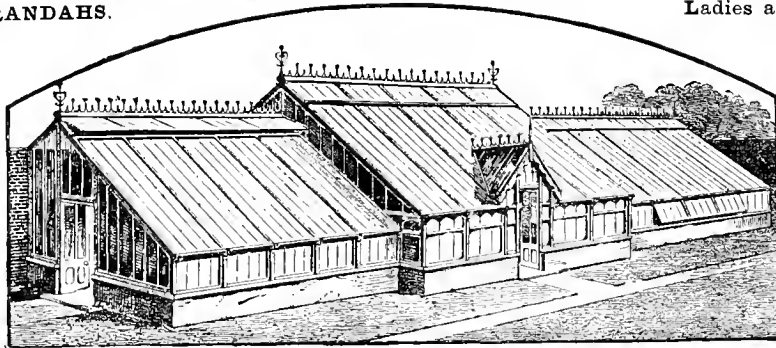
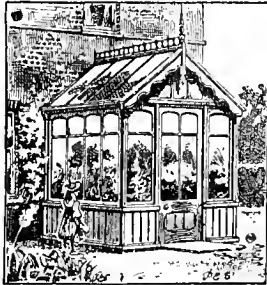
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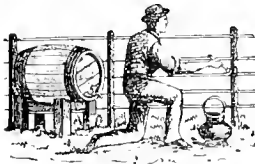
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**THE Gardeners' Chronicle.**

SATURDAY, APRIL 25, 1896.

**FLOWER SHOWS AND THEIR USES.**

A VERY comprehensive term is this in relation to exhibitions of garden produce, and one that, when fully understood, serves to illustrate in a marked degree the far-reaching nature of horticulture. We have our grand shows, such as those in London and other populous cities, which are the fetes of the season. These displays are on a large scale, and attended by thousands of persons. It is a long way from such splendid shows to the village show, held in a small tent or school-room, or sometimes under a rick-cloth fastened over a pole, in some small meadow, the tabling a few rough planks laid on trestles or barrels. Between these widely separated exhibitions there are others; yet it is not improbable that in some of the little villages the humble meadow show excites more interest relatively than does the magnificent exhibition held in some populous centre. Many kinds of flowers have their special set of admirers, and for many of them there are special shows. There is the Rose, queen of summer flowers, a goddess worshipped by her thousands of devotees, and exalted to the skies on show-tables everywhere. There is the Chrysanthemum, whose devotees as queen of autumn far outnumber those of the Rose, and who bring into their fleral worship some of eastern enthusiasm. The modest Auricula, the early-flowering Primula, the Polyanthus, the Tulip, all have their special shows, and new to these have been added the Pansy, the Pink, and the Carnation, whilst later on follows the large and gorgeous Dahlia. Then there are shews of fruit and of vegetables, whilst of shows of a thoroughly miscellaneous character there is legion. Finally, come the innumerable village or cottagers' shows, held in such numbers all over the kingdom, that horticultural life now seems to be almost as much devoted to the exhibition of garden-produce as to its cultivation and production. It may not be out of place to ask whether all seen on the surface in connection with this expanding rage for flower-show competition is the product of love for horticulture, or whether it does not include a grasping after the winnings. Amidst all the anxiety seen to secure prizes in every direction, one exhibition, probably the grandest show of the year in its particular line, we mean that held in the Temple Gardens, has unique associations. There are no prizes offered, unless medals of dubious pecuniary value, but much appreciated as honours, may be so esteemed. The Temple Show has from the first been a remarkable exception to the general rule, and it is hoped it will remain so as long as it endures.

Whilst there is some reason to assume that the desire to obtain prizes in many cases governs the exhibitor more than anything else, there is a good deal of room to fear that some exhibitions are promoted less to encourage horticulture than to make money. That is far from being a desirable feature. Probably, those societies which cater to that end are few, which is all the better. Another evil, undoubtedly more largely existent, is found in the belittling of shows by the breaking up of localities into small show-areas, so that it is found very difficult for executives to honourably pay their way. This undoubtedly evil practice is found most abundantly in cottage-garden shows, where each parish prefers to have its own annual display, perhaps at the best a meagre one, and of quite an unattractive nature, so that few people care to see it. How much better would it be to combine some two or three parishes, secure a good show, make the day a half-holiday in the district, and thus seek to enlarge the show area, and ensure wider support, a worthy display, and a putting aside small parochial jealousies, whilst making an earnest effort to encourage horticulture. Another weak feature found in many, even pretentious shows, is the apathy which the local gardeners generally exhibit towards them. We see year after year the entries few, the classes filled by the same individuals, and in that way competitions become very much restricted and unreal. It may be asked how apathy is produced. Perhaps the show executive does nothing to arouse the neighbourhood to interest itself in the show. Perhaps there is too much of pot-hunting, and when a certain few year after year sweep the board, the rank and file become discouraged. Perhaps no higher aspect of exhibitions enters in the local mind than getting prizes, and ambition seeks no other honours, or will not even try to excel. There is the distrust of the executive, because it has become a small coterie, and dislikes an infusion of new blood; and when this is the case their neighbours lose confidence in them, and the show, as a whole, falls behind the age. These things present some of the demerits associated with horticultural societies and exhibitions. If now and then the work of organising a show is sadly muddled, in the majority of cases the work is well done, and all the arrangements run like clockwork; that is always the case when the work of organisation is in the hands of practical business men. To set against demerits, all of which are capable of easy reform, there are certain undoubted benefits resulting from societies and shows. In every case, large or small as the show may be, first-rate productions—whether in gardens in the bulk or of products individually—are found. These may relatively be few, but there they are, examples that cannot be denied, of what by encouragement it is possible to produce in gardening. It is true the percentage on the whole may be very small, but at least the larger number of indifferent cultivators is shown what is really possible if trial be made, and to what superior heights of excellence they may aspire. A first-class garden, of any size, when seen by others, is an object-lesson whose teachings cannot be denied or decried, and which cannot exist without doing some amount of good. Even pretty flower gardens, or window-boxes in a poor-class district, serve to stimulate emulation. In the same way, the display of the very best samples of garden produce or of cultivation at exhibitions, all prove to be valuable lessons. They help to keep up the average of

garden-culture in a locality to a higher point than otherwise would have been the case.

In the same way, the establishment of so many special societies or exhibitions has done much to stimulate cultivation of the things they particularly encourage. Subtract the weak aspects from the better ones associated with flower shows, and there will still be a large margin of good left.

## NEW OR NOTEWORTHY PLANTS.

### CŒLOGYNE UNIFLORA, Lindl.\*

This is a very fine plant when a large specimen of it is seen. The primrose-coloured flowers rising from the dense tufts of little bulbs and narrow grass-like foliage, have a very picturesque appearance. It is by no means beautiful, but it has assuredly its own peculiar charms, as have many of our plants, the merits of which are not to be measured by square inches. The flowers are nearly of the same colour as our Primroses, with orange-yellow spots on a yellow ground; the size is about the same as that of the well-known *C. fimbriata*, Lindl.

The plant is of special botanical interest. Dr. Lindley described the plant on its earliest introduction in Wallich's Catalogue, and in his *Genera and Species*, under the name of *Cœlogyne uniflora*. Afterwards, in his *Folia Orchidacea*, he formed on this species (and three others) the new genus *Panisea*. The essential point of difference is (according to Dr. Lindley) the sigmoid-flexed claw of the labellum, and I am sure that no such character may be seen in this species, though all others agree in every respect marvellously well with Dr. Lindley's description. As I have had the opportunity of examining fresh materials, I could prove that this plant is a true *Cœlogyne* of the *Prolifera* group. I refrain to-day from pointing out all the pros and cons of this very intricate question; but I will conclude by saying, that I will never consent to the division of a genus into two by such a trifling characteristic as the structure of the claw of the lip. I have not had the opportunity of examining *Panisea parviflora*, Lindl., *P. reflexa*, Lindl., and *P. bilamellata*, Lindl. (all formerly included with *Cœlogyne*); but if I may judge from the results I have obtained by examining this so-called *Panisea uniflora*, I believe it is better to abolish this scarcely-defined genus *Panisea*, and to revert to Lindley's first opinion.

It is surely somewhat astonishing to have to defend Lindley *versus* Lindley, but I cannot help it. There were three eras in Lindley's life: in the first he was under the influence of R. Brown and Olaf Swartz; in the second he was John Lindley, the author of the *Genera and Species*, the acknowledged head of Orchidology and English botany; in the third the rising star of Reichenbach disturbed his circles, and his publications (the *Folia Orchidacea*, for instance), were no longer the result of ripened and elaborate studies, but were the not always successful efforts to defend his superiority against a scholar, who was to disappoint the hopes of his very numerous English friends, not only in this way, but many years afterwards in a far more radical manner. Under this influence, Lindley unfortunately relinquished his sagacious method of showing Orchids, as Orchids must be shown, and he

*Cœlogyne uniflora*, Lindl.—(*Prolifera*). Bulbus aggregatus fusiformibus corrugatis nitidis 2 cm. altis,  $\frac{3}{4}$ —1 cm. diam. diphyllis, foliis linearibus v. lin-lanceolatis 15 cm. longis, 5—8 mm. latis; scapis 1-floris (an semper?); pedicello brevi inter folia 2-juniora oriente; bractea ovata acuminata paleacea carinata acuta pedicellum nec non ovarium hexapterum aequans. Sepalis ovatis acuminatis ringentibus 1.5 cm. longis, ipsis et petalis æquilongis angustioribus pallide luteis; labelli æquilongi brevi-unguiculati (unge non sigmoideo) lobis lateralibus minutis antorsis oblongis acutis, intermedio multo majore cuneato obovato obtuso antice emarginato; callis 2 elevatulis antice in tuberculis planis exsertibus, in disco addito callo tertio brevi didymo in medio; toto labello intense luteo (primulino) punctis 3 in ipsa basi et callis aurantiacis; gynoestemio  $\frac{1}{2}$  labelli æquante utriusque supra medium obtusangulo, postandroclinium crenulato, ceterum omnino generis. Patria? Accepi a donna Ida Brandt, Toricensi. Ex Anglia importata? F. Kranlin.

endeavoured to see with his younger follower's eyes; as it was not in his line to be a morphologist, all his efforts to walk in this way were more or less lost. He is not to be congratulated in having separated *Panisea* from *Cœlogyne*, and in this case, as in many others, his first opinion was the more correct one. The specimen was sent by Mrs. Ida Brandt of Zürich, Switzerland, who obtained it two years ago from M. Kienast Zölly. The country from which the plant was imported is not positively known. F. Kranlin.

## SPRING BEDDING IN REGENT'S PARK.

THE method of garden adornment peculiar to spring is carried out here on a larger scale than is attempted in the other parks, and a week ago the beds presented an excellent picture of floral beauty. Mr. C. Jordan has taken advantage of the favourable site for such a display afforded by the avenues of Elms and Chestnuts. The system of raising portions of many of the beds to give way outlines is an admirable one, as by its means it is possible to avoid straight, formally planted, flat surfaces. To refer to some of the beds which were particularly good at the time of my visit, I may mention *Narcissus Empress* and *Hyacinth King of the Blues*, planted alternately, and margined with *White Arabis*. This was effective, but a lighter coloured *Hyacinth* would have been prettier. A very imposing bed is that planted with *Narcissus Emperor*, some 1200 bulbs, clumps of dark *Wallflowers*, a mixed band of golden-leaved *Valerian*, *Valeriana Phu aurea*, and *Tulip Couleur de Cardinal*, in a setting of *Saxifraga Camposii*, and a margin of *London Pride*; *N. Empress*, with ground of semi-double mauve *Primrose*, *Arthur de Moulin*, pink *Saxifraga globosa*, with edging of *S. geranioides*. A very pretty bed is that of *N. Horsfieldi* and *Muscari* or *Grape Hyacinth*. That bold-looking *Narcissus*, *Sir Watkin*, is admirably associated with alpine *Auriculas*.

*Polyanthuses* and *Primroses*, in light shades of colour, produce a pretty effect. The *Hyacinths* are furnished with good spikes of flowers, and the colours are tastefully blended. A fine bed is that of *gigantea*, pale pink, and *Czar Peter*, porcelain-blue, as is another one planted with *Charles Dickens* and *Czar Peter*. An arrangement of *Hyacinth King of the Blues* on *Arabis albid*, interspersed with *Polyanthus-Narcissus Grand Monarque*, white, with citron cup, is very effective. The *Hyacinth*, *Gertrude*, a fine dark red, producing a splendid truss, is capital.

*Tulips*, as usual, are the most showy. What a magnificent effect is produced by 3000 bulbs of *Keizer Kroon*, bright red, edged yellow, and margined with three rows of *La Belle Alliance*, a beautiful bright crimson. A similar-sized bed is composed of *Proserpine*, rose, with a margin of *Rose Grise de Lin*, pink. Another effective bed is that of *Joost Van Vondel*, glossy red and white, and extra large flowers. It appears in a groundwork of mossy *Saxifraga*. Amongst the late beds of *Tulips* are the highly effective *Gesneriana*, *Blue Celeste*, *Bouton d'Or*, and *Macropsella*.

The borders present quite a glow of admirably varied colour. A very effective mixture was noted in pink and white *Hyacinths*, alternate with *Tulip Proserpine*, deep rose; *Dielytra spectabilis*, alternate with *Golden Valerian*, *Spanish Iris* alternate with *English Iris* to follow, with yellow and violet *Violas*, the whole edged with *White Arabis*. *Hyacinths* mixed in red, white, and blue varieties, with the showy *Doronicum plantagineum excelsum*, were tasteful, as was also a mass of *King of the Blues* and *Madame Van der Hoop Hyacinths*, with a groundwork of *Viola Bullock* (yellow). An association of *Narcissus Orange Phoenix*, between light shades of blue and pink *Hyacinths*, with alpine *Auriculas* for groundwork and margins, is well worthy of mention.

*Hyacinth Grandeur* a Merveille, creamy-white, fine in spike, in a setting of scarlet *Tulips*, was an effective picture. Masses of dark *Wallflowers* presented good effects. A late border, of which much is expected, is composed of clumps of *Polyanthus-Nar*

cissus Grand Monarque, a ground of cinnamon tufts of *Primula cortusoides* Sieboldi, *Viola Sylvia* is planted between Narcissus, the edging being *Arabis albida*. *Anemone coronaria* and *Hyacinth Madame Van der Hoop* formed as effective a bed as any.

In the grass, generally on the higher ground, there are colonies of Daffodils, Tulips, &c., which under the trees have a very picturesque effect. Although it does not form part of our subject, note may be made

other old and still leading species owe their preservation to the care taken of them at Westonbirt. From these plants many fine crosses were obtained, with *H. solandraeflorum*, *H. psittacinum*, *H. marginatum*, and *H. m. conspicuum*, and the varieties of *H. vittatum*, and a thoroughly distinct race of finely-formed brilliant flowers, borne on four to six-flowered umbels, and of which *H. Holfordi* is a good example, was the result. To this strain Captain Hol-

pure white raised here, to the deepest blood red, the latter having in many cases a very dark maroon sheen in the centre, which is peculiar to the dark type here. The side staging also has a number in bloom, and with them a batch of seed-bearers to produce further advances, but nothing is attempted in that way but in pursuance of a system, unless in a few cases where some wide crosses are tried on the chance of good results.

The Westonbirt strain *par excellence* is coloured a brilliant scarlet, having a white star-like patch in centre, and frequently with one broad white band up the middle of each segment. Of these, Glow-worm and Fireman are capital examples. Lady Bathurst is rich dark scarlet, with darker veining; the Sultan, blood-red, and Holfordi still among the best. Among so many new varieties it is pleasant to remark old favourites as *H. marginatum*, *H. m. venustum*, and *H. m. conspicuum*, kept pure, for in their even marking of pure white and scarlet they are not yet surpassed in their class.

The zonal *Pelargoniums* also make a grand show, and the house is as full of brilliant colour as that of the *Hippeastrums*. In raising seedlings, Mr. Chapman has accomplished something out of the ordinary range, his delicate pure pink *Lilian* being unapproached for size of truss and fine form; and others also are very good. A fine show of *Azalea indica*, *Cinerarias*, &c., was remarked in the other greenhouses; and a proof of the mildness of the last winter was seen in self-sown *Cinerarias* in good health outside quite without protection. The *Camellias* in their house afford a great show of flower, as do the climbing plants overhead. In the tropical-house were observed *Heliconia bicolor* in bloom, and on the roof, which it partially covers, *Ipomoea rubro-cerulea* with numerous flowers. At some seasons over 1000 blooms may be counted open at one time on this charming blue-flowered plant, and few things can compare with it when so well grown as here.

INTERDEPENDENCE OF PLANTS AND ANIMALS.

(Continued from p. 433.)

It is hardly necessary to say much of the handsome flowers that bask in the sun, and derive their glowing colours from his rays. We may, however, mention those which open early in the morning, and close before the light becomes too strong for their delicate complexions. Perhaps the best-known example is the *Morning Glory*; but other *Convolvulaceae*, *Orchids*, and *Bigonias*, are equally striking. Then, again, there are species which cannot bear the least dampness, but wait until the sun is well up before they open, and close again as the shadows lengthen, or earlier in cloudy weather. Another class open toward nightfall—but these approach that very large division which is nocturnal in its habits.

What a glorious assemblage are the night-bloomers! The *Victoria Regia*, the *Cereus*, and other *Cacti*, the *Daturas*, with a host of other white flowers, all open at sunset, distil their perfumes, and diffuse them through the damp air. Then come those other white flowers, which remain open during the day, but continue almost, or quite, scentless until recovered from the effects of the burning sun at nightfall. In the forest many trees bear insignificant-looking greenish-white flowers, hardly worth looking at. But, paddle along near the bank of the river at night, and you will be astonished at the different perfumes wafted from these poor little blossoms. Now it is an odour of the *Jasmine* type, so strong as to be quite sickly; and anon one of those half-aromatic scents which almost exhilarates. Where they come from, or to what tree they belong, it is impossible to say—perhaps they are being distilled by a tree close to the bank, or it may be by one of which we know nothing, a quarter of a mile away.

Perhaps the most interesting point in connection with these perfumes is, that they are distilled at certain times, and then only for short periods. Sometimes the flower opens, carries on its work for an hour or two, and then closes, either altogether, or in



FIG. 79.—PEONIUS PSEUDO-CERASUS, NEW VARIETY.

(Exhibited before the Royal Horticultural Society on April 7 (see p. 466, col. 3). The flowers are semi-double, white, with green shade; centre of flower, pale rose tint.)

of the fact that it is intended this season to plant a dell in the park with the graceful forms of Bamboos, adaptable for this purpose. J. B.

WESTONBIRT.

(Continued from p. 484.)

The *Hippeastrums* always have been a special feature at Westonbirt. There all the earlier introductions mentioned in Sweet's *British Flower Garden* found a home, and it is probable that the true strain of *H. Ackermanni* and *H. A. pulcherrimum*, and some

ford, who takes a keen personal interest in the matter, has introduced *H. Empress of India*, and a few other of Messrs. Veitch's robust crosses which bear the desired number of flowers on a spike, and the result has been to still greatly improve the Westonbirt strain without destroying its characteristic features. Probably in no other private garden has there been such a brilliant display of gorgeous colour in *Amaryllis* as that which Mr. Chapman has for some time past had in the large span-roofed *Hippeastrum*-house where the whole of the centre bed is filled from end to end with fine flowers, varying from clear



a few cases, to repeat the process at the same hour next day. These latter are, however, the exceptions; as a rule the flowers remain open, but apparently quiescent, until the time comes round to resume work. This is beautifully exemplified in certain Orchids, and sometimes causes great disappointment to their owners. Perhaps you have been telling a friend of the delicious perfume of Burlingtonia fragrans, that it brought to your memory a pretty lane in the old country, where as a child you used to go and smell out the sweet Violets when they were so hidden among the leaves that you could hardly find them otherwise. "Come along!" you say, and take him to the flower. "Is it not delicious? Does it not bring up the old memories? What a close resemblance!" Your enthusiasm carries you away, and you expect an eager response. But no, not a word does he say, although his politeness prevents him from contradicting you. The fact is, the flower has already done its work for the day, and not the slightest trace of perfume lingers on its beautiful petals.

This is by no means uncommon; in fact, intermittent distillation is almost general in the white flowers of the tropics. Even in temperate climates there is a striking difference between the perfume given out at different times, but rarely are the flowers quite scentless at any time. It might be thought at first that these alterations were erratic; but close observation shows that they are nearly true to the minute, and, if carefully timed, would almost certainly be found to coincide with the period when the fertilising agent is on the wing. For this is the simple explanation: the flower can only be fertilised by a particular kind of insect, and all its efforts are put forth when that insect is likely to be hovering around. Without the flowers the bee could not exist, and without the bee no seed would be produced. That this interdependence is complete can be easily proved in our gardens, as indeed it is also patent to everyone who has a conservatory in other countries. Without some particular insect the plant flowers over and over again without producing a single perfect seed, and as this agent does not exist away from its native habitat, the plant remains barren.

That there should be such a nice arrangement appears more than mere coincidence, and even shows design in the plant rather than the animal. We may perhaps say that the insect fixes its dinner-hour at the time when its food is ready; but in the case of many perfect insects, their life is so short that preparation would have to be made in the pupal stage. It is therefore easier to suppose that the first choice was made by the plant. The interdependence is, however, so very close that it is just as hard to decide in favour of one as of the other.

The shapes of flowers, like their perfumes and colours, also show wonderful adaptations of means to a particular end. The great tubular flowers are just deep enough to allow the long proboscis of the humble bee or moth to explore their depths.

Again, we are met with the question, was the contrivance of the flower or the bee adopted first? We can conceive that in some past age this deep funnel was but shallow; probably made up of fine separate petals, and as wide open as a Buttercup. Bees kept up a continual irritation in their search for nectar, and caused the sensitive stigma to recoil, as it were, and bring its petals closer together. Only the bees with the longest proboscis could now reach the reservoir, but there were still enough of these to keep up the irritation. As generation after generation passed, the deepening and elongation still continued, until now we have flowers with tubes 6 inches or more in depth, and humble bees, the proboscis of which are able to sip nectar from the very deepest, at the same time performing the necessary work of fertilisation.

A great deal more might be said of flowers, but we are unable to deal with other than a few of their contrivances, and must proceed to the fruit. Here also the interdependence of plants and animals is beautifully exemplified. But, instead of insects, we now have to deal with birds, bats, rodents, monkeys, and even fishes.

The fruits of the tropics have succeeded in protecting themselves against insects, and are consequently never subject to the attacks of wasps like their consins of more temperate climes. It is true that beetles make sad havoc among them, but otherwise their thick skins are impenetrable to anything smaller than birds or bats. The Orange family seems to have even gone further, and by means of bitter secretions and stinging essential oils kept off all comers. Other fruits have not gone so far, although many of them try their best, with thick skins impregnated with tannin, and in some cases poisonous milky juices, to preserve their edible seeds from destruction. Few, however, succeed in this—the animals have learnt to peel them and get their share.

On the other hand, a large class of fruits is obviously intended to attract. It is not to the advantage of a tree that its seed shall lie round the trunk and be lost in the struggle for existence. It has therefore followed that efforts have been made to provide something to feed the animals, but at the same time to protect the life-germ from extinction. This is often done by covering the seed with a hard shell, outside of which comes the luscious pulp which forms the attraction. Birds sometimes carry food to long distances, to eat at leisure or to feed the young, and thus the seeds are dispersed in every direction. Sometimes they are eaten and ejected without injury; in fact, rather with benefit as far as can be judged—most of the Figs and Loranthus are examples of this. Where there are bats their lurking places are often strewn with fruit, more or less disfigured on the outside, but really never injured as far as the germinating power is concerned. These little creatures hang in large numbers about the festoons of creepers which border the creeks, or inside hollow trees, and do a great deal towards dispersing the seeds by bringing them within reach of the flood. As nearly all of them float, they are carried down the stream and scattered in a thousand places which otherwise they could never reach, even finding their way to the shores of Africa, Portugal, and England.

Without the flowers and fruit the forest would be entirely deprived of animal life, and in the absence of the clouds of insects not a seed could be perfected. The interdependence is so close that they appear as if striving with each other to see which can get ahead. Trees secrete poisonous juices to keep off larvae, but the caterpillars do not mind that. They only develop a greater power of digestion and assimilation, so as to be able to thrive on the poison. However dry and harsh, thick and leathery, hairy, scaly or bristly, the leaves may be, some insect can be found capable of devouring them without injury to itself. It would never do for a plant to lay itself open altogether to their attacks, as then its extinction would be certain, therefore it tries its best to ward them off. Those which do not put on armour, generally protect themselves by acrid, bitter, and poisonous secretions. No doubt they succeed to a certain extent, but it always happens that some of their foes still get the better of them. *J. Rodway, in "The Guiana Forest."*

## ORCHID NOTES AND GLEANINGS.

### ABNORMAL CYPRIPIEDUM HIRSUTISSIMUM.

I SEND you an interesting example of *Cypripedium hirsutissimum*, where the pouch of the lip in the course of growth divides itself into two fairly well-formed slippers. It is from the collection of Richard Ashworth, Esq., Ashlands, Newchurch, Mid-Lancashire. The flower is not so large as many I have seen, but it is compact and normal in all its parts, barring the labellum. The dorsal sepal is blackish-brown, clouded, merging into a yellowish-green margin; the inferior sepal, in which the pouch rests, is of similar colour. The petaliferous limbs, towards the base and for half their length, are bright yellowish-green with minute blackish-brown spots, which go well with the gaufered edging of the top outline; the extremity of the petaliferous limbs are of beautiful shining heliotrope; the pouch

is of similar colour and shading to the dorsal sepal; the staminode is very prominent as in all *Cypripedes*, although in no way abnormal. The foot-stalk of the flower with the prominent swelling ovary is corrugated and bristling with hairs. *J. A.*

### M. PYNÆERT VAN GEERT'S ORCHIDS.

M. Ed. Pynaert van Geert has now in bloom a splendid *Cypripedium Rothschildianum*, a hybrid between *Stoneii* × *Spicerianum*, with three very dark flowers, the standard and lower sepal delicate rose; also *Lycaste Skinneri*, pure white, with a very dark lip; *L. S. delicatissima*; another variety, with lilac, purple-veined sepals, the petals and lip very dark; *Odontoglossum nebulosum*, a splendid large-flowered variety; several fine *Anacochilus*; *Dieffenbachia Fernieri*, one of the sturdiest species known; *Liparis elegantissima*, with a peculiar metallic sheen; and *Draconia Desmetiana*. *D. B.*

## THE FRUIT CROP OF 1895.

The fruit crop of 1895 was unusually abundant in respect of some kinds of fruit, and upon the whole it may be said to have been of excellent quality. The heat and drought appeared to suit Plums fairly well, and Damsons and Apples extremely well, although rather too intense for the later Strawberries and for Raspberries (the yield of which was not very large by reason of the dry weather), Red Currants, and Black Currants on some soils. Pears, as a rule, were not a good crop. The unusually hot weather in March forced out the blossoms, which were nipped by the frosts and cold wind in April.

Gooseberries were generally plentiful, but the quantity of Red Currants was not nearly so great as in 1894, when the bushes were literally covered with fruit. Black Currants were not more than an average crop, except on the best soils.

Throughout Kent, the premier Cherry county, and in other places where Cherries are grown, the crop was large and of first-rate flavour. It was thought that the very dry weather in May and June would make the Cherries fall before they ripened, but comparatively few did so, and the heat of the sun gave them unusual quality and size.

In the famous orchards of East Kent, the Cherry trees were perfect pictures during the time of blossom in May, as well as in the summer, when they were literally covered with red and white clusters of fruit.

Plums, though plentiful in places, were not generally a full yield. Some varieties were short in parts of Kent, Cambridge, and other counties; but in Worcestershire, especially in the famous Evesham district, there was a very large crop of most varieties, notably of Rivers' Prolific, early and late Orleans, Czars, and Victorias.

Damsons were abundant in quantity throughout the country, and many thousand bushels did not pay the expenses of picking, carriage, and commission, while some were not picked at all.

The produce of Cob-nut and Filbert trees was so large in 1894, that it was considered probable there would be a great falling-off in 1895, as the trees would be materially weakened; but in spite of this, their yield was more than an average amount.

In every part of the country, and, it may be said, in every orchard and garden, there was an abundance of Apples of all varieties. Growers had great difficulty in disposing of much of the fruit at prices that gave any profit, especially the early sorts, which do not keep, and later sorts of common quality. Thousands of bushels were not picked, but knocked off the trees with sticks, and packed in sacks for smashing, cider-making, and other uses, at ridiculously cheap prices.

Strawberries sold well at rates ranging between 2d. and 6d. per lb., and Cherries made capital prices at from 3s. 6d. to 7s. 6d. per 24 lb. They began at the lower rate, but very soon improved in price, as it was seen that the imports of foreign Cherries were much less than usual, and the hot weather was favourable for their consumption. The importation of Cherries during May, June, and July, 1895, amounted to 193,499 bushels, against 310,263 bushels and 341,527 bushels, respectively, in the corresponding months of 1894 and 1893.

Gooseberries sold at from 1s. 3d. to 4s. per half-sieve of 28 lb. A good many were sold at rates which left but small profit to the producer. Red Currants brought from 1s. 6d. to 4s. 3d. per 24 lb., and Black Currants sold better at from 3s. 3d. to 7s. per 24 lb.

Foreign competition does not interfere much with Raspberries, for which there is always a strong demand for jams, jellies, and culinary purposes. This fruit, of which there was only an average crop, made good prices—from 25s. to 40s. per cwt. Fine Raspberries, packed in punnets for dessert, brought 6d. per lb. without much trouble.

Plums had a wide range of values. Some early sorts made specially good prices because of the smaller imports from abroad, particularly in the first part of the season. For instance, in July, 1895, the importation of Plums was only 59,040 bushels, compared with 165,134 bushels and 355,725 bushels respectively in July, 1894 and 1893. The total importation of Plums during 1895 only amounted to 401,080 bushels, contrasted with 777,411 bushels and 777,142 bushels respectively in 1894 and 1893.

Prices for Plums varied between 2s. 6d. to 7s. per 28 lb., the mean price being about 3s. 9d. per 28 lb.

Prices for Damsons were between 1s. and 3s. per 28 lb., and much of this fruit was sold at a loss. Picking, railway rates, tolls, and commission more than balanced the prices made for many consignments, though Damsons were retained in very many towns at the rate of 3s. 6d. to 6s. per 28 lb.

Equally unsatisfactory prices prevailed for Apples. Early sorts, such as Lord Suffield, Keswick Codlin, and others that do not keep, made only from 1s. to 2s. 3d. per sieve or bushel, or from 42 lb. to 46 lb. Many of these Apples were wasted. Prices for Apples during the season ranged from 1s. to 5s. per sieve or bushel; only fine dessert Apples making the latter price. Exceptionally choice Cox's Orange Pippins, Margils, Ribstons, and other famed varieties, made a shilling or two more per sieve. It was rather the heavy crop at home, and not the importation of Apples from abroad, that made prices so very low, for it will be seen from the Trade Returns that the quantity of Apples imported in 1895 was 3,292,562 bushels, while, in 1894, 4,968,669 bushels were imported, and 3,459,984 bushels in 1893. It may be that the reports of the heavy British crop prevented importation to some extent.

Pears, being scarce, made high prices—from 6s. to 16s. per sieve or bushel, and even more for very fine specimens. This fruit was also scarce throughout all the Pear-exporting countries, as only 407,146 bushels were imported into the United Kingdom in 1895, against 1,310,074 bushels in 1894, and 915,212 bushels in 1893.

Cob-nuts and Filberts sold well at between 3½d. and 5d. per lb., giving a good profit to growers, and compensating them somewhat for the bad prices of 1893 and 1894. Taking the plantations throughout, the crop is estimated to have averaged between 7 and 8 cwt. per acre.

On the whole, the past season would appear to have been a profitable one for fruit-growers, at all events for those who grow various kinds of fruit.

The question of a more economical method of distribution of home-grown fruit is now receiving a good deal of attention. To get the full advantage of reduced railway rates, growers will probably find it necessary to alter the shape of their fruit packages so as to economise space. The round sieves and half sieves, though admirable in other respects, take up unnecessary room. Foreign fruit packages are, for the most part, square or oblong baskets and boxes, which fit into corners; and these packages go, in most cases, direct to the retailers, all the fruit being graded, sorted, and packed so that it can be depended upon by purchasers. British fruit consigned to markets also reaches the retailers in its original package, which is charged for if not returned, and it would be well if at least the best fruit, or even some of it, were graded, sorted, and placed in special packages, not returnable, in quantities to suit the convenience of customers.

The sieves, or their square or oblong substitutes, required by the railway companies, would be used for the main consignments as at the present time. *Journal of the Board of Agriculture.*

## TREES AND SHRUBS.

### RHODODENDRON LUSCOMBEI ×.

THERE is a section of *Rhododendron* (to which *R. Aucklandi*, *R. Thomsoni*, and several others belong) which is distinguished by the few-flowered lax inflorescence, and by larger, shallower flowers than are characteristic of such species as *R. arboreum*, *R. catawbiense*, &c. This section is but poorly represented among the hardy species, but is being gradually enriched by hybrids, of which *R. Luscombei* is one of the most beautiful. It was raised by Mr. Luscombe about 1880, its parents being *R. Thomsoni* and *R. Fortunei*. There are two specimens in flower in the open at Kew, one of which is 7 feet high, and as much in diameter, every branch bearing a truss of from eight to twelve flowers. Each blossom is 3½ to 4 inches across, and is of a lovely shade of soft, rich rose, with cinnamon-coloured spots near the base. The leaves are oblong, and from 3 to 5 inches long, bright green above, paler beneath, and smooth on both surfaces. This hybrid is perfectly hardy at Kew, and its distinctness and beauty render it a valuable acquisition to the early-flowering group of *Rhododendrons*.

### BERBERIS BUXIFOLIA (SYN. B. DULCIS).

This is one of the earliest of all the Barberries to come into flower, and although not so showy as either *B. Darwini* or *B. stenophylla* ×, is a charming and useful shrub. A large bush at Kew about 8 feet high has for some weeks past been covered with blossoms. The leaves are small, and are produced in tufts along the branches, each tuft being armed with spines. The flower is of a clear, bright-yellow colour, and larger than that of most Barberries. It is borne singly on a slender, drooping stalk, which

springs from the axil of the leaf. This evergreen species is a native of Chili, and is said also to come from the Magellan Straits region. It was introduced about 1830. Propagation can be easily effected by seeds, which it ripens freely in this country.

### RHODODENDRON NIVEUM.

Although this is far from being the showiest of the Himalayan *Rhododendrons*, it is worthy of notice as being one of the few that are really hardy in the London district. Two or three bushes, 4 to 5 feet high, are in flower in the *Rhododendron* dell at Kew, some of which were unprotected many years ago. The lanceolate leaves are 4 to 6 inches long, and at this season are dark glossy green above, but covered beneath with a pale brown felt. When young both surfaces are clothed with this felt-like substance, which is then almost pure white, but it afterwards disappears from the upper side. The flowers are closely packed in rounded compact trusses that measure 4 inches across. The corolla is bell-



FIG. 80.—*JUNIPERUS DRUPACEA*.

shaped, 1½ inches in diameter, and of a clear, unspotted, purplish-lilac colour. The species is one of Sir Joseph Hooker's introductions from Sikkim. *H. J. B.*

### THE SYRIAN JUNIPER (*JUNIPERUS DRUPACEA*).

In several respects this species must be considered as one of the most interesting of the Junipers. It is of bold, upright growth, with a well-formed tree-like stem, and produces large Plum-like fruit, quite distinct from any other of the family. The Syrian Juniper (fig. 80) is often said to grow very slowly, and to be small, but in this country at least this is not the case; for a specimen that has long been under my observation has, in thirty years, attained to a height of 21 feet, the stem girthing 25 inches at one yard from the ground. No doubt this particular specimen is growing in a moderately sheltered situation, and in a strong, rather unctuous clayey loam. Perhaps the worst fault of this species of Juniper is the early loss of the lower branches after a height of 12 feet or thereabouts is reached, and this loss of branches is general, and it was noticeable in every specimen that I know of. In general, the habit of the Syrian Juniper is upright, not stiffly so, but just sufficient to impart a neat appearance to the tree. The branches incline upwards, and the branchlets slightly droop; the foliage is thickly produced—crowded, in fact. The leaves vary much in length, according to their position, but they are, for the

greater part, three-quarters of an inch long, stiff, sharp-pointed, and of an uniform grey-green colour, and quite wanting in the various tints of silver or frosted appearance possessed by many species of Juniper. The fruits are sparingly produced even on old specimens; but when in any quantity, the tree has a beautiful appearance from contrast between the large blue-black berries and the light green foliage. The fruits are almost spherical, except at the apex, which is deeply cleft or indented, are fully three-quarters of an inch in diameter, and often become suffused with a glaucous bloom just before they ripen.

For ornamental purposes, in sheltered spots, and in stiff soils, I would recommend *Juniperus drupacea* to be planted, as being a tree of robust and stately growth. *A. D. Webster.*

### EARLY-FLOWERING SHRUBS AT FINNIART, N.B.

The flowering of *Magnolia conspicua* has been referred to by your correspondents in various parts of the country south of the Tweed; and I would mention that there is at present a plant flowering most profusely on the south wall of Colonel Marryatt's house, Finniart, Loch Long, N.B. The plant is nearly 30 feet high—in fact, almost covering one end of the house; and hard by, on the porch, a double red-flowered *Camellia* is carrying at least one thousand buds and blooms. On the west front *Berberis Darwini*, 15 feet high, is clothed with its golden-yellow flowers. The white *Camellia* is scarcely as profuse in its flowering as the red, not being as favourably situated; *Pyrus japonica* was very pretty too—in fact, the house is literally covered with flowering shrubs and climbers. These consist, besides those named, of white and yellow *Jasmine*, *Roses*, and *Clematis*, vieing with each other in making the place attractive, being a source of delight to the residents of Finniart. Many of the *Rhododendrons* at the time of my visit were and had been in bloom for a long time. Hardy *Azaleas* are splendidly set, and will be fine later on. Few persons who have not visited the district have any idea how luxuriantly these subjects grow in this sheltered spot so far north. *Tropæolum speciosum* has been green all the winter, and last season's *Calceolarias* are still to be found in the borders. *Desfontainia spinosa* grows and flowers freely on a wall in the district; and *Escallonia macrantha* is equally at home.

The houses at Finniart were gay with several good varieties of *Cattleya Mendelii*, one, in particular, a dark variety, I noted in the stove. Orchids are not a specialty here, although several species are represented, and all equally well grown. Mr. Peters, the gardener, prides himself on his success with the *Souvenir de la Malmaison* varieties of *Carnation*, Mr. Marryatt's favourite flower, and which he cultivates by the hundred. I saw no sign of the dreaded *Carnation* diseases, and the various batches of plants were all equally healthy and vigorous. Two fine plants of greenhouse *Rhododendrons* were nearly past; zonal *Pelargoniums* are very fine; and *Cyclamens* particularly good. Another plant too seldom seen in gardens, *Streptosolen Jamesoni*, formed a very pretty object; and a fine batch of herbaceous *Calceolarias* in one of the houses will help to make a fine show very shortly, besides numerous other subjects coming on. *Anglo-Scot.*

### EARLY VEGETATION IN THE SOUTH OF SCOTLAND.

The Rev. David R. Williamson, the publication of whose letter has been deferred, writes from Kirkmaiden Mause, Wigtonshire:—"Trees in this parish have at present the appearance they presented last year in the beginning of May. This statement is especially expressive of the *Sycamores* and *Chestnuts*, which in many places are already exhibiting their virginal leaves.

Beneath sheltering hedges of Hawthorn I have found—*mirabile dictu!*—the pink *Campion* in bloom. The *Periwinkle* is unfolding its luminous blossoms, white and blue. I have not yet observed the tender flowers of the *Wood Sorrel* (*Oxalis Acetosella*), but I anticipate that, under the influence of the all-penetrating sunlight that prevails, it will ere long appear.

A Fig-tree in Logan Gardens, a few miles from this Manse, has fruit not only formed, but considerably grown; it is growing on a warm, greatly sheltered south wall.

In my own garden, which enjoys perfect immunity from withering winds, the Almond-tree, which I have never seen flowering elsewhere in Scotland, is in exquisite bloom. So also are the Czar and Early Rivers Plums, the Pitmaston Duchess and Doyenné du Comice Pears, the Black Eagle and May Duke Cherries, and Denniston's Superb Green Gage. The Duchess of Oldenburg, Irish Peach, and Beauty of Bath Apples are not far behind these, and are rapidly preparing to follow in their train.

*Narcissus poeticus*, Queen of Spain, (*Narcissus Johnstoni*), and *Narcissus albicans*, the supremely beautiful Spanish Daffodil, silvery-white in colour, but suffused with pale lemon in its primary stages of development, have been in flower for nearly a week, though the Poetic *Narcissus* usually flowers here in the beginning of May. For *Narcissus albicans* (*moschatus*), I must express my acknowledgments to Mr. F. W. Burbidge, of Trinity College Gardens, Dublin, who sent me this impressive variety in December last, with the assurance that I would be delighted with its beauty when April came. His prediction in both cases has been fulfilled; for it has come with the—

"Sweet, uncertain weather,  
When gloom and glory meet together;"

and I find it as beautiful as the bright anticipations which were inspired by his words.

Almost equally artistic in aspect is its primrose-hued companion, the charming Queen of Spain. Somewhat later than this graceful Daffodil, but not less appreciated, are *N. Barrii conspicuus*, and *N. Burbidgei*, of which the former, raised by Mr. Barr, of Covent Garden, is the most pre-eminently attractive of all hybrid *Narcissi*. To the lover of this fragrant family of vernal flowers its first appearance is a veritable revelation.

## THE ASHLANDS, NEWCHURCH.

Among the many charming sights along the crest of the hills rising on each side of the Rossendale valley is The Ashlands, the residence of Richard Ashcroft, Esq., a gentleman who takes great pleasure in gardening pursuits. All along these valleys of Mid-Lancashire there are many business men who are enthusiastically attached to gardening. Beginning with border flowers, shrubs and trees, and modern parterre gardening, many—indeed, most of them—have built sets of greenhouses, and from *Pelargoniums*, *Cinerarias*, *Fuchsias*, *Camellias*, and *Azaleas*, the bent of the inclination has turned to Orchids. So has it been with Mr. Ashcroft, who has a capacious mansion, surrounded by—first, the grass parterres, then by borders of the waving outline common to most villa residences, and guarded by a fringe of evergreen shrubs, and then of deciduous trees, which at one time must have been a portion of a wooded glade, now transformed into tenements for the housing of the workmen employed in those busy hives of industry round about Newchurch and Waterfoot. The site of the residence is 760 feet above sea-level, and commands a wide view of pastoral and woodland scenery, with multitudinous chimneys of factories, &c.

There are, in three different ranges of greenhouses an ornamental range of considerable extent, in which a domed conservatory forms the centre; a subsidiary range, in which cool Orchids find a home, attached to a potting-shed; and one of span-roofed houses, in which flowering Orchids in the one compartment, and the *Cattleya* family chiefly in the other, fill the whole space.

The conservatory, which is entered from a walk which is bounded by a very handsome stone balustrade, is very gay with *Azaleas* of many varieties, *Camellias*, a gay lot of *Cinerarias*, and flowering plants suitable for cutting. The adjoining division is a vinery, but judging by the number of Orchids standing about and suspended, it will in time be

otherwise utilised. Adjoining these, again, is a houseful of Tea Roses, than which none was more beautiful in bud or more telling in colour than the red *Gloire de Dijon*, or *Reine Marie Henriette*. In the house in the other wing of the conservatory is the general collection of *Dendrobiums*, comprising some of our finest species, and also some of our finest crosses. No variety seems to be more popular at the present time than the pure white *D. nobile*, which goes under the name of *Amesiae*, and undoubtedly it is a beauty differing in some varieties as to breadth of segments and purity of colour. Here half-a-dozen suspended plants are going along well, and there are a great many of the best of the importations of the *D. nobile* section, which still holds front rank. Among the best crosses I have seen this season, is *D. × splendidissimum illustre*, quite a red *splendidissimum* when at the earlier stages of its development, and a flower of large size, equalling, in this respect, either of its parents—*nobile nobis* and *splendidissimum grandiflorum*. The pretty *D. nobile Balleannum* was in flower here; it appears to have come over with the *Lang Tang D. nobile*, but it is clearly, from its pencilled chocolate-rayed blotch at the base of column, a natural hybrid. *D. Wardianum* is now everywhere abundant, and there seems to be no scarcity of the pure white variety of this species. It still is a prince among *Dendrobes*, and it is to be hoped that growers will have found out the proper way to keep the plants alive, say, after two years' cultivation. It has not always been so. There is a very choice lot of *Cypripediums*, one of the most striking set of well-cultivated plants being *C. bellatulum*, which is doing grandly in masses in pots suspended from the roof. The white one is going along well, as also *C. insigne Sanderæ*, which, by the way, is a rapid grower—different altogether from *C. callosum Sanderæ*, which is still worth its weight in gold pot, compost, and all! I noticed a particularly splendid raft of *Cattleya Acklandiæ*, with about fifty bulbs, nearly all leaved and in rude health. *C. maximæ* strong; and how distinct-looking is *Chamberlain's* ruby variety of *Lælia anceps*! There have been thrips among the *Cypripeds*, but they have been got completely under by the specific called "Excel," which kills the insects and the larvæ without affecting the most tender Orchid—so, at least, various parties who have used it advantageously, say. Another thing which apparently helps the vigour of the plants suspended from the roof, is the gross foliage and the moisture arising therefrom of several large-leaved stove plants in the flat below.

Another range is filled with cool-growing plants. The lot of *Odontoglossum crispum* is very choice here, and many of them were in flower at the time of my visit, comprising both white and spotted forms. There is such a variety in this, the queen of *Odontoglossums*, that commands universal admiration. The *O. Pescatorei* is also fine. There were several *O. Andersonianum* in flower—very good in their way, but the flower I saw of Major Massin's variety, which had a First-class Certificate the other week at the Royal Horticultural Society's meeting at the Drill Hall, by far eclipses any form that has come within my cognisance; the one I flowered more than twenty-nine years ago was a poor thing in comparison. *Odontoglossum triumphans* is always notable from its clear-yellow ground and Indian-red blotches; the yellow and bronze *O. scepterum* was in flower; and the yellowish or citron-coloured *O. humeanum* with its flushed segments adorned with spots at the base, is very pretty. *Oncidium macranthum* is in quantity, bristling with its trailing flower-spikes, delighting in the cool moist climate. *O. serratum* was in flower, and useful it is in a collection. *O. cucullatum*, with its violet spots so densely placed on labellum contrast well with its olive segments; and the *O. olivaceum Lawrenceanum* is after the same character in its flowers, but much more minutely spotted. The fine scarlet hue pervading the flowers of *Cochlidium Roeziana* tells well in a group.

In the adjoining house were quantities of *Celogynæ*, now so plentiful and so cheap, *cristata* and its forms. *Cymbidium Lowianum*, with its hand-

some curving racemes, is here in fine style, and is becoming a greater favourite than ever—for designers it is useful in framing their conventional forms. *Brassia verrucosa* is another of the useful sort in the same way, and whose grotesque flowers take immensely with visitors. The plants of *Miltonia vexillaria* are in fine order, quite clean, vigorous in health, and comprise some of the finest forms and colours. The collection of *Masdevallias*, both the bella and *nycterina* and *macrura* section, and the *Harryana*, *Veitchiana*, and the tiny lot of which *Shuttleworthi* is one of the more primæval, are all well cultivated in this same climate.

In the third range, which stands on a position more elevated than the others, stands some very choice plants. *Dendrobium × Venus*, for instance, is in magnificent health, and has had over forty flowers on it, with many still remaining. This remains still one of the finest of the earlier crosses, and varies—at least, I have noted four distinct varieties of it; it is a good grower, if kept clear of red-spider and thrips. *D. thyrsoiflorum*, in good variety as here, brightens up a miscellaneous group. Some of the forms of *Cattleya citrina* are admirable; and one here with the deep citron-coloured segments and the gorgeous yellow lip with the varnished-looking finish, was admirable. *Lycaste Skinneri alba* is always nice to look at, as is *D. primum*, with its pendent pseudo-bulbs covered with cream-coloured flowers. *Cattleya Trianaei delicata* has a soft loveliness, which contrasts well with the hairy-punctured, weird-looking coloured *Cypripedium hirsutissimum*, of which several were in flower. *Epidendrum vitellinum* was strongly grown, suspended from the glass.

In the *Cattleya*-house adjoining were several choice plants; the plants of *C. Lawrenceana* grow well here. There is a splendid piece of *Cattleya Hardyana*, which like all the *Dowiana aurea* section, seems to grow freest with the air moving about roots and pseudo-bulbs, which it can do best when the plants are suspended. *C. Trianaei alba*, *C. Skinneri alba* in several plants, some of the best forms of *C. Mendelii C. labiata*, and others were remarked. There are many hybrid seedlings being nursed along; the collection of *Lælias* is a choice one, including the best form of *tenebrosa*, *elegans*, and the *anceps* section. *Brassavola*, or rather *Lælia Digbyana*, is coming into flower, and seems to do well in a smallish pot along with the *Cattleyas*; the *Sobralias* were doing well, treated as terrestrial Orchids, the best among them being the white-flowered *Kienastiana*. It has often been said by several writers on Orchid culture that there is no royal road to success. Some get it one way, some another. Here, for instance, there is no double staging, no extraordinary provision made for the holding and giving off of moisture supply, no pet system of house-building or of ventilation, and yet Mr. Pidsley, Mr. Ashcroft's able gardener, manages to cultivate his plants, and improve their condition, the *Odontoglossums* and the *Cattleyas* in particular catching one's eye. Strict attention to the wants of each plant, and general cleanliness, are the main factors towards success, and a notice to that effect might be usefully placed on the inside of every botchy door. J. A.

## COLONIAL NOTES.

### JAMAICA.

The *Bulletin of the Botanical Department, Jamaica*, for March, edited by Mr. William Fawcett, includes, among its contents, papers on the "Agricultural Chemistry of the Sugar-cane," by T. L. Phipson; "Cultivation of Tomatoes," by W. Cradwick; "Notes on Oranges and Lemons," "Pasteurisation of Milk," "Orchids at Hope Gardens," and Mr. Jenman's "Synoptical List of Ferns" (continued). The Appendix I. of the *Bulletin* contains "Elementary Notes on Planting and Care of Woodlands," chiefly from Schlich's *Manual*; "Report on the Colonial Herbarium for the Year 1895," by J. Medley Wood, Durban.





FIG. 81.—PSESTIS, AS CULTIVATED AT ROUND OAK, ENGLAND. GREEN  
See Cultural Notes by the Gardener, Mr. A. Sturt on p. 47 April 11.



## THE ROSARY.

### NEW ROSES FOR FORCING AND CUTTING.

WE note in a German periodical the following varieties are praised by some commercial Rose growers as being excellent forcers:—Maman Cochet, Madame Caroline Testout, Kaiserin Auguste Victoria, White Maréchal Niel, Golden Gate, Fiametta Nabonnand, Hippolyts Barreau (hybrid Tea), Paul's Early Blush, Grace Darling, The Bride, and Augustine Guinoisseau.

## THE WEEK'S WORK.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**CUCUMBERS.**—These plants being now in full bearing, copious root-waterings, with alternative applications of liquid-manure, and an occasional sprinkling with some artificial fertiliser, such as Clay's or Thomson's, should be afforded. Air-moisture will need to be afforded by damping the paths and borders, and the foliage should be syringed in two directions at closing time. Shading will not be needed before the plants begin to flag during bright sun, when some light scrim may be put over the glass. If there is much flagging, the state of the soil as regards moisture ought to be examined, for although the bed may appear wet on the surface, it may be dry below. Plants for succession should be planted as pits or houses become cleared of French Beans, Potatos, &c. For summer Cucumbers, the soil should be strong and retentive, roughly chopped up, and have some rich, rotten manure added to it. Should green or black aphid or thrips put in an appearance, gently fumigate the house several times. Cucumbers planted on dung-beds should have the daily waterings or sprinklings done sufficiently early in the afternoon to permit the foliage to become dry before nightfall. A good bottom-heat should be maintained in these beds by renewing the linings. Close early in the afternoon to husband sun-heat and employ thick coverings whilst the nights remain cold. Woodlice may be trapped in 5-inch flower-pots filled with hay, and placed with the mouth next the side of the frame or pit, a slice of Potato being put into each pot as bait.

**FIGS.**—As the fruit on the earliest trees approaches the ripening state, free ventilation should be afforded them whenever the weather is favourable, leaving a small opening during the night. The supply of water and atmospheric moisture must be somewhat reduced. Whilst the fruit is swelling freely, the trees, and especially those in pots, can scarcely have too much water at the root, liquid-manure being, provided the drainage is good, frequently afforded. Keep up a moist atmosphere by syringing and sprinkling the house twice a day; close early, but giving a small amount of air at 75°. Planted-out trees will benefit much by mulchings of half-decayed rich manure. The ammonia arising from this manure will greatly assist in keeping red-spider in check, as well as add vigour to the trees. Later crops, as soon as the trees are in full leaf, may be allowed a night temperature of 60° to 65°, rising to 75° in the daytime, with a further rise of 10° by sun-heat. Young trees in pots should be re-potted into larger-sized pots as may be required, but these shifts should not be large ones, it being better to re-pot three or four times till they get into 12-inch pots, than to give too much space at one time. In re-potting, afford plenty of crocks, and as a potting-soil, use a rich turfy loam, not too heavy, to which one-sixth of old mortar rubbish should be added, a little well-rotted manure, and a sprinkling of half-inch bones, pressing it firmly about the roots.

### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**GARDEN-WALKS AND LAWNS.**—Garden-walks should now be in good condition, if due attention has been given to rolling them after rain has fallen. Continue to mow grass lawns, and continue the trimming of grass verges. Any of the lawn which has been lately sown with grass seeds should not be cut too close for some weeks to come; in fact, it is better to mow such parts with scythes only, until a close sward is obtained.

**FLOWER-BEDS AND WALLS.**—Give support to all bulbous plants in cases where the spikes of bloom are liable to be snapped off or displaced by wind or rain. Take notes of the particular arrangement of the plants in the beds this season, and of any improvements which may appear desirable to make another season. Creepers on walls and verandahs will require attention, in order to prevent the growths from becoming entwined, which would cause an amount of labour and waste of time later on.

**BEDDING PLANTS.**—Preparations should be completed for hardening these off, and the pricking out of various seedlings, such as Zinnias, Stocks, Asters, Marigolds, Pyrethrums, &c., continued. There is still time to pot off quick-growing plants, such as Coleuses, Iresines, Heliotropes, Petunias, Verbenas, Zeas, &c. Hardy annuals may yet be sown, and successional sowings of Mignonette, Sweet Peas, Virginian Stock, &c., made. The dividing up and planting of Violet roots ought to be completed as soon as possible, so that growth may commence before dry weather obtains.

**HERBACEOUS AND CARNATION BORDERS.**—These should be kept clean by the use of the Dutch-hoe, taking great care not to injure any plants that may be just appearing above the soil. Borders intended for early-flowering Chrysanthemums should be enriched by the addition of a good dressing of rotten manure, and a sprinkling of soot added. Afterwards well dig the ground, as the plants may shortly be put out, if due attention to the hardening off of the latter has been given. Seedling Carnations intended for beds or borders should be potted on as occasion requires. For border culture, seedlings obtained from a good strain are quite equal to named sorts, and they afford a larger quantity of bloom. The Marguerite and Grenadin sections are now mostly used for early flowering.

**ISOLEPIS GRACILIS.**—It may not be generally known that this useful sedge, which is mostly used for indoor decoration, makes an admirable plant for beds. In raised beds and borders it makes an excellent edging plant. A sunny position suits it best, and if dry as well, it will thrive, and bring out the beautiful blue tint seen only when freely exposed. It associates well with most bedding plants. If old plants are now divided, and grown on in gentle heat, they will be suitable for bedding-out at the time they are required. It is also easily raised from seed, but this should be sown early in the season.

**FUNKIA SIEBOLDI** is one of our most showy plants for the open border, and it affords excellent spikes of bloom. The plants should be divided when growth has commenced, and then planted in a moist and shady position.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**STRAWBERRIES** on warm borders are now pushing up their trusses of blooms, and if the ground between the plants was cleaned of weeds, and afterwards mulched with a dressing of half-rotten manure, as was advised on p. 46, there will probably be sufficient clean material remaining to protect the fruits from contact with the soil. If more is required, add a little of the lough stable-litter, which should be worked well round the crowns, at the same time being careful not to bury any of the foliage. If a little of the straw-like material be taken from the alleys and laid lightly over the trusses of bloom in the evening, when sharp frost is expected, it may be the means of saving the best part of the crop, as the first trusses of bloom invariably produce the finest fruit. Plantations two or three years old may be greatly strengthened during the flowering period if one or two soakings of manure-water, taken from the cesspools attached to the stables or cow-sheds, are given, diluting it according to the strength of the liquid. Nitrate of soda also, if broken up finely, passed through a sieve, and sprinkled evenly over the beds at the rate of 2 lb. to the square rod, will be found very helpful, especially if the season be a dry one. Such a stimulant must be kept from touching the foliage. If, owing to pressure of other work, the beds have not yet been attended to in regard to trimming off the old leaves, clearing off runners and weeds, and putting on a mulching of manure, let nothing interfere with the effecting of such work at once. A good dressing of soot dusted well into the crowns is one of the best remedies against slugs and other insects, besides being very beneficial as a manure.

**GRAFTED TREES.**—Where clay has been used for covering the grafts, it should be examined every few days during dry weather, and if it is at all likely to crack, rub some soft clay into the cracks, and well damp the whole mass. If some moss be tied over the clay and kept damp, it will, in a great measure, prevent cracking. Attend to the removal of any growths from the stocks as soon as they appear.

**PROTECTION.**—If two or more thicknesses of fish-netting are being used in the protection of the blooms of Apricots, Peaches, and Nectarines, a portion of this may now be removed, leaving one thickness only for a while longer. As soon as the foliage is sufficiently abundant to cover the fruits, the remaining portion may also be taken away.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

**WINTER-FLOWERING CARNATIONS.**—The propagation of these should now be commenced. The following method has proved very successful here: Prepare a frame in which to plant out the old stock plants, and then carefully layer them. Use loam which is free from wire-worm, and add leaf-soil and river-sand. As soon as the layers are well-rooted, pot them into 3-inch pots, and plunge them to the rims in sifted leaf-soil for the purpose of protecting pots and young roots from the hot sun.

**TUBEROUS BEGONIAS** sown in February, and having been pricked-off into pans or shallow boxes, will now be ready for potting singly. Use thoroughly clean 3-inch pots, and drain well. Good loam and leaf-soil in equal parts will suit them well. For plants to be used for bedding purposes, this sized pot will suffice until they are planted out, but those required to flower in pots, must be re-potted as soon as the plants are well rooted. Place them on shelves near the glass where there is a night temperature of 60°.

**BERTOLONIAS.**—These plants are far too delicate to be used for ordinary decorative work, they should be grown in a corner of the stove, and if rockwork is used, and a few dwarf trailing plants or Selaginellas are interspersed, they may be made most attractive for the summer, and can be returned to the cases in winter.

**DRACÆNAS** raised from eyes last season ought now to be ready for removing into 5-inch pots, and this is the most useful size for all purposes. D. Goldieana requires dense shade in order to develop and retain the decorative markings in the foliage. All Dracænas are best potted in two parts peat, one loam, one leaf-soil, and a good sprinkling of coarse Reigate-sand. Water containing much lime should not be used for syringing Dracænas, as to renders frequent hand-sponging necessary; in such a case it is better to damp the surfaces in the house only.

**ZONAL PELARCONIUMS.**—Good cuttings will now be available from plants which have flowered through the past winter; these should be taken in order to furnish a stock of plants for next season. The best method is to fill thumb-pots with sifted loam, leaf-soil, and river-sand, and insert one cutting in each. Place them on a shelf near the glass in the greenhouse, and give them a good watering, after which little water will be required until they are rooted. Remove all flowers as they appear. Specimen plants will now have made good growth. Continue to remove all flowers as they appear until within six or seven weeks of the date they are required to be in full bloom. At every other watering use liquid-manure, and there is none better than guano for these plants. Fill a muslin-bag with this, and when watering simply wet the bag in the watering-pan and squeeze it until the water is nicely coloured.

**FUCHSIAS.**—Spring cuttings of these will now require shifting into 4 and 5-inch pots. Use good loam, leaf-soil, and spent Mushroom-manure, in equal parts, and add a little river-sand. Give Fuchsias a moist atmosphere while young, and pinch all side-shoots until within six weeks of the time they are required to flower. Pinch all side-shoots regularly from specimen plants also. Water regularly with liquid-manure, that obtained from sheep droppings preferably. If the plants are wanted for show purposes, remove all flowers as they appear until within eight weeks of the time they are wanted. In dry weather much labour is saved in watering if the pots are plunged.

**CROTONS.**—These are making rapid growth, and are now beginning to colour a little. The collection should now be looked over and all plants given their final shift for the season, so that they may fill the pots with roots, and afterwards have a long period for colouring. If it is desired to obtain as large plants as possible in one season, repeated shifts may be given at the expense of colour, for I have found that if Crotons are kept growing fast, the leaves colour unsatisfactorily. Crotons should never be shaded, exposure to sun is a most important factor in producing well-coloured plants. The house may now be shut up early each day at a temperature of 100°, keeping at all times an abundance of moisture in the house. Syringe the plants when shutting up the house with soft rain-water. Specimen plants, if healthy at the roots, will be benefited by being watered twice a week with liquid-manure from the farm-yard, or a weak solution of one of the many good chemical manures.

### THE KITCHEN GARDEN.

By C. HEARIN, Gardener, Drogheda, Maidenhead.

**CELERY.**—Plants from the earlier sowings to furnish the main crop of Celery will be large enough to be pricked off into cold frames stood on a hard bottom of coal-ashes. Over the coal-ashes, a layer of spent Mushroom-bed manure should be spread to the depth of 3 inches, and on this a 2-inch layer of moderately fine soil. The whole should be made firm by lightly trampling it, and a fine surface given it with a rake. The plants should be pricked out at 3 inches apart, affording water with a fine rose can, and the lights kept rather close, and shade from bright sun given until the plants have become partially established; air being given after that time in sufficient quantity to prevent the least spindling. A small sowing of Celery may be made, choosing a variety that is adapted for late use, of which, I may remark, Standard Bearer is a good example. Sow the seeds in a frame, or under hand-lights; or, in lack of these, in a warm corner, and after sowing, cover the seed-bed with a mat till it germinates. If the seeds are thinly broadcasted, the plants in this bed may be transplanted direct into the trenches when large enough to be readily handled. Plants raised in frames, &c., will in most cases require to be pricked out.

**CARDOONS.**—Seeds may now be sown three in a 4-inch pot, three-quarters filled with a moderately light kind of soil. When up, thin out the weaker, leaving one plant to a pot. Stand the pots in a frame, and keep close until the seedlings appear above-ground. The plants should be strong enough for planting out in about a month after sowing. Trenches for Cardoons should be similarly prepared to those in which Celery is grown, planting at 18 inches apart in the row, and if a number of rows of plants are grown, the rows should not be nearer together than 4 feet.

**CHICORY.**—If roots are required for affording winter salading, seed may now be sown on ground prepared as for other root-crops. For convenience of cleaning the ground it is advisable to sow in drills, which should be drawn half-inch deep and 12 inches apart. The large-leaved Brussels or Witloef is the best variety.

**VEGETABLE MARROWS.**—Plants from the earliest sowing will be now ready for planting out, and in view of cold nights they should be covered for a time with hand-lights. A sowing may be made in pots placed in mild heat, and also in the open ground, dibbling in the seed where the plants are to remain to fruit.

**PEAS.**—Early-sown transplanted Peas have made good progress, and the sheltering with mats on cold nights should still be followed up. Efforts should be made to forward these as much as possible, early dishes of Peas being always appreciated. The common sparrow has been troublesome here of late, eating the young growths of the Pea-plants, compelling me to use netting to protect the dwarf varieties, and often sprinkle the taller ones, which have their sticks put to them, with soot. Successional sowings of Main Crop Peas should continue to be made at intervals of ten days or thereabouts. Assuming that the land was heavily manured and trenched, broad drills, with a flat bottom, and 6 inches deep, should be drawn, sowing the seeds thinly therein, covering them to half the depth of the drill, so that the plants when they come up will be 3 inches below the ground-level, for convenience of watering and mulching in dry weather. If the Pea crop must follow another where the ground has

not been properly prepared, a trench 2 feet wide and deep should be taken out, some rotten manure incorporated with the soil, and the seeds sown in the above manner. As a tall variety, the old Ne Plus Ultra is still one of the best garden Peas.

**VARIOUS ITEMS.**—Owing to the mildness of the winter, a large percentage of Cabbage has bolted, and their places should be filled up with plants drawn from the autumn seed-beds. The Potatos that were the first planted are several inches high, and have had some soil drawn over them as a protection against frost; and where too high to allow of this being done, they are covered lightly with litter. Heads of Broccoli should be protected from sunshine and frost; and Lettuce tied up to blanch it when in a dry state. Hick's harly White Cos and Brown Cos have afforded us solid Lettuces for some weeks past. Any of the Brassicas running to seed should be removed without delay, trimming off the tops and digging them in the land if not wanted for other crops being planted with Potatos. The stumps of such flowering plants should be burned.

### THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

**CELOGYNE CRISTATA** and its varieties thrive well in either a Cattleya or cool intermediate-house. When the plants are in a strong, healthy condition, some of the bulbs soon get beyond the limits of the pot or pan in which they are grown, and having no material to root in, they become deficient in size and unable to produce strong flower-spikes. In order to remedy this, the leading pieces around the plant may be severed with several older bulbs attached, and made up into small compact specimens; the original plant, if not disturbed, will soon send out strong young growths. Large specimens that have grown beyond a convenient size, or any that may have fallen into an unhealthy condition, may be safely divided at this season, and re-potted again into various sized pots as required. For re-potting, use a mixture of peat and sphagnum-moss, also a few lumps of turfy loam, and give plenty of drainage. After the plants have been re-potted, they require careful treatment, or it will take a considerable time to bring them to their former condition. Any root-disturbance usually causes the pseudo-bulbs to shrivel slightly, but do not deluge them with water at the roots to preserve their plumpness; rather give them an occasional syringing overhead, damp well between the pots twice or thrice daily, and shade them from strong sunshine. When well rooted into the compost, and the growths are developing favourably, the plants delight in almost unlimited quantities of water poured through the compost; and if they are given plenty of light without actual sunshine, they will make strong, healthy, flowering growths. Other species of *Celogyne*, as *C. Massangeana*, *C. tomentosa*, *C. flaccida*, *C. conferta*, *C. speciosa*, *C. elata*, *C. barbata*, *C. ocellata*, *C. Rossiana*, *C. corugata*, *C. graminifolia*, *C. Thuniana*, *C. odoratissima*, are now commencing to grow, and those plants which require it may now be re-potted. Basket culture is advisable for the first three named species, as the flowers are produced on long pendulous racemes; they are seen to the best advantage suspended from the roof. Shallow suspending pans are to be preferred for the dwarf-growing varieties, as *C. odoratissima*, &c. *C. asperata* Lowii is also making growth, but as the flower-spikes are produced simultaneously, re-potting must be deferred until the flowers have faded. All these *Celogyne*s grow well in ordinary compost. During the work of re-potting, it is important that thick pieces of crock be inserted in the compost to allow the copious supplies of water these plants require when growing to pass freely away. With the exception of *C. asperata*, a species which requires a hot moist atmosphere, all the varieties will grow thoroughly well in an intermediate temperature.

**THE CATTLEYA-HOUSE.**—Such plants as *C. Trianei*, *C. exoniensis* ×, *C. Percivalliana*, *C. amethystoglossa*, *C. Leopoldi*, *C. Harrisoni*, *C. Gaskelliana*, *C. Schofieldiana*, *C. speciosissima*, the autumn-flowering *C. labiata*, *Laelio-Cattleya elegans* and its many varieties, are in various stages of growth. Some of them are commencing to emit new roots from the last-made pseudo-bulbs, others are starting into growth, and the young breaks will quickly produce fresh roots. Such plants, providing they need room for further development, may now be re-potted, as the young roots will in a very short time establish themselves in the fresh compost. Plants

of *C. Mendeli* that have failed to produce flower-sheaths, or specimens that have deteriorated through loss of roots or other cause, will be sure to make roots at this season, and may therefore be re-potted and started afresh. Unhealthy plants should always be relieved of their flower-sheaths previous to re-potting. The pots for these *Cattleyas* and *Laelias* should be filled at least three parts with drainage, over which it is customary to place a thin layer of rough sphagnum-moss. Keep the rhizomes of each plant elevated a trifle above the rim of the pot, and tie a bulb here and there to neat stakes to hold the whole firmly in its place. Over-potting must be strictly avoided. Pot the plant firmly, using a compost of good fibrous peat and living sphagnum-moss in equal proportions, and freely mixing with it some thick pieces of crock. When the plants have been re-potted, place them on the shady side of the house, and for a few weeks water should be given the roots with great care, but the surroundings may be kept fairly moist by syringing between the pots several times each day.

### THE APIARY.

By EXPERT.

**HIVE EXAMINATION.**—The month of March is regarded by bee keepers as the beginning of the season, and it is necessary for all who wish to have a good honey harvest to thoroughly examine all their hives, and ascertain the strength of each. As this has been such a mild winter, most stocks have come through fairly well—in fact, better than for several years past; but it is most important that all bees should be fed at once (except in cases where stocks are strong, then they are better left alone), to stimulate them, and so encourage the brood, as colonies often die in the spring for the want of a little judicious feeding after wintering well. In a mild season like this, it is a good plan to commence feeding about the end of March or beginning of April, and continue till there is a natural supply of food. I find the best and easiest way is to take 10 lb. of pure cane-sugar, 7 pints of water, 1 oz. of vinegar, 1 oz. of salt, and 1 oz. of salicylic acid solution, and boil for a few minutes. The solution is made by mixing 1 oz. of salicylic acid, 1 oz. soda borax, and 4 pints of water; this should always be kept near at hand, as it is most useful for cleaning hives, spraying combs, &c., and as a safeguard against foul brood. Flour-caudry, made soft, can also be used as a spring food. A small quantity of Pea-flour mixed with a few shavings or small pieces of cork, &c., put in a small box or tin, and placed in a warm, sunny corner, will serve the bees for pollen till the natural supply comes in, after which they will discard it.

**QUEENS.**—On a warm day each hive should be examined to see if there is a good fertile queen, which can readily be ascertained by the presence of sealed worker brood; but if there are neither eggs nor brood, there is little doubt that the stock is queenless, or the queen aged and useless; in that case it is better, if the bees are in a healthy state, to unite them to one of your weakest stocks, and so strengthen them. On the other hand, if the combs are old and dirty, and the presence of foul brood is suspected, I should certainly burn them out of the way, as this disease in inexperienced hands is very dangerous. Great care should be taken after touching foul comb to wash the hands and all appliances before going to another hive.

**UNITING STOCKS.**—Uniting bees should be done on a warm day, after the hives have been placed as near together as possible; and this is best done by moving a few feet at separate times. I should then fumigate the bees slightly, and sprinkle a little flour or thin syrup, and gently brush off the bees from the combs into the stock you wish to strengthen; or, if there is space, insert a frame or two with the bees on, if the combs are clean. It should not be forgotten that water should be kept near the hives in a shallow pan or tin, with a few tea-leaves or pieces of cork placed in them, to prevent the bees from drowning. This saves the bees a good deal of time in flying in search of water, of which they consume a large quantity, especially in the spring. I would strongly recommend all bee-keepers to place on each hive a register-card, about 5 inches by 3, stating age of queen, when fed, number of frames, &c.; it can then be seen at a glance what is the state of the stocks, when last examined, &c. April is a good time for thoroughly over-looking and cleaning out all hives, burning old combs (which if kept breed wax-moth), and painting the outsides, also repairing the same.

## EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturalists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

FRIDAY, MAY 1.—Geneva Exhibition opens.  
SATURDAY, MAY 2.—Dresden International Hort. Exhibition (9 days); Isle of Wight Hort. Association; Soc. Franc. d'Hort. meet.

## SALES.

TUESDAY, APRIL 28.—Imported and Established Orchids, at Protheroe & Morris' Rooms.  
WEDNESDAY APRIL 29.—Palm Seeds, Hemerocallis, Herbaceous Plants, Amaryllis, Dahlias, &c., at Protheroe & Morris' Rooms.  
FRIDAY, MAY 1.—Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—51.7°.

The Horticultural Season.

IN reviewing the work of the week, it will be seen that the busy season has decidedly set in for horticulturalists in the metropolis, as well as in the provinces. The Tuesday meeting of the Royal Horticultural Society was crowded, alike with exhibits and spectators. The special show of Primroses, Auriculas, and allied plants, was unusually large and brilliant. If some, who are not specialists, see little novelty in the case of the Auriculas, that is all the more interesting to the naturalist. Those, and they are but few now-a-days, who decline to accept the notion of evolution as a factor in the production of new species, who demand proofs of the development of new from old forms, and urge the necessity of putting the matter to the test of experiment, have surely overlooked the fact that for ages the gardener has, in his way, been making those very experiments. As a rule, he has not been influenced by scientific considerations, but for all that the fact remains, that he has succeeded in producing new forms which, speaking broadly, are as stable as natural productions, so long as the conditions of "environment" are not altered, and making allowance for the short time the gardener has been at work. Take the garden Auricula as a case in point. If it were not known to be of garden origin, it would be ranked by botanists as a "good species"—at least, as good as the majority of those he has to deal with. The very fact that there is no important novelty among them may surely be taken that the "species," if we may so call it, is getting "fixed." The gardener all this time has, in his attempt to raise new and improved forms, been working on the same lines as are operative under natural conditions. The parallel is doubtless, not complete, and objections may

be raised of various kinds to this view, but if all the requisite allowances be made there can be little doubt of the general truth of the proposition. For the detailed account of this interesting meeting, with its wealth of flowering shrubs, herbaceous plants, Orchids, &c., we must refer to another column.

A very pleasant incident in the day's programme was afforded by the presentation of a testimonial by Dr. MASTERS, on the part of the subscribers, to Mr. BARRON, the ex-superintendent of the gardens at Chiswick. This took the form of a cheque for £500, and was subscribed by a large body of his old pupils, his associates, and friends, who gladly took this opportunity of recognising not only his ability as a gardener and organiser, but in particular, those qualities of loyalty, fidelity, and straightforwardness, often under prolonged circumstances of depression and uncertainty, which have been such marked characteristics in the career of ARCHIBALD BARRON. The greatest cordiality, and no slight enthusiasm, prevailed. Those who took part in the matter felt a sense of satisfaction at having been privileged to render to their old friend this mark of their appreciation and sympathy.

Mr. WARD'S lecture on "Pine-apple Culture" had, unfortunately, to be read by deputy. In spite of the large importations of excellent fruit at a low price, there is no doubt that a good English Pine can more than hold its own in the competition, and, as its production puts to the test the skill and watchfulness of the gardener, it is to be hoped that those who are not tied by mercantile considerations, will still continue to cultivate the king of fruit. When the electric light comes into use in gardens, as sooner or later it will, the time required for ripening Pines will be materially lessened.

The death of M. LÉON SAY, whose portrait we give in the present issue, deprives the National Horticultural Society of France of its honoured President. The world knew M. SAY as a statesman and an economist; few in this country, at least, knew of his association with horticulture; but those who were present at the last Ghent Quinquennial, will remember his important speeches on the subject. Since the centenary celebration of the Institute of France last November, many of those who took part in those imposing celebrations have been removed by death, and among them none more distinguished in his way than M. LÉON SAY.

Whilst we are thus commenting on the events of the week, we may fitly notice the appearance of some NEW BOOKS, all of which are of great moment to horticulturalists, and to all of which we must allude at greater length on another occasion. Prof. SARGENT has issued another volume of his monumental work the *Silva of North America*, devoted particularly to the Willows and Poplars. It is only necessary now to say that the present volume presents all those characteristics which have placed the previous ones in the first rank of horticultural literature.

Less ambitious, but appealing to a larger community, is a dainty little volume entitled the *Bamboo Garden*, by Mr. A. B. FREEMAN MITFORD. Those who have read Mr. MITFORD'S contributions to the *Garden*, the *Journal of the Royal Horticultural Society*, and to those columns,

will welcome the publication in a revised and orderly form of the valuable information which Mr. MITFORD has got together, and will admire the judgment, skill, and literary facility he has shown. The little volume is much too important to be thus summarily passed over. We can now only mention its publication by Messrs. MACMILLAN & Co., and advise those interested in hardy Bamboos to make themselves possessors of the work.

Another work, of which an instalment is before us, is the *Flora Capensis*, originally begun by the late Drs. HARVEY and SONDER, but, which, unfortunately, has been allowed to remain incomplete for many years. Now that the publication has been recommenced under the editorship of the Director of the Royal Gardens, Kew, it may be hoped that it will be brought to as speedy a conclusion as the necessities of the case will permit. The area now dealt with is much larger than was the case in the earlier volumes, so that we shall ultimately have a complete flora of South Africa from the Cape to the tropics, where it joins on to the territory whose flora is dealt with in the *Flora of Tropical Africa*, a work also unfortunately discontinued for many years. We may trust that this *Flora* will also be completed as soon as possible. The large accession made to our knowledge by the Germans will necessitate a revised and completed edition of the earlier volumes of both the works we have mentioned—or, at least, a full supplement. The part of the *Cape Flora* before us is of particular interest to horticulturalists, as it deals with Cape bulbs of all kinds, in other words, with the Iridaceæ as a whole, and with the Amaryllidaceæ in part. Subsequent issues will therefore be devoted to the Lilies, Orchids, and other allied plants. The present part is entirely the work of Mr. J. G. BAKER. The publishers are Messrs. L. REEVE & Co.

BAMBOOS IN GENERAL HUTCHINSON'S GARDEN, BOURNEMOUTH.—In the illustration on the opposite page (fig. 81) is seen depicted a fine group of *Arundinaria japonica* or *Bambusa Metake* at Owthorpe, Bournemouth. The group consisted originally of four clumps about 6 feet high and 2 feet wide, which were planted in a sheltered situation with a sandy bottom, about nine years ago, and they are now a dense brake reaching 15 feet in height, and 60 feet in length. Behind them is a small clump of *Bambusa aurea*, together with *Camellias*, which in their season bloom well. Now that it is ascertained beyond doubt that several species are sufficiently hardy to endure our winters without protection, the plants should find a place in gardens, the soil of which is naturally porous, warm, and not too poor. To preserve the full beauty of the foliage of the plants, they should occupy a situation sheltered from the prevailing cold winds.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this society was held on Tuesday, April 14, at 25, Westgate Road; Mr. JOHN BELLOCK occupied the chair, and there was an excellent attendance. Mr. RUSSELL, Bensham, Gateshead, read a very able paper on "The Cultivation of the Lily of the Valley," embracing its ordinary garden culture, forcing, &c. Mr. RUSSELL also explained how, by means of having the crows stored in refrigerators, &c., bloom can be had many months of the year. A lengthy discussion followed, from which emanated much useful information.

THE ROYAL GARDENS AT LAEKEN.—The royal conservatories at Laeken, near Brussels, are now opened to the public during the end of April and the beginning of May. On the 20th of April, the members of the Société Royale d'Horticulture of Antwerp were admitted to Laeken, and also paid a visit to the houses of l'Horticulture Internationale.



**SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting was held at the Parish Room, Shirley, Southampton, on the 20th inst., when Mr. B. LADHAMS, F.R.H.S., presided, and the attendance was very good, which was especially encouraging as this was the first meeting of the third financial year. A capital paper on the Culture of Tomatos, was given by Mr. CURTIS, The Gardens, Springhill, Southampton. Mr. CURTIS sought to impress his remarks on his audience by exhibiting

Mr. Prince rendered to Rose growers throughout the kingdom in popularizing the growth of the Tea-scented Rose, by establishing a fund which shall be devoted to a prize to be annually competed for at one of the exhibitions of the National Rose Society, for the class of Roses for which he did so much. The form which it will take will be determined upon at a meeting of the subscribers, which will be held at some future time; the project has already received the approval and help of many of our leading professional and amateur Rose-growers, who valued him not

10s. 6d.; Rev. A. Foster Melliar, 10s.; J. D. Pawle, Esq., 10s.; J. T. Strange, Esq., 10s. 6d.; Edward Mawley, Esq., 10s.; Messrs. Geo. Bunyard & Co., 10s.; S. P. Bull, Esq., £1 1s.; Rev. H. H. D'Ombraim, £1 1s.; and the Rev. H. A. Berners, £1 1s.

**GARDENERS' REFERENCES.**—It is a matter of common knowledge that gardeners when seeking new situations part with the originals of the references and testimonials. Now this is always a risky proceeding, as owing to inadvertency, lack of time, and

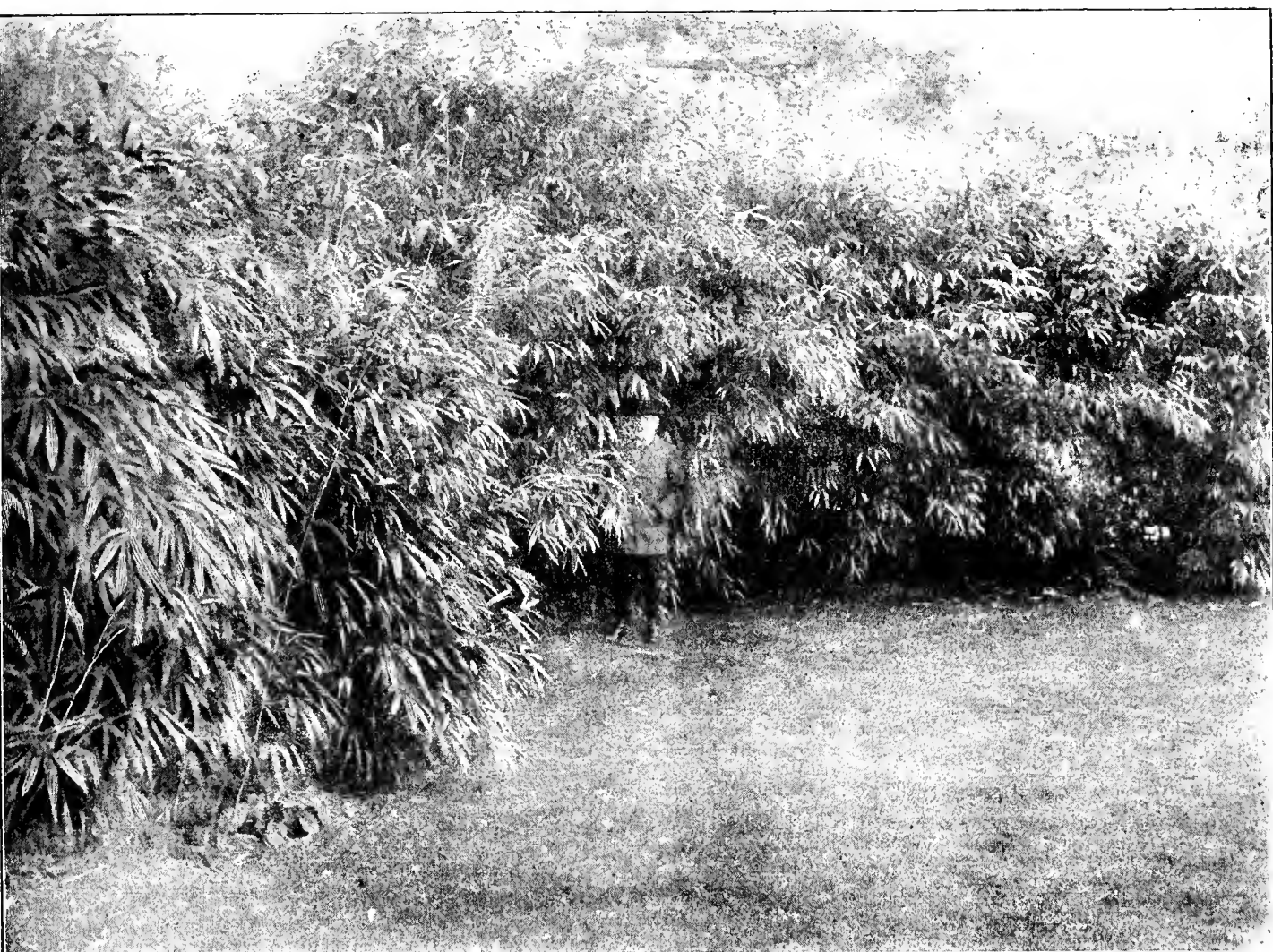


FIG. 81.—CLUMP OF BAMBOOS, IN THE GARDENS AT OWTORPE, BOURNEMOUTH. (SEE P. 524)

plants, seedlings, &c., crowded, starved and neglected, whilst others sown at the same time showed the difference which care and timely attention would make, by their short and sturdy growth. Not favouring the planting-out system, Mr. CURTIS thinks Seakale-pots better than the ordinary po's, the plants grown in them not requiring to be watered so frequently, as the former are so much thicker. Strict attention to atmosphere and ventilation, Mr. CURTIS thinks, would prevent disease appearing. A hearty vote of thanks to Mr. CURTIS was accorded at the close of the discussion which followed his reading.

**THE GEORGE PRINCE MEMORIAL FUND.**—It is proposed to commemorate the services which the late

only for his enthusiasm as a rosarian, but also for his kind and genial character. Subscriptions will be received by the Rev. H. H. D'Ombraim, Westwell Vicarage, Ashford, Kent; Edward Mawley, Esq., Rosebank, Berkhamsted, Herts, hon. secretaries of the National Rose Society. The following have been already received or promised: the Very Rev. the Dean of Rochester, President of the National Rose Society, £5; Miss Slay, £3 3s.; Messrs. Veitch & Son, £2 2s.; C. J. Grahame, Esq., £2 2s.; E. B. Lindsell, Esq., £1 1s.; H. V. Machin, Esq., £1 1s.; Messrs. Paul & Son, £1 1s.; Mr. B. R. Cant, £1 1s.; Mr. Frank Cant, £1 1s.; Rev. J. H. Pemberton, £1 1s.; C. E. Shea, Esq., £1 1s.; Messrs. Prior & Son, £1 1s.; Mr. J. Burrell, £1 1s.; Rev. F. R. Burnside, 10s.; Joseph Hanbury,

downright disinclination sometimes, we fear, on the part of employers to undertake the trouble of returning these credentials, the senders never see them again. A correspondent writing on the subject insists that young gardeners and others, when they have spare moments should make a few copies of their testimonials, and when applying for a situation, send these, unless the originals are asked for. Were this more commonly done, we should hear fewer complaints concerning the retention of valuable papers.

**GENEVA.**—We learn from Geneva that the exhibition of hardy plants will be of unusual magnitude and interest. Conifers and alpine plants will be largely represented.



**THE SURVEYORS' INSTITUTION.**—The next ordinary general meeting will be held on Monday, April 27, when a paper will be read by Mr. R. F. GRANTHAM (Associate), entitled "Rivers Conservancy and Pollution." The chair to be taken at 8 o'clock.

**THE ABBÉ DELAVAY.**—We regret to hear from the *Journal of the Horticultural Society of France* of the death of the ABBÉ DELAVAY, to whom botany and horticulture owe the introduction of so many interesting plants from Yunnan.

#### A SUMMER SCHOOL OF ART AND SCIENCE.

—A prospectus is to hand of the arrangements for the meeting to be held next August at Edinburgh, in connection with which lectures will be given by competent authorities. In the section devoted to Biology, ten lectures on Applied Botany will be delivered by Mr. ROBERT TURNBULL; and a similar number of addresses on The Biology of the Seasons, by Mr. J. A. THOMSON. Mr. ROBERT TURNBULL has also arranged to hold meetings devoted to Practical Botany, the first to be devoted to the study of Fresh-water Algae, the next four to various Marine Algae, the sixth and seventh to Mosses and Ferns, the eighth and ninth to Typical Tissues of Monocotyledons and Dicotyledons, and the tenth and last to the Histological Study of the Diseases of Plants. The meeting will be held in the University Hall; the first part from August 3 to 15; the second from August 17 to 29. As various branches of other sciences and of arts receive as much attention as does botany, it will be well understood that the various classes and lectures offer an excellent opportunity to students able and willing to attend them. The executive committee contains the names of Professor GEDDES, Professor WENLEY, J. A. THOMSON, J. C. GOODCHILD, Miss JANE HAY, and F. R. MARR, Secretary.

**WEED-KILLER FOR CIDER.**—A mason named TURNER died at Stockland, near Axminster. Becoming thirsty, he drank from a jar what he supposed to be cider. At the inquest a verdict was returned that he died through accidentally drinking weed-killer from a stone jar in mistake for cider. The jar was labelled poison.

#### THE BIRMINGHAM GARDENERS' ASSOCIATION.

—On Tuesday, April 14, a very interesting exhibition of Auriculas was held in the society's room at the Athletic Institute in competition for the prizes offered by the committee; Mr. WALTER JONES in the chair. Prizes were likewise offered for Polyanthus, but none was represented, except single pips of that still perfect good old variety, "George IV.," with its exquisite gold-laced edging. The three prizes offered were worthily awarded to that well-known amateur grower and successful exhibitor of the Auricula, Mr. Clements, of Harborne, for plants of "Duke of Wellington," "Negro," and "Minnie." He also showed—not for competition—examples of alpine Auriculas. A short but practical treatise was furnished by Mr. JOHN POPE, King's Norton Nurseries, who was unavoidably absent. It dealt principally with the older varieties of the Auricula and Polyanthus. An interesting discussion was taken part in by several of the members, and hopes were expressed that the show Auriculas and Polyanthus would again attain ere long to the position they formerly enjoyed among Birmingham growers. *The Birmingham Daily Post*.

#### PRIZE ESSAYS ON HARDY FRUIT GROWING.

—The prize essays of Mr. LEWIS CASTLE and Mr. S. T. WRIGHT on this subject have been reprinted as a separate pamphlet, together with the report of the Fruit Conference, held under the auspices of the Royal Horticultural Society at the Crystal Palace in September last.

**THE "BLUE" PRIMROSE.**—Visitors to the spring meetings of the Royal Horticultural Society for years past have been familiar with the "blue" Primroses raised by Mr. G. F. WILSON, and the stock of which has now passed into the hands of Messrs. VEITCH & SON. These gentlemen lately exhibited some of

these flowers before the National Horticultural Society of France, where they excited great attention. Does not this delay show that the relations between the two Societies should be much more intimate than it is?

**EVERYBODY'S GUIDE TO POULTRY-KEEPING:** By DENZIL SHERRATON. (London, Saxon & Co.)—"Everybody" is supposed to be familiar with the series of little books of which this is one. The *Poultry-Keeping* issue is quite worthy of its predecessors: it contains a maximum of reliable information in a minimum space, all so arranged as to be handy for reference, and well indexed. Its size, completeness, and cheapness bring it within the reach of all poultry-keepers, the poorest of whom have now no excuse to offer for ignorance or mismanagement of their charge.

**PUBLICATIONS RECEIVED.**—*Proceedings of the Agricultural and Horticultural Society of India.*—*Canadian Horticulturist.*—*Tropical Agriculturist.*—*Journal de la Société Nationale d'Horticulture de France.*—*Bulletin de la Société Royale de Botanique de Belgique.*—*Le Jardin de l'Herboriste*, par H. CORREYON (Paris: O. DOIN).—*Report of the Natal Botanic Gardens*, by J. MEDLEY WOOD.—*Traité des Plantations d'Alignement et de l'Ornement, &c.*, par A. CHARCUERAUD (Paris: ROTHSCHILD).—*Erythraea*, BERKELEY, California.—*Bulletin* 129, 130, Michigan State Agricultural College, contains accounts of the culture and behaviour of a large number of fruits.—*Report of the Secretary for Agriculture, Nova Scotia.*—*Journal of the Board of Agriculture.*—*Agricultural Gazette of New South Wales.*—*Annales Agronomiques.*—*Bulletin of the Botanical Department, Jamaica.*—*Meteorological Summaries*, St. David's.—*Rosca Zeitung*, REDIGIERT VON P. LAMBERT, Trier.—*New York Agricultural Experiment Station, Bulletin*, No. 95, containing paper on Currants, by S. A. BEACH.—*Annual Report of the National Chrysanthemum Society.*

#### AUSTRALIAN WILD FLOWERS.

The collection of 100 water-colour drawings by Mrs. F. C. Rowan, on view at the Dowdeswell Galleries, Bond Street, is one which no lover of flowers or artist in flower-drawing or painting ought to miss seeing. They form but a small part of Mrs. Rowan's collection, and in accuracy of delineation and colouring, and graceful and withal natural posing, they do not come second to the renowned collection of the late Miss North, now located at Kew. Many of the plants delineated are new to botanists, and come from parts of Australia hitherto not trodden by the white man; and, as is observed in the preface to the catalogue, they have been "obtained at great personal risk, and nearly always under most trying circumstances." Many of the species and varieties depicted were named by Baron Sir Ferdinand von Mueller from dried specimens which the artist sent him from time to time, and some few are still unnamed. We will take some of those which come from Western Australia first, viz., *Kenodrya coccinea*, a large bunch of rosy-crimson tinted, Pea-shaped blossoms having a greenish-yellow centre. In No. 5 we have a group of Stylidium, plants worthy of garden culture for their well-furnished racemes of pink-coloured flowers. The everlasting of this part of the Continent offer some pretty species, in much variety of colouring; and the Goodenias, especially *cœrulea*, should make good garden plants, being of moderate growth, and possessing pale blue flowers, bearing much resemblance to *Pimeleas* set terminally on slender stalks.

*Eucalyptus ficifolia*, a forest tree, with brilliant scarlet flowers, and black-blue seed-vessels, 1½ inch in diameter, must be a splendid object. A beautiful *Dillwynia*, possessing blue and white flowers, and Heath-like foliage, would add a charm to our greenhouses. The *Hovea chorizemifolia* has blossoms not so dark as those of *H. Celsii*, but they are of about the same size, and similarly disposed on short panicles; good for the greenhouse. *Calythrix muricata* is a small bush, and fit, therefore, for pot-culture; the flowers

are variously white, red, purple, violet, disposed in corymbs, and the leaves are small and pinnatifid. *Marianthus ringens* would make an excellent creeper for the warm house; the flowers are orange-coloured, and we do not remember any plant in cultivation that it resembles. An unnamed myrtaceous plant from this region has brilliant pinkish-red flowers closely set as terminal and axillary corymbs or sprays, a fine warm greenhouse plant, growing about 3 feet high. Another is *Huegelia* species, a plant with Malva-like blossoms in various colours, and, as Mrs. Rowan informed us, very free to flower. *Aster Exsul* (= *Olearia rudis*) grows to a height of 3 feet, has lilac-coloured rays and a yellow disc, the diameter of the blossom being 3 inches; it should succeed in our greenhouses.

The *Verticordias* are evidently favourites with the artist, often met with in the collection, and we had the wish that the plants were equally liked by our gardeners, the colours of the flowers being bright and cheerful, and the habit of the plants neat. The *Melaleucas* from W. Australia are so far new to gardens. The species were unnamed, and we can only remark on the beauty of the flowers, and their peculiar form. The habit is said to be neat, fitting them eminently for glass-house culture here. Of *Hibbertias* (*Candollea*), there were several species; and of *Pimeleas* several species, red, white, rose, and yellow-coloured flowers were pretty, especially the yellow one.

*Tetradlea nuda* is a pretty greenhouse plant with variously coloured flowers, so we may assume these represent varieties. A gorgeous flower of light purple broadly expanded, the lower half of each petal suffused with white, is seen in *Hibiscus Huegeli*; *Kenodrya nigricans* is a singular-looking species with yellowish-green and black flowers, and furnished with trifoliate leaves. *Andersonia cœrulea* is a neat flowering greenhouse plant, the colour of the blossoms blue. *Noytia floribunda* is the Christmas-tree of Western Australia. It exhibits masses of orange-coloured flowers in huge spikes, each flower an inch in diameter, and consisting of narrow petals flatly spread out. *Calythrix* variable is another plant which might make an excellent greenhouse subject. *Balaustion pulcherrimum* is a neat-habited scarlet-flowered shrub (*Myrtaceae*).

Plants which are natives of Queensland form an important part of the collection, and we will indicate some of the more striking and remarkable of the in. Some beautiful varieties of *Epacris impressa*, well drawn and arranged. *Bombax malabarica* is a gorgeous flowering tree, the flowers consisting of five somewhat reflexed petals of fleshy consistency, of a scarlet colour, with purple anthers; it reaches to a height of 90 feet. *Erythrina indica* has a dense spike of flowers of pinkish apricot-yellow, and if the plant could be cultivated in the stove or intermediate-house, it would be a nice addition to those species from cooler countries grown in the cool greenhouse. An excellently-drawn example of *Nymphaea stellata* was remarked; the unnamed species of *Tecoma* is *T. jasminoides* of English gardens. Close by was a pretty form of *Passiflora* with yellow flowers. A capital figure of *Asclepias curassavica* was remarked, in vigour greatly exceeding what one is accustomed to see here under glass. The Cotton-tree of Queensland, *Cochlospermum Gillivraei* (*Bixaceae*), has rich orange-coloured flowers and large seed-vessel, resembling in shape those of *Eucalyptus* generally, but, unlike those, the shell is soft. When the pods burst, the cottony substance in which the seeds are embedded is exposed. A species called *Cerbera* (specific name not given) has tubular flowers of a yellow colour, and long attenuate leaves; is a showy plant, but probably too large for ordinary glass-houses.

New South Wales furnishes a contingent of flowering plants better known in English gardens, and we will mention a few of the more remarkable:—The evanescent *Patersonia glabrata* (*Iridaceae*), a number of varieties of *Epacris*, some of the gay-flowered and singular-looking (*Grevilleas*, *Araujia albens*, *Gossypium Sturtii*, and *Clematis aristata*, a very floriferous plant, the flowers white, and bearing a great resemblance to

those of *C. lobata*. A beautiful *Hibiscus rosa sinensis* came from New Guinea, also several pale-coloured Orchids; a brilliant flowering *Erythrina* from Murray Island, unfortunately of too large a growth for our glass-houses.

## HOME CORRESPONDENCE.

**BITTER ORANGES.**—In a report of the proceedings of the Scientific Committee of the Royal Horticultural Society, I observe a mention of "bitter Oranges." The subject is interesting, and M. Alphonse de Candolle, in his work on the origin of cultivated fruits, maintained a theory that all Oranges were originally bitter, and that it was probably after centuries of cultivation in its native home, which he

If growers can only have patience to delay their budding until a warmer time, the probability that the crowded shootlets and leaves will aid in saving the fruit crops is very great. I do not assert that this kind of protection will suffice against April and May frosts; but covering and enveloping them on the outer or exposed side, the foliage forms an excellent kind of protection, often proving of great use when ordinary copings, fish-nets, canvas blinds, Fir boughs, &c., without them would have failed. Plums, Pears, and Cherries, are hastening into abundant blossom, that will expand almost momentarily. Apples have withstood the allurement of the weather better than most fruit trees, the cold snap of the last few weeks having held them back, and this notwithstanding the almost summer warmth that held through April and March. Many of my readers will have noticed that Apples are the least excitable of

fruits. Of Pears, trees of *Bemré de l'Assomption*, *Glou Morecan*, *Dunmore*, *Beurré d'Amanlis*, *Pit-maston Duchess*, &c., are sheets of bloom, and Apple trees in general give promise of being sheets of rosy-pink shortly. If the frost will only keep away, bountiful crops of fruit will be harvested in due time. *H. W. W., Wilts.*

**THE WINGED ELM** (see p. 453, fig. 66).—I have often wondered that this distinct and useful *Ulmus alata* is not more generally grown. A year or two ago I saw it plentiful in the forest at Fontainebleau, and last spring I saw it often used as a shelter belt or hedge in the Scilly Islands. Here and there it is met with in Ireland, as at Carton and in co. Wicklow, where at some time it must have been planted in demesnes and woods. The soft rough two or three-year-old shoots are very pretty, and make capital pen-holders, or brush-handles for artistic uses, as they are soft to the touch, and light, and afford a firm and agreeable grip to the fingers. The "Winged Elm" is far from uncommon, and I saw a group of it in a hedgerow between St. Alhans and North Mimms the other day. This Elm is now and then confounded with *U. snberosa* or "cork-barked Elm," and it is one of the very few trees that can withstand the wind and sea-spray of the Scilly Islands and south coast. *F. W. Burbidge.*



M. LÉON SAY. (See p. 524.)

**STRAWBERRY STEVENS' WONDER.**—In your last issue (p. 496) your correspondent, Mr. Coomber, in speaking of the above variety, asks for information as to its behaviour for forcing purposes. I will gladly state my experience of it. We forced 100 this season, and it has far exceeded my expectations. It forces most easily; one great advantage, it throws its flower-trusses well above the foliage, sets its fruit well, and swells most freely. We commenced picking the first week in March. The fruit is large, somewhat ugly in shape, and for the season the flavour very good. During the summer it is a robust grower, but under glass with us the foliage produced is very small. Whatever the origin of this Strawberry, I believe it is destined to take a very prominent position for forcing. With us *Vicomtesse Héricat du Thury* does not force well; the flower-trusses never throw up sufficiently above the foliage, but they do all right as a second early. I am aware many growers depend on this as a first early, and do it remarkably well. *La Grosse Sucrée* has done wonderfully well here this season; in fact, I have never before had it so good. *Edwin Beckett, Aldenham House Gardens, Elstree.*

**BROCCOLI.**—It is seldom that we have such a season as the present one for the growth of this vegetable, there having been no frost to prevent a continuous supply being cut from the open ground since the autumn, and where a number of varieties was planted this could readily be accomplished. Broccoli, as a rule, is a very uncertain crop, and many of the varieties are not of the best quality, not being of that delicate texture and the end of a nice colour; but there are some whose heart-leaves completely cover the end, and protect it from frost and sunshine. Last autumn was not a good time for those late planted out ones, the hot dry weather in September checking growths. Those early planted were enabled to get well-rooted before the drought came, and did not suffer so much. The soil here is of a stiff nature, and Broccoli are badly clubbed in some places, even where no Brassicas have been grown for some years. Last season I planted a batch of a dozen varieties on July 3. The frequent showers during that month were just the thing to give them a start, and when the roots had fairly taken to the soil, a heavy dressing of super-phosphate of lime was afforded them, which prevented clubbing to a great extent. The best were *Veitch's self-protecting*, *Sutton's Vanguard*, *Snow White*, *Safeguard*, *Lymington*, *Veitch's Main Crop*, and *Model*, all of which are now over. *Standwell*, *Late Queen*, and *Mayflower* have not yet turned in. The last is one of the finest of late Broccolis I have grown, coming in after all of the others are over, of dwarf, compact habit, with pale green foliage, which completely covers the flower. When planted in a shady place, they will continue to give a supply till the Cauliflowers are ready for use. *H. C. Prinsep.*

refers to China, that a sweet Orange was accidentally produced; this was propagated by grafting, and the cultivation of the tree then spread westwards. The cultivation of the Orange in Europe he considered to be comparatively recent. In support of this theory, it is generally believed by gardeners, though I do not know whether it is invariably the case, that Oranges raised from a seed of a sweet Orange, produce bitter fruit, unless grafted on a sweet Orange-tree. Perhaps some one has tried the experiment, and will tell us. *C. Wolley Dod, Edge Hall, Malpas.*

**FRUIT PROSPECTS.**—We are not yet out of the wood, but seldom have our fruit prospects been brighter at the end of April. The cold at the commencement of this month has not done any harm. There have been slight frosts on the grass here and there, but none has reached so high as to have injured the fruit trees, unless it be ground cordons. Apricots, Peaches, and Nectarines have set their blossoms perfectly, and every day adds to the size and the hardness; and that in this connection is equivalent to the hardness of these fruits.

our hardy fruits. Bush fruit is almost as promising as other kinds. It would hardly be true to say that these small fruits have wintered well; for virtually we have had no winter weather, and so far but few insects have appeared to threaten our cheering fruit prospects. As to vegetables, one cannot, but note the violent contrast between 1895 and 1896. Last year hardly a Broccoli escaped the frost, and there was very little late Celery; this year hardly a plant has been lost. *Per contra*, many early Lettuces, and fully 50 per cent. of the earliest autumn-planted Cabbages, have "bolted." *D. T. P., Suffolk.*

**FRUIT PROSPECTS IN SOUTH WILTS.**—The prospect of a good all-round crop of fruit is, promising. Our Apricot, Peach, and Nectarine trees have set very heavy crops of fruit, and consequently these will require to be severely thinned forthwith. The crop of Greengage and other varieties of Plum, such as *Diamond*, *Sultan*, *The Czar*, *Belgian Purple*, *Goliath*, *Early Prolific*, and *Coe's Golden Drop*, is highly satisfactory. And the same may be averred of Pears and Apples, Cherries and small

**THE DOUGLAS FIR.**—I have sent you a few twigs of *Pseudotsuga Douglasii*, which are of some interest. You will see by specimens that male and female flowers are growing on the same tree, and in other cases there are female flowers only. Our experience here is that it is unusual to have the male and female flowers so plentiful on the same tree, indeed, very uncommon, and many of our trees are looking very

beautiful in this, their very early flowering stage. *D. Crombie, Powerscourt Gardens, Enniskerry, Ireland.* [The specimens sent were very beautiful. Our experience tallies in the main with that of our correspondent. Ed.]

**ROLLESTON HALL.**—I read with interest and pleasure your article on Rolleston Gardens which appeared in your issue of the 4th inst., but it struck me rather forcibly that in mentioning the improvements that had been effected during the last few years, no share of praise was given to the late head gardener, Mr. Albert Smith, who had charge of the gardens for five years, during which time he effected a great many improvements, including some you mentioned in your article. I do not write this in any antagonistic spirit, as I believe the present head gardener, Mr. Woodgate, is worthy of everyone's respect and good opinion, and about whose ability there is no shadow of doubt, but simply in the spirit of giving honour where honour is due, as all the local gardeners know that Mr. Smith considerably improved the gardens, both outside and under glass. *Equity.*

**HEATING GLASSHOUSES WITH STEAM.**—The application of steam to heat water-pipes in glass-houses is not new (see p. 493), for to my knowledge it has been in existence at J. Stanning, Esq.'s, Broadfield, Leyland, near Preston, for over fifteen years, and a few years ago I thought the system worth chronicling in a contemporary gardening journal, not only on account of its novelty, but that it was done without cost. Mr. Stanning's works are only a short distance from the glasshouses, and one of the waste steam-pipes from the works is conducted into the stoke-hole and connected with a cylinder in which the water is heated. The works are kept going night and day, from Monday morning until Saturday at noon, when a fire has to be lit under the boiler. The steam heater is, of course, connected with the same hot-water pipes as the boiler, and the volume of steam is regulated to a nicety by a valve in the stoke-hole, and the water circulating through the various houses may be had lukewarm or of an unbearable heat, and, of course, there is no variation in the temperature of the water as in ordinary stoking. I have noticed the thermometers attached to our Cornish boilers here fall from 5° to 15° from the time the doors have been opened for clinking and charging afresh until the fresh fuel has burnt through, or from twenty to thirty minutes, and the temperature of the water will fall rapidly after banking up, not to rise again until the fire is attended to in the morning. There is no variation with steam-heated water-pipes. If frost should set in after ten o'clock, the night-watchman has only to admit more steam. Mr. Stanning's method differs a little from that noticed at p. 493. *H. P. R.*

**THE LARCH DISEASE.**—I think your readers are entitled to ask if Mr. C. Y. Michie (p. 434) and Mr. Michie (p. 494) are one and the same? The first Mr. M. assigns the Larch disease to the Peziza, and said the disease attacked the tree, from one-year seedlings upwards, at all stages; and the second Mr. M. tells us that he could never detect the disease in one-year plants, and from the way he discusses "the producing causes" of the disease, no one would so much as guess that he had ever heard of the Peziza as one of the "causes." He lays much stress upon facts and the marshalling of them, but I detect neither the one nor the other. "It is patent to every one," he writes, "that all trees with a smooth, thin, and tender bark, are most liable to disease." I deny it, and ask him for proof. He classes the Birch, Wild Cherry, Oak, and Spanish Chestnut, as corky-barked, compared to the Larch and Ash, which, stage for stage comparatively, are nothing of the kind. There are excrescences on the older limbs of the Birch, as on other trees, but I could send you sheets of bark from limbs of all ages perfectly fine and smooth, and which at times, in the outer skin, can be stripped off like fine tissue-paper. As for the Cherry, its smooth, glossy bark is what chiefly recommends it for walking-sticks. Moreover, the Larch disease does not progress with the young limbs and young bark only, as Mr. M. states, or implies, but sometimes starts in the middle of an old tree at some wound where the corky bark has been long formed. There are one or two remarkable examples of this on some of the oldest Larches in England on one of our estates in Wensleydale, where the trees are 1200 feet above the sea, and tall for the lofty altitude. One of the worst examples of the disease in Scotland is on a small group of oldish

trees at a railway station this side of Perth, and the blister is confined almost wholly to the corky trunk. I forget the name of the station now, but the trees are very noticeable from the train. The Elm, according to Mr. Michie, is one of the corky-barked trees "singularly exempt from disease," whereas it is notorious for its fungus-eaten limbs, which drop off without notice. I have felled trees that were one mass of fungus from the bark inwards. *J. S., W.*

— If Mr. Michie's explanation of the cause of the Larch-blisters be the correct one, the American Red Larch ought to be more liable to it than the European Larch. Almost the only way in which I can distinguish the trees of Red Larch from the common ones, is by their having a much smoother bark. I have just now about 1000 seedlings of the Red Larch, and when they come to be planted out with others of the common Larch, I shall be glad to record the result in the matter of blister in the bark. *C. W. Strickland.*

**ANTHURIUMS AT SHIPLEY HALL, DERBY.**—The plants which form this fine collection are of an enormous size, and the foliage spotless, and thousands of spathes are now fully expanded. The plants are arranged on the middle stage of a span-roofed house, formerly used as a Palm-house, and they represent all of the leading varieties, including *Anthurium Wardii*, *A. sanguineum*, *A. Mundayanum*, *A. Palmeri*, &c. The Orchid-houses, fruit-houses, and kitchen gardens are in every way worthy of the highest praise. *Geo. Burrows, Berwick House, Shrewsbury.*

**PROFITABLE LAND.**—We shall hear a good deal now of the "relief of agriculture;" but does agriculture help itself all it might do? To get everything possible out of the land that can be got is what we as gardeners should aim at. But how to do it? The writer ventures to think that not enough notice is taken of the chemical manures, especially nitrate of soda, 1 cwt. of which contains as much nitrogen as 1½ ton of rich farm-yard manure. There may be in some minds a prejudice against them because they are called artificial, but if results following their use were carefully studied, and such results found good, no prejudice should stand in the way. Recently, some interesting experiments were made on Potatoes, and a member of the Ripley Agricultural Association, in growing them, applied, in addition to the dung put in the ground at the time of planting, 1½ cwt. of nitrate per acre when the Potatoes were ridged-up, and had the pleasure of lifting 5½ tons more Potatoes to the acre than he did on that part of the ground to which no nitrate had been applied. Most things, except Peas and Beans, gain much by a few applications of nitrate. Asparagus will double itself in weight, and benefit in quality. Tomatoes will increase 30 per cent.; and it is of much use to those who grow early Cabbages for the market. It can be profitably applied to Strawberries and other fruit, and a small quantity (½ oz. to the gallon) can be dissolved in the water occasionally for the plants in the greenhouse. The nitrate comes from Chili, where there are large deposits. The Continent of Europe takes a much larger quantity than the British Isles; but nevertheless, 120,000 tons are consumed here each year. Fifty or sixty years ago scarcely any use could be found for the out-turn of less than 1000 tons, and last year the total exports from Chili reached 1,300,000 tons! Mr. Arthur Robottom, of Mincing Lane, London, claims to be the first man who had to do with its use in agriculture; and Mr. Robottom, whose name is well known in connection with borax, was a few years ago in Chili, inspecting the borax land there, and incidentally the nitrate deposits. *P. D.*

## LAW NOTES.

### WILLIAMS v. VAVASOUR.

At the Clerkenwell County Court on Friday, the 17th inst., before Judge Meadows White, Q.C., Henry Williams, nurseryman, of Victoria and Paradise Nurseries, Upper Holloway (trading as B. S. Williams & Son), sued Sir William Vavasour, Bart., of 16, Vicarage Gate, South Kensington, to recover £6 10s. 3d., the price of a quantity of flower and vegetable seeds supplied to the defendant.

Mr. Charles Butcher, solicitor for the Nursery and Seed Trade Association, was for the plaintiff, and Mr. Johnson, barrister, for the defendant.

The plaintiff's case briefly was that during 1890-92 he supplied Sir W. Vavasour, who was then residing at his Yorkshire estate, Hazelwood Castle, Tadcaster, with seeds in

compliance with requirements signed by his head gardener, Walter Cornwall. Mr. Butcher contended that it was a well-recognised custom for head gardeners to sign such requisitions, liability for which was never repudiated by their masters.

Walter Cornwall said he had been head gardener to Sir William during two separate periods. He first entered defendant's service in 1887, but left in 1890. He did so of his own accord and went to work for the plaintiff, whom he had known for the past twenty years. He had been recommended to Sir William by the plaintiff. Two years after he was re-engaged by the defendant, and remained with him for about two years, after which he was discharged on the ground that Sir William was reducing his establishment. Witness had always signed orders for garden seeds, and sent plaintiff the orders, which formed the subject of the action, shortly before he left Sir William's service for the second time. He had then planted some of the seeds; the remainder would have been used all through the season had he remained. Cross-examined by Mr. Johnson: witness used to pay for the seeds which were supplied to his order, and recover the money either from Sir William or his agent. Sir William used to issue printed orders, signed by himself, for coal, coke, and flower-pots, but not for seeds, which were customarily signed by the witness. During his second engagement, he did not remember a conversation with Sir William in which the latter said the witness was never again to order seeds from the plaintiff.

Henry Williams, examined by Mr. Butcher, said that during the season, quite half of the orders received by nurserymen all over the country were signed by head gardeners. This was a well-established custom recognised by the principals. The latter rarely sent personal orders, except in the case of small estates. Witness had never received any instructions from Sir William not to supply seeds except to his written order. Had witness received such an instruction he would have entered it in his book.

Cross-examined by Mr. Johnson.—He had never received a letter dated January 27, 1887, purporting to warn the witness not to supply seeds except to Sir William's personal order. He had had some trouble with Sir William in 1892, but sued him in the County Court, and recovered the amount of his claim. This was in respect of orders which had been signed by Symes, Cornwall's successor, in 1890.

Sir Wm. Vavasour, Bart., said he now lived almost entirely in London. He had settled at Hazelwood Castle when he engaged Cornwall. He never authorised Cornwall to send orders on his account without his (witness's) signature. That was a liberty he never allowed even his agent to take, as being a business man he knew the value of being methodical; moreover, his orders on the subject were well known to everybody about the place. When Cornwall returned to his employment after he, Sir W. Vavasour, had been sued by Williams, he asked witness if he should get seeds from the plaintiff, and witness said, "Certainly not, after the way in which they have treated me." He never knew that Symes had issued orders for seeds. It was the price of those seeds which formed the subject of the former action. This he would have defended, but for the fact that his affairs at that time were not in his own hands.

Mr. Johnson argued that there was no such custom as that for which the plaintiff contended, viz., that head gardeners may issue orders on behalf of their employers. The question here was one merely of evidence, and not of custom. Where, as in this case, a servant got specific instructions from his master not to get goods on credit, he had no right to do so, and those who dealt with him did so at their own risk; were it otherwise, there would be no limit to the number of actions which might be brought against masters.

Mr. Butcher contended that as Cornwall had originally asked the defendant whether he could have seeds from plaintiff, and defendant had consented and sent the order to him without any directions not to execute orders sent by his gardeners, except upon his written authority, and as numerous previous orders had been sent by the gardeners and executed, and defendant had paid for the same, it was not sufficient for him to forbid Cornwall sending further orders to plaintiff, but that he should have given plaintiff notice not to execute further orders sent by his gardeners; and the defendant was bound by the orders given by his servants within the scope of their employment.

His Honour, while agreeing that this was a question of evidence and not of custom, was of opinion that the plaintiff was entitled to recover on the ground that the long course of dealing between the parties showed that, in respect of garden seeds, the head-gardener had authority to send to the plaintiff for them. He thought the plaintiff was justified in considering that defendant's gardener was the person who, from time to time, indicated what seeds were wanted, and who was deputed by the defendant to order them. His Honour accordingly gave judgment for the amount claimed, with costs.

## TRADE NOTICE.

MR. WILLIAM TODD, for 19 years in the service of the firm of W. Tait & Co., Seedsmen, Capel Street, Dublin, now R. Simpson, has severed his connection with that firm, and become general manager of the old-established firm of Sir JAMES WM. MACKAY (Ltd.), 23, Upper Sackville Street, Dublin.

## SOCIETIES.

## ROYAL HORTICULTURAL.

APRIL 21.—The meeting on Tuesday last, held in the Drill Hall in James Street, Westminster, was an unusually good one. Part of the success of the meeting was due to the holding in connection therewith, of the annual Southern exhibition of the National Auricula and Primula Society, the display of Auriculas being generally satisfactory to the experts. This circumstance was no doubt responsible in some measure also for the exceptional attendance, which during the afternoon quite thronged the Hall. That the usual type of exhibits were by no means few will be seen from the subjoined report. Orchids were numerous, Roses were exhibited in large quantities, and were of surprising excellence. Novelties in plants of various kinds were awarded as many as twelve Certificates and Awards of Merit combined. Spring flowering shrubs, others with ornamental foliage, and hardy plants generally are now becoming more general, but on the other hand Daffodils are passing out of flower, and this is probably the last occasion for the season that a tolerable display of such flowers will be made. Exhibits of Fruit were few, but there were some good vegetables. The presentation to Mr. Barron, alluded to in our leader, was made at the Windsor Hotel, Mr. Burlidge, Mr. Wynne, and a number of Mr. Barron's old pupils were present, together with a large gathering of friends.

## Floral Committee.

Present: W. Marshall, Esq., in the Chair; and Messrs. H. B. May, H. Herlitz, J. H. Fitt, Geo. Stevens, John Jennings, Jas. Hudson, J. F. McLeod, Thos. Peed, J. D. Pawie, Chas. E. Shea, H. J. Jones, Ed. Beckett, Robt. Owen, Geo. Paul, H. S. Leonard, Jno. Fraser, R. M. Hogg, J. Fraser, Geo. Nicholson, Chas. Jeffries, and Jas. Walker.

Messrs. PAUL & SON, The "Old" Nurseries, Cheshunt, staged a bright collection of hardy plants and sprays from hardy flowering shrubs. Among the former were *Doronicum australe*, several good varieties of *Caltha* as *C. monstroza plena*, *C. pilustris plena*, a perfectly variegated *Strawberry* (*Fragaria variegata*), a purple foliaged *Astilbe* (*Spiraea reticulata purpurea*), *Gentiana acaulis*, *Pulmonaria arvensis*, a comparatively new species, growing ten inches high and bearing deep blue flowers, and other things. Amongst the shrubs represented were the different varieties of *Ribes*, including the very fine *Ribes sanguineum* and *R. hybridum*, several varieties of *Lilacs*, and a fine lot of the cream flowered *Genista pinnatifida*. Several very pretty standards of the latter were shown, and a golden form of *Juniperus communis*, named *aurum*, which was awarded a 1st class certificate.

*Cheiranthus* var. *Harpur Crewe* (also exhibited by Mr. Wm. Marshall), is also a dwarf growing very erect variety, with small glaucous green foliage and double flowers of golden yellow colour. The inflorescence is more densely flowered than the ordinary wallflower (Award of Merit). A similar award was recommended to *Myosotis Kehstneri*, an exceedingly dwarf species, with small pale blue flowers. A Silver Flora Medal was awarded this group.

A collection of hardy flowers was exhibited by the DUKE OF RUTLAND, Belvoir Castle, Grantham (gr., Mr. W. H. Divers). Most of the plants represented were seen in fresh good specimens—*Berberis Darwinii*, *Spiraea Thunbergii*, *Kerria japonica*, *Amelanchier vulgaris*, an excellent variety of *Rhododendron campanulatum*, *Amelanchier botryoides* (rose coloured), *Lonicera fragrantissima*, a very fragrant and early flowered plant, *Azara microphylla*, a vanilla-scented plant with inconspicuous yellow flowers, *Camellia corallina*, *Spiraea prunifolia*, fl. pl., a few varieties of *Iris*, *Magnolia*, *Pieris*, &c., were noticed (Bronze Banksian Medal).

In addition to a fine collection of Daffodils, Messrs. BARR & SON, King Street, Covent Garden, W.C., exhibited flowers of a number of varieties of *Tulips*, also plants in flower of *Sanguinaria multipetala*, and the prettier and finer *S. canadensis* major, with large white flesh-tinted flowers in which the decidedly yellow anthers are very effective. Several varieties of *Saxifraga* and *Androsace* were shown, also the pretty violet blue flowered *Phlox divaricata*, and *Iris pumila* var. *Count Androssy*, *I. Olbiensis*, sulphurea *grandiflora*, the compact habited *Tiaretta cordifolia*, and other things (Bronze Banksian Medal).

A miscellaneous exhibit from Messrs. J. CHEAL & SONS, Lowfield Nurseries, near Crawley, contained sprays of many species and varieties of hardy flowering or ornamental foliage shrubs, sprays of *Viola* flowers, and a few coloured *Polyanthus* plants in flower. Among the first-named were noticed several good varieties of *Cerasus*, also *Berberis aquifolia*, *Philadelphus coronarius aureus*, *Pyrus malus-floribunda*, *Pyrus Halleana hort.*, *Amelanchier botryapum*, *Genista scoparia*, *Akebia quinata*, &c. (Silver Banksian Medal).

An excellent group of hardy plants was exhibited on the floor of the hall by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham. *Primula Sieboldi* in a variety of shades, and grown in pans, were very fine, a variety known as *P. S. Halicna marginata*, being especially delicate. Several varieties of *Iris pumila* were exhibited, also the white-flowered *Saxifraga Composita*, the white-flowered *Dielytra* (*D. spectata*

*alba*), several hardy Orchids, a number of Daffodils, *Fritillarias*, and other pretty things (Silver Flora Medal).

A group of double-flowered Ghent Azaleas was the exhibit of Messrs. Wm. Curcush & Son, Nurserymen, Highgate, London, N. Each of the following varieties were represented by a number of plants containing plenty of flowers. *Graf von Meran*, Major, Raphael de Smet, suffused rose in greater or less degree, *Arctusa*, *Chromatella* and *Ophirio arpa* pale yellow or cream-coloured, and *Dector Streiter* is a good decided yellow (Silver Banksian Medal).

A group of interesting plants was exhibited by Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, Chelsea. The following are some of the plants contained in this collection, *Epiphyllum Russellianum Gaertneri*, one of the very best of the *Epiphyllums* was represented by a few well flowered plants. A very ornamental *Tillandsia* (*T. Zahnii*), with leaves about two feet long, very prettily lined with red on the under surface. *T. Lindenii* tricolor, a variety with green leaves producing many showy flowers of purple-blue, and white, the bracts being pale flesh coloured. A fine group of *Spiraea astilboides*, *Anturium Scherzerianum atropurpureum*, with many flowers, the fine yellow flowered *Calla* with variegated foliage (*Richardia Elliottiana*). A perfectly variegated *Hydrangea hortensis* in flower, *Spiraea opulifolia aurea*, *Hydrangea japonica rosea*, a variety with pretty flowers decidedly rose-coloured, distinct and very noteworthy. *Wistaria sinensis* flowering in pots, and profusely flowered sprays of *Prunus pseudo-cerasus* (Waterer's variety). The last named plant, which bears large semi-double rose and white coloured flowers, was recommended an Award of Merit. A similar Award was recommended to a very pretty *Rhododendron* described as perfectly hardy (*R. Schlippenbachii*). The leaves as shown are small and bronzy green like those of *Azalea mollis*. The flowers are funnel-shaped, pale rose coloured, with a few small spots at the base of the upper segments; the plant was figured in *Gardeners' Chronicle*, April 14, 1894, p. 469. An Award of Merit was recommended to *Maranta major*, a plant about 3½ feet high, with very long petioles and pretty leaves of various shades of green. Messrs. JAS. VEITCH & SONS also exhibited a group of the blue-flowered *Primulas* with abundance of flowers (Silver-Gilt Flora Medal).

A group of choice Ferns came from the establishment of Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, London, N. One of the prettiest of these was *Pteris serrulata gracilis*, a most graceful form of the well-known *P. serrulata*, *Pteris cretica* *Wimsettii*, *Pteris bauriana argentea*, and *Pteris tremula elegans*, a narrow fronded variety, heavily crested, and others are very good. *Adiantum Earleyense* and several other varieties of *Adiantum* with tinted fronds were included, and in addition were exhibited a few plants of *Spiraea astilboides floribunda*, and a group of the new golden yellow *Tropeolum* (*T. Coolgardie*), a distinct and exceedingly effective plant (Silver Flora Medal).

Messrs. JNO. PRED & SONS, Rompell Park Nurseries, Norwood Road, London, S.E., were again represented by a bright group of miscellaneous flowering and ornamental foliage plants. This group contained some good *Cleives* and a plant in bloom of *Azalea mollis* var. *Anthony Koster*, a very fine large flowered yellow variety, figured in *Gardeners' Chronicle*, April 29, 1893, p. 513 (Silver Banksian Medal).

*Gloxinias* were exhibited tastefully amid Ferns by Messrs. JEO. LANG & SONS, Forest Hill Nurseries, London, S.E.

For so early a date the display was very fine, the flowers being large and of very bright colours (Silver Flora Medal).

An Award of Merit was recommended to *Anthurium Rothschildianum elegans*, shown by Sir TREVOR LAWRENCE, Bart. (gr., Mr. Bain). The spathe vary a little in shape, and the mottling is very pretty.

A Silver Banksian Medal was recommended Mr. F. W. MOORE, Botanic Gardens, Glasnevin, for a small collection of sprays of flowering or ornamental shrubs, &c. These included *Pyrus spectabilis rosea*, *Prunus* (*Padus*) *cornuta*, *Acer pseudo-Platanus roseo-variegata*, *Cytisus biflorus*, described as being hardy at Glasnevin, *Paeonia cretica*, &c.

The Hon. F. D. SMITH, Greenlands, Henley-on-Thames (gr., Mr. Perkins), exhibited two very fine seedling varieties of *Hippastrum*. The better of these (Viscountess Hambledon) was recommended an Award of Merit. The large, bold flowers were very bright scarlet, with green and white throat.

Mr. CHAS. TURNER, Royal Nurseries, Slough, was recommended an Award of Merit for a self-coloured, yellow Carnation named *Countess Carrington*, apparently a very desirable variety. Mr. TURNER also exhibited a group of *Primula Sieboldi* in variety, for which he was awarded a Silver Flora Medal.

An Award of Merit was recommended to a very large, double-flowered *Cineraria* (for strain), with remarkably small foliage. The colour of the flowers violet rose, and they are exceedingly large in size. The plant was exhibited by Sir HENRY Peto, Bart., Chedington Gardens, Crewkerne, who had grown it from seeds supplied by Messrs. SUTTON & SONS, Reading.

Messrs. J. SILVER & Co obtained an Award of Merit for *Primula* Dr. Jamieson, a form of *P. viscosa* (?), but as the plants were taken from the Hall before the usual time, we are unable to describe it.

Mr. FRANK CANT, Braiswick, Colchester, exhibited cut Roses, in four boxes, of twenty-four blooms each. Some of these flowers were uncommonly good, whilst others were deficient in size and finish. Fine blooms were shown of *Baroness Rothschild*, *Heinrich Schultzeiss*, *Madame G. Paul*, *Ernest Metz*, *Ulrich Brunner*, *Duke of Edinburgh*, *Caroline Testout*, *Madame Buis*, *Comtesse de Nadaillec*, *Mrs. John Lang*, and *Madame Hoste*. These and some other varieties

were found in duplicate in all of the boxes (Silver Flora Medal).

Mr. G. MOUNT, Rose Nurseries, Canterbury, exhibited a large collection of Roses (cut) in boxes in good quality, exceeding in most instances those of Mr. F. Cant. Some of the finest were *The Bride*, *Catherine Mermet*, *Innocente Pirola*, *Ulrich Brunner*, *Madame Montet*, *Baroness Rothschild extra fine* (a boxful of flowers), *General Jacquemont*, *Souvenir d'un Ami*, *La France* (a boxful of superb flowers), *Niphetos*, &c. (Gold Flora Medal).

Messrs. WALLACE & Co., Colchester, showed *Erythronium Johnsoni*, a new species of dwarf stature, with the usual spotted foliage, and a scape 5 inches in height; the colour is of a bright rose pink. There were also shown *E. Smithi* with white flowers; *E. giganteum* with yellow ones, fading off to white at the tips of segments.

Messrs. B. S. WILLIAMS & SON, Paradise and Victoria Nurseries, Holloway, N., exhibited a number of *Hippastrum* varieties in pots, mostly of shades of crimson, scarlet, and striped with white or green. The segments of the flowers of this type are rather narrow, and pointed, but one called *Hon. Maurice Gifford*, a crimson self, was of different form, the segments being broader and more reflexed; it received an Award of Merit. *Leviathan*, *Mrs. Nottage*, *W. Young*, *Emperor Frederick*, *President Harrison*, were notable varieties. The firm showed *Moutan* Peonies in pots, viz. *Cardinal Antonelli*, pale flesh colour, and double; *P. M. maxima plena* of a deep rose tint and fragrant; *P. M. La Ville de St. Denis*, of a light mauve colour, and very double; *P. M. Madame Stuart Low*, cherry red. A Gold Banksian Medal was awarded for the entire group.

The GUILDFORD HARDY PLANT NURSERIES, Millmead, Guildford, showed an unique specimen, ten years grown in a pot of *Trillium grandiflorum* which formed a mass two-and-half feet in diameter of white blossoms and healthy foliage, an admirable plant, showing what the species is capable of (Cultural Commendation). From the same place came a sloping bank of Alpines, tastefully arranged. We remarked neat masses of *Epimedium niveum*, *Polygala Chamæboxus purpurea*; *P. C.* the type, with yellow, white, and crimson flowers; a Daisy with single flowers, the rays crimson and disc yellow—it was very showy for so small a flower; *Cyclamen repandum*; a pigmy Conifer, *Juniperus hibernicus compressus nanus*; *Armeria caespitosa*, *Gentiana* in variety; *Erica Foxii*, *S. Valdensis*, and *S. Aizoon*, *Primula ciliata* var. *Balfouriana*, a plant of very dwarf habit, with deep purplish-red flowers; and *P. Scandneri*. The whole collection as arranged had a good effect. A Silver Flora Medal was awarded.

Mr. J. WALKER, Nurseries, Thame, Oxon, showed a large quantity of cut Roses, one box being filled with flowers in bunches of *Duchesne de Caylus*, *Perle des Jardins*, *Devoniensis*, *Souvenir d'un Ami*, *W. A. Richardson*, *Lamarque*, *Souvenir de la Malmaison*, all excellent at that stage as button-hole flowers. Three show-boxes were filled with a fine even lot of bloom of *Marchal Niel* Roses, and one with excellent blooms of *Niphetos* (Silver Flora Medal).

Messrs. DOBBIE & Co., Rothsay, showed a new *Wallflower*, *Eastern Queen*—faded-looking blooms, in buff, pale yellow and pinkish-brown.

## Narcissus Committee.

Present: J. T. BONNETT-POE, Esq., chairman; C. R. SCRABE-DICKENS, Esq., secretary; Miss Willmott, Rev. G. H. ENGLEHEART, Messrs. A. Kingsmill, J. Walker, P. Barr, P. R. Barr, C. Cowan, F. W. Burlidge, and others.

The Auricula festival has usually found Narcissi in full tide, and an imposing display of their flowers, but on the present occasion the exhibits were neither many nor large—so much so that the Silver Cup and other prizes offered by the Society were not competed for. The probable explanation of this shortcoming is the extreme earliness of the Narcissus season in the southern counties. Even by April 7, the Trumpet Daffodils were waning, and it was difficult for amateur growers to find sufficient variety for a stand of some forty or fifty varieties.

Messrs. BARR & SON occupied their customary quarters in the hall, with a handsome bank of all available kinds, of which, however, the later sections of short-crowned flowers and the several kinds of *N. poeticus* in cultivation made up the chief part. Amongst these such fine flowers as *Crown Prince*, *D. E. Wemyss*, and *Gloria Mundi*, of the *N. incomparabilis*, and the bright-crowned *N. poeticus poetarum* were distinct features of merit.

The Rev. G. H. ENGLEHEART had a small stand, which drew much attention throughout the day, of his new hybrids and seedlings. A very striking flower named *Mars*, with broad, beautifully-shaped divisions of soft yellow, and a widely-expanded shallow crown of brilliant flame colour, won the prize for the best seedling of the day. *Spitfire*, with narrow petals of brighter yellow and orange-scarlet crown, is quite distinct and valuable as a late kind, as are some others shown with vividly-coloured cups. Most of this stand was filled with new varieties of *N. poeticus*, selections from the new and greatly-improved strains which Mr. ENGLEHEART has obtained by intercrossing such kinds as *N. p. ornatus*, *poetarum*, and *recurvus*. The last-mentioned sort, crossed with the much earlier *ornatus*, has yielded large and so-called-petalled flowers, intermediate in form and date of blooming, while many of the seedlings exhibited had the red eye of *poetarum*, broader and intensified in colour, together with largely-increased size, and the round outline of *ornatus*. Of these *Horace*, *Coelus*, *Sonnet*, *Carmen* were very noticeable. Mr. ENGLEHEART's exhibit gained the 1st prize and a Silver Banksian Medal.



## Fruit and Vegetable Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. Geo. Bunyard, Jos. Cheal, H. J. Pearson, A. H. Pearson, Wm. Pope, A. F. Barron, T. H. Crisp, J. Wright, Alex. Dean, S. T. Miles, Jno. A. Laing, J. Willard, W. Farr, Chas. Herrin, G. H. Sage, H. Balderson, Robt. Fife, F. Q. Lane, J. Smith, G. Norman, and W. H. Divers.

A very fine collection of vegetables was exhibited by Mr. Empson, gr. to Mrs. WINGFIELD, Amphill. Veitch's Model and Chelsea Favorite Broccoli, The Lyon, and Prizetaker Leeks, and Ellam's Early Cabbage, Rochford's Market, and All-the-Year-Round Cucumbers, French Beans, Sharpe's Victor Potato, and Connover's Colossal Asparagus, were some of the dishes represented by first quality exhibits (Silver Banksian Medal).

From Mr. Jno. Crook, gr. to W. H. EVANS, Esq., Forde Abbey, Chard, was exhibited a dish of Onions (Forde Long Keeper) from seeds sown in the Autumn of 1894. The bulbs were perfectly sound; also a dish of Apple Sturmer Pippin which had been stored in cases for six months.

Radishes White and deep Scarlet Olive-shaped extra early, exhibited by Messrs. VILMORIN & Co., Paris, France, were each recommended an Award of Merit. They had been grown at Chiswick from seeds sown in cold frames on March 5th last.

Mr. T. MARSH, Priory Nursery, Warwick, showed Apple Countess Warwick.

A collection of Apples was shown by A. W. WRIGHT, Esq., Halstree Gardens, Whittington (gr., C. Roberts). The fruits consisted of Lanc's Prince Albert, Seedling Crab (three dishes), Gooseberry Pippin, French Crab, Bramley Seedling, and Norfolk Beauty. Most of these were in a state of good preservation, and were the produce of heavily-cropped standard trees.

THE FRENCH FLINT GLASS BOTTLE CO., G. V. De Luca, Hill & Co., 6 & 7 Long Lane, Aldersgate St., London, E. C., showed bottles of Cherries, Strawberries, Damsons, Pineapples, Cauliflowers, Peas, French Bean, Asparagus, Tomatoes as sauce, Honey, Milk, Soups, Carrots, &c.

These were preserved by the process of boiling in a Bain Marie in bottles fitted with a patent cap of tinned steel and a thin indiarubber ring. The bottles are specially made, and the metal covers are kept in position by simple steel clips during the process of cooking, the pressure of the outer air fixing the caps on securely on the contents cooling. The sweets, &c., preserved in bottles are prepared in a cold chamber. The whole process is cleanly and cheap, and the goods shown were of excellent quality. There is nothing but what any person, with a few simple instructions which the company supply with the bottles and caps, can carry out. It is likely, for household use, to supersede the unsatisfactory and troublesome parchment covers, and corks, and caling-wax, &c. A Silver Banksian Medal was awarded.

EARL FENBY, Syon House, Brentford (gr., Mr. Geo. Wythes), exhibited a very commendable collection of early spring vegetables, and a few choice varieties of Broccoli, viz., Late Gem, Leamington, Miller's Late Dwarf, Cattell's Eclipse, Veitch's Model, and Sutton's Bouquet, the last-named being an exceptionally small-flowered variety. Of other vegetables we noticed Early Offenham Cabbage, Connover's Colossal, and Battersea Giant Asparagus, Syon House Cucumbers, Sharpe's Victor, and Wythe's Seedling Potatoes, Lauder's Broadleaf Spinach, Purple Seakale, Early Milan Turnips, French Beans, and Mushrooms. A few bunches of ripe Grapes from Vines in pots were shown, and some very fine Royal Sovereign Strawberries (Silver Banksian Medal).

## Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. J. O'Brien (Hon. Sec.), S. Courtauld, J. Douglas, W. Cobb, E. Hill, Chas. Winn, W. H. Protheroe, H. J. Chapman, W. H. White, H. Ballantine, J. Gabriel, F. Hardy, T. Statter, H. M. Pollett, and De B. Crawshaw.

Although the exhibits were not so numerous as at the last three meetings, still a very fine show of Orchids was staged, and in the allotment of spaces Mr. WRIGHT, the Superintendent, did all that was possible to further the general effect.

Sir TREVOR LAWRENCE, Bart., Burford, Dorset (gr. Mr. W. H. White), showed a pretty and interesting group of rare plants, some of which have been but seldom exhibited at previous meetings. Of these, the singular Dendrobium cymbidioides, whose growth somewhat resembled that of *Maxillaria picta*, bore several upright spikes of cream-white flowers with a few purple markings at the base of the lip. One spike bore nine flowers loosely and prettily arranged. Other species were *Cymbidium tigrinum*, a dwarf plant with large flowers having greenish sepals and petals and white lip spotted with purple. A fine plant was shown which received a Cultural Commendation, and the same Award was given for a charming plant of *Dendrobium capillipes* well furnished with pretty yellow flowers; and the small white flowered *Sarcophilus Hartmanni* received a Botanical Certificate. In the group were five plants of *Masdevallia* × *Caudato-Estrada*, M. Armini and M. caudata and M. C. Shuttleworthi, covered with flowers; the richly coloured *Odontoglossum triumphans nigratum*, a fine plant of the delicate white, rose, and yellow, *Dendrobium crepidulum labelliglabro*; a cushion-like mass of the pretty white *Polystachya Ottobiana*, with over one hundred flowers; the graceful *Eria zerdostachya*, a tall, graceful plant with racemes of flowers. *Epidendrum arachnoides* (Botanical Certificate). *Cochlidia Noezliana*; the handsome *Cypripedium* × *Chas. Rich-*

man and C. × Wilton-house hybrid; the fine yellow and purple *Maxillaria prestantis*.

Among hybrids were *Dendrobium* × *Wigania* (signatum ♀ noble ♂) which was first raised in Sir F. WIGAN'S garden, and shown by his grower, Mr. W. H. Young, but the plant being then immature, no award was made. Since that time, plants have flourished with Sir TREVOR LAWRENCE and Messrs. J. VEITCH & SONS. The flowers of this cross vary from yellowish white with a narrow coloured eye to white tinged with rose, and with dark purple and yellow base to the lip. The plants exhibited on this occasion received an Award of Merit. When in course of time Lady Wigan's *Dendrobium* becomes mature it will become a favourite with many people. A Silver Banksian Medal was awarded for the group.

A Silver Flora Medal was awarded to Messrs. J. VEITCH & SONS, Chelsea, for a charming group in which the varieties of the delicately tinted and fragrant *Cattleya Schroderae* were remarkable. One very distinct white form, C. S. aurea, with an orange-coloured blotch on the lip; and C. S. eximia had a glowing dark rose coloured lip with under-tint of orange lighting up the centre, were the more striking varieties. The latter received an Award of Merit. *Epidendrum* × *Androsia-Wallisii superbum* in point of beauty excels the original in the rich purple violet and clear white of its flowers. It secured a First Class Certificate. Other remarkable plants were the above-mentioned *Dendrobium* × *Wigania* (Award of Merit), *Cypripedium* × *Druryi-Hookeri*, wax-like in substance and singular in colour; *Angrecum metallicum* (Botanical Certificate) with small roundish leaves, and pendent sprays of white flowers with curved and slender spurs; the pretty pink *Disa* × *Laegleyensis*; *Laelio-Cattleya* × *Pallas*; *Laelia* × *Latona*, *Cymbidium* × *eburneo-Lowianum*, some fine *Cattleya Lawrenceana*; *Cirrhopetalum picturatum*; *Maxillaria Sanderiana*, *Dendrobium veratrilium*, varieties of *Laelia purpurata*; *Laelia Boothiana*, *Cypripedium caudatum*, and other *Cypripediums*, *Odontoglossums*, *Oncidiums*, &c.

R. BROOMAN-WHITE, Esq., Ardarauch, Garrothead, N.B. (gr., Mr. Roberts), was awarded a Silver Banksian Medal for flower spikes of his fine strain of *Odontoglossum crispum*, and many remarkable and handsome forms of *O. Andersonianum* type, of which there was a bewildering collection. Three of the more distinct ones received an Award of Merit—viz., *O. crispum*, Ardarauch variety, a heavily blotched flower of the *O. c. apiatum* class; *O. × Andersonianum candidum*, a milk-white form, with spots nearer to those of *O. crispum* in shape than usual; and *O. Andersonianum*, Ardarauch variety, a beautiful flower, in colour creamy white, its entire surface covered with small red-brown spots.

Messrs. F. SANDER & Co., St. Albans, staged a good group of the chief showy Orchids of the season, and among which were varieties of *Cattleya Schroderae*, C. Mossiae, and C. citrina, the pretty *Dendrobium O'Brienianum striatum*, *Colognye Dayana*, *Spathoglottis Lobbi*, *Epidendrum Wallisii*, fine varieties of *Oncidium varicosum* and *Lycaste Skinneri*; five forms of *Odontoglossum crispum*, *O. Pescatorei* and *Miltonia vexillaria*, *Cypripedium hirsutissimum*, *Brassia Lewisii*, and a singular little *Phalaenopsis*, said to be new, with yellowish flowers barred with brown, and round front lobe to the lip (Vote of Thanks).

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Aldous), staged a very effective group of *Odontoglossums* and other showy Orchids, among which were noted the rose-purple *Vanda Parishii*, *Marriottiana* (Award of Merit), *Miltonia vexillaria*, and *M. Phalaenopsis*, *Epidendrum Wallisii*, *Laelia cinnabarina*, and some forms of *Odontoglossums*, &c. (Silver Banksian Medal).

WELBORN S. ELLIS, Esq., Hazelbourne, Dorking (gr., Mr. Masterton), showed a number of *Odontoglossum crispum* in variety, and other *Odontoglossums* in variety, among which were a massive branched spike of the Hazelbourne variety of *O. Pescatorei*; a noble dark variety of *O. triumphans*, and *Dendrobium Hildebrandi* in better form than it has been hitherto observed (Silver Banksian Medal).

Messrs. HUGH LOW & Co., Clapton, staged a group of Orchids, consisting of *Cattleya Schilleriana* C. Lawrenceana (C. L. grandis being a very fine and richly coloured variety); C. Mossiae, many varieties of *Odontoglossum luteo-purpureum* and other *Odontoglossums*, including the remarkable *O. × stelliticum* (Pescatorei × Lindleyanum); *Cypripedium* × *Masonii* (Stouli × *Speierianum*), *Dendrobium nobilissimum*, *D. Phalaenopsis Schroderianum*; *Laelia purpurata*, *Oncidium phymatocidium*, &c. (Vote of Thanks).

Mr. R. GULZOW, The Melbourne Nurseries, Bexley Heath, showed a tastefully arranged group of *Laelia purpurata*, with two very pretty *Cattleya Trianae*, C. intermedia, and fine varieties of *Oncidium Marshallianum* (Vote of Thanks).

G. W. LAW-SCHOFFIELD, Esq., New-Hall-Hey, Rawtenstall, sent *Cypripedium* × *Scheffeldianum* (*heliatum* × *hirsutissimum*), a very fine flower, partaking much of the characteristics and markings of C. *heliatum*. Its massive flower was cream-white, the petals having distinct uniform purple spots; the dorsal sepal a green centre and some fine radiating purple-dotted lines, and lip of rose-purple (Award of Merit).

MALCOLM S. COOKE, Esq., showed a group in which the central plant was a fine *Cymbidium Lowianum*, and some good *Odontoglossums*, &c. (Vote of Thanks).

C. J. LUCAS, Esq., Warnham Court, Horsham (gr., Mr. Duncan), sent two very pretty varieties of *Odontoglossum* × *excellens*; *O. Halli Lucianum*, with the sepals and petals almost wholly coloured brown; *O. crispum* "Dolly," a bluish white variety, with minute brown spots, &c.

DE B. CRAWSHAW, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed a fine form of *Odontoglossum lanceans*

*braicium*, Reich.f., and one of the best formed and marked varieties of *O. Andersonianum* named Rosefield variety.

Mr. JAS. DODOLAS, Gt. Bookham, Surrey, sent a fine *Platanus* × *Cooksoni*.

F. M. BURTON, Esq., Highfield, Gainsborough, showed *Cypripedium* × *Highfieldense* (Druryi ♂, Lawrenceanum ♀) in which the male parent was not evident.

J. BRADSHAW, Esq., The Grange, Southgate, N. (gr., Mr. Whiffen), showed *Cattleya Mossiae Whiffeni* like a pale C. M. aurantiaca.

W. G. SEDGER, Esq., Wilton Road, Wimbledon, showed the pretty and graceful white *Dendrobium lingueforme* from Australia.

Mrs. BRIGGS, Bury Bank House, Accrington, sent a good variety of *Dendrobium Darwinianum*; and F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent *Dendrobium barbatulum* and *D. caniferum*, the latter receiving Botanical Certificates.

## Lecture on Pineapples.

In the absence of Mr. H. W. WARD, of Longford Castle Gardens, Salisbury, a paper contributed by him on the Cultivation of the Pineapple was read by the Assistant Secretary.

Mr. WARD, whose success in the culture of these fruits is well known, commenced his paper by remarking that the Pineapple is a native of the West Indies, and that it is grown very largely in Jamaica, and other West Indian Islands. The mean temperature of these Islands is generally about 80 degrees. The plant was introduced to Britain in 1690, since which time it has been cultivated for its fruit, more or less, in English gardens. In reference to the tendency during late years to cease the cultivation of Pineapples in England owing to the expense connected with their culture, and to the fact that imported fruits can be easily obtained, the lecturer declared that the heavy expense necessarily incurred was more imaginary than real, was indeed contrary to facts. Also that the superiority in quality of British-grown fruits over any imported ones, was very considerable. No garden was complete without a Piney. To obtain success it was necessary that there should be proper accommodation, and that the grower should have a thorough knowledge of the plant's requirements. Given these, Pineapples could be grown with less trouble than any other fruit. Detailed information was then given as to the particular kind of houses preferred by Mr. Ward. In all cases the houses should be low, that when plunged the plants may be but little removed from the roof glass. A sufficient quantity of 4-inch pipes should be employed, that the necessary temperature may be maintained without unduly heating the apparatus; and the same care should be taken in regard to bottom-heat, that the material in which the plants are plunged shall be equable and sufficiently warm. During the colder portions of the year less expense from firing will be incurred if the plants are cultivated in a lean-to house, as there will be a surface of less extent exposed to the weather than would be the case in a span-roofed building. In such a house there should be one raised bed which need be only 3 ft. from the roof-glass. The house might run from E. to W., and the roof be given an angle of 34°. In span-roofed structures suitable for the cultivation of Pineapples during the summer months there should be one centre bed, and this surrounded by a path, separating centre bed from those at the sides. In both houses it should be possible to ventilate from the roof and side. Though Pines are cultivated with considerable success in old houses not specially suited to the plants, the grower in such cases was disadvantageously circumstanced as compared with the grower possessing a house of the modern type.

The lecturer emphasised the importance of obtaining clean stocky plants to commence with. Having got suckers of such a character the jagged ends should be cut off, and some of the older and bruised leaves removed so that the roots ready to push from their base might suffer no hindrance. The suckers should be potted up in sizes. If this operation be done in April, care should be taken to warm the soil thoroughly before it is used. Good drainage and absolutely clean pots must be used. Pot the largest suckers first, and plunge them in the same order, the top of the foliage being only a few inches from the roof glass. The soil should be rammed well and the sucker made perfectly firm. As soon as there are plenty of roots formed, the plants may be given liquid manure occasionally, also surface dressings with some reliable stimulating manure. This treatment can be continued until the fruits are well up. The plants must not be allowed to become pot-bound before they are transferred to those in which they are to fruit. For this operation, as favourable weather should be chosen as possible. Afterwards shade the plants from strong sun light for about three weeks, and then gradually lessen same, also increase daily the circulation of air in the house, when the temperature is from 80° to 90°. The bottom heat should be kept at about 85° during summer and autumn. In winter the fruiting Pines should be given a day temperature of 70° to 75°, or by sun heat 80° to 85°. The fruits should be made secure by ties. That the crowns may not become unproportionately large, care should be taken that no water is allowed to lodge in them. On the other hand, if the crown in any case appears to be unproportionally small, a little tepid water occasionally will be likely to induce growth in same.

As Queens are prone to produce numerous suckers, it is important that no water be allowed to rest in the axils of the leaves, but in varieties of an opposite character this would

not signify. The ripening of the fruits might be retarded a month, if, when colouring commences the plants be removed to an airyinery from which the grapes have been cut. The plant should be placed on an inverted pot in such cases as a guard against mice. The colour and flavour of fruits so treated will be superior rather than inferior to those not so treated.

The principal insects from which the Pine is liable to attack are scale and mealy-bug. Black scale can be got rid of with comparative ease, but Mr. WARD'S experience with white scale that obtained a footing owing to the introduction of suckers from another source was that, plants attacked with such pest were best thrown away, and a fresh start should be made. The lecturer had had no experience with mealy-bug, but he believed that this also was very troublesome if it once obtained a footing.

Mr. J. H. FISHER, who occupied the Chair, said that the decadence in Pine-culture in England was no doubt due to the abundance of excellent fruits of fine flavour that could now be obtained from the Canary Isles. He had bought splendid fruits from 5 to 7 lb. in weight at 2s. 6d. each. Undoubtedly, fruits produced in Britain, under such careful treatment as was described in the lecture, were superior in flavour and colour to any produced in the best condition out of doors in their native habitats. But the difference to an ordinary individual was hardly perceptible and was certainly not worth the difference in cost. The chairman also described the popularity of the fruit in Singapore, and remarked that it was the custom there to eat salt instead of sugar with them. Mr. FISHER believed that if his audience were to give salt a few trials they would prefer it, and it was certainly more wholesome. Perhaps it was not generally known that the bottom part of a Pineapple was decidedly better than the top. If any person was able to choose, however, he would recommend him to take a slice from the lower half.

## BRIGHTON AND SUSSEX HORTICULTURAL.

APRIL 14, 15.—Taken all round, the above was a very pretty show, and if we did not see any remarkable exhibits, it had the merit of containing few, if any, bad ones.

Messrs. BARR & SOSS' Daffodils were grand, as were also the miscellaneous subjects from Messrs. CUTRESH & SOSS nurserymen, Highgate, N.

Messrs. W. BALCHIN & SOSS, Brighton and Hassocks, again had a splendid stand of Azaleas, Boronias, Acacias, Anthuriums, Lilioms, &c., which made one of the grandest displays in the show.

For a group of flowering and foliage plants in the open division, Mr. G. MILES, Victoria Nursery, Dyke Road, Brighton, was 1st with a tasteful arrangement of mollis Azaleas, small Palms, Acacias, &c.; Mr. J. TURNER, gr. to Sir GREVILLE SMYTH, Wick Hall, Hove, following very closely.

In a smaller class, open to gentlemen gardeners only, Mr. G. SIMMS, gr. to C. J. INWOOD, Esq., Dyke Road, Brighton, beat Mr. F. RAPLEY, gr. to Mrs. VISICK, St. John's, Withdean; and Mr. J. LEWIS, 37, Preston Road, Brighton, was in front for a small group confined to amateurs only.

Tulips, Lily of the Valley, Spiraea, Deutzias, Cinerarias, Mignonette, Lachenaltes, Primulas, and similar subjects were numerously staged, Mr. E. MEACHIN, gr. to Mrs. AARSTRONG, Woodside, Withdean, coming to the front again in many cases, his Richardias, Deutzias, Azaleas, and Pelargoniums being very good. Mr. E. MEACHIN was also 1st for a table decoration of one stand.

Cut blooms of Narcissus were a feature of the show, Mr. JENNER, gr. to F. BARCHARD, Jr., Duddleswell, beating Mr. M. TONLE, gr. to F. BARCHARD, Little Horsted. There were no fewer than five Roses wrongly named in a box of twelve, in fact, cut Roses were a poor feature.

A class for six table plants found Messrs. W. MILES & Co., West Brighton, in front; Mr. L. WICKENS, gr. to Mrs. DAWSON-ROWLEY, Chichester House, Kemp Town, being 1st for a very prettily-arranged table of plants.

## NEWCASTLE-ON-TYNE.

APRIL 15, 16.—This society held its spring show in the Town Hall and Corn Exchange on the above dates, and it was one of the best spring shows it has ever held. The general arrangement of the show was all that could be desired, and in every way creditable to the Secretary, Mr. J. J. GILLESPIE, Jr., and his energetic committee. On the whole, the show was well attended both days. Perhaps the most important feature of the exhibition was the display of bulbs. There was quite a remarkable presentation of Hyacinths, the competition being so keen that in two or three cases the judges were compelled to resort to the record of points. Double Tulips also were worthy of special mention; as a matter of fact, there has never been such a fine show of this flower in the annals of the Society. Orchids, too, were more numerous, and of finer quality than usual, and the groups were the subject of great admiration.

The most striking exhibit of the show were the groups of miscellaneous plants arranged for effect, and here Mr. McINTYRE, gr. to Mrs. GURNEY PEASE, Woodside, Darlington, was deservedly placed 1st; the premier Medal being awarded him. The group consisted of choice exotics artistically arranged, and contained many fine novelties in

Orchids and other plants. The background was formed of Palms; and the groundwork of Ferns.

Mr. McINTYRE won the chief prizes for plants, such as Azalea indica, Dicentra spectabilis, and Spireas.

Mr. J. WOOD, Morpeth, was placed 1st for four pots of Hippeastrums.

The best six Cinerarias were those of Mr. W. PITT, 1st; and Mr. J. WOOD, Fenham, 2nd.

Primula sinensis, six pots, were well shown by Mr. McDONALD, gardener, Assot Hall, Dudley, 1st; and Mr. J. WOOD 2nd.

For Lily of the Valley, six pots, Mr. W. HANDSIDES, Newcastle, was 1st; and Mr. J. McINTYRE 2nd. The latter exhibitor took 1st prize for table decorations, and Mr. T. WHEELER 2nd.

Mr. Oliver, gr. to Lord RAVENSWORTH, Eslington, received a First-class Certificate for a sport from Count De Brazza Violet; and he was Commended for a collection of seedling Primroses. The Violet, which has the name Eslington Neapolitan, is of a pale blue colour, vigorous in growth, and floriferous.

Miscellaneous.—Mr. J. McINTYRE exhibited an excellent collection of clean stove and greenhouse plants, especially fine being the Rhododendrons and Clivias. Large Palms were placed sparingly among the flowering plants with good effect.

Messrs. FELL & Co., nurserymen, Hexham, exhibited a finely-arranged table of flowering plants, for which they were awarded a special prize. Mr. HILLIARD, Darlington, had a fine exhibit of pot foliage and flowering plants; Messrs. BROWN BROS., Uddington, N.B., exhibited a large collection of varieties of well-grown Narcissus, fine flowers, well staged.

Cut flowers did not form a large class, but such as there were, all of very good quality. Messrs. PERKINS, Coventry, and Mr. EDMONSON, Newcastle, divided the honours between them.

The exhibits of shower bouquets and sprays were better than in any previous year in regard to their forms, and the quality of the flowers used in them.

Auriculas.—In the classes for alpine and show Auriculas, Mr. PATTERSON, Ashburne Gardens, Sunderland, again took premier honours in most of the classes, with particularly fine examples. He was 1st for six, four, grey-eyed, white ditto, and self Auriculas. Other winners were Mr. T. E. HAY, for two Auriculas and one green-eyed variety. Mr. LEE, Millfield House, Newcastle, was 1st, and Mr. R. WILLIS 2nd, for six alpine varieties.

## SHEFFIELD CHRYSANTHEMUM SOCIETY, AND THE DAFFODILS AT TOTLEY HALL.

Mr. W. A. MULNER, J.P., of Totley Hall, kindly threw open his grounds and invited the public to see his charming collection of Daffodils on Thursday afternoon, and again on Saturday, the 16th and 18th inst., extending the invitation in particular to the members of the above Society, of which he is one of the Vice-Presidents. One hundred and thirty-three members took the opportunity to see this famous collection. Such varieties as Weardale Perfection, Madame de Graaf, Glory of Leyden, and Madame Plom, which are too expensive for the majority of people to cultivate, can be seen here in their best form. A few of the most noticeable varieties were Emperor, Empress, Horsfield, Sir Watkin, Barri conspicuus, J. B. M. Cann, Duchess of Westminster, Madame M. de Graaf, Titan, Princess Mary, Shirley Hibberd, Minnie Hume, Mrs. Langtry, Katherine Spurrell, Mr. J. Elwes, Maximus, C. J. Backhouse, Laura Wilson, Mrs. Vincent, W. P. Milner, Norse Bicolor, and many others. Noticeable was a very good seedling, very much like Glory of Leyden, which no doubt will be heard of again. It was a revelation to most of those who visited Totley. Some faint idea of the thousands of flowers to be seen can be given when we are told that 800,000, of 250 varieties, does not cover the quantity of bulbs; and some of the bulbs will throw three or four blooms each. The last few days' sunshine has brought the flowers forward; but there are still thousands of buds to open, and a few more days will see the collection in even greater perfection than it was on Saturday. M. H. W. S.

## THE NATIONAL AURICULA AND PRIMULA.

April 21.—The Annual Exhibition of the Society on Tuesday last was in many respects good, though scarcely so extensive as last year. As it was, there was considerable difficulty in finding room for some of the exhibits, the table space being restricted. The collections of Auriculas were so close together that difficulty was experienced in distinguishing the limits of the various classes, and then the placing in a continuous line of all the edged and self flowers, and a like disposition of the Alpines, imparted a monotonous appearance to the tables. It would be an easy matter, without in any way inconveniencing the judges, to break up the monotony by alternating the Alpines with the Show flowers, or by putting in panels of species as the showy Primroses by way of securing a little more effect. The old plan of arranging the classes to follow each other in the same sequence as in the Schedule, is still adhered to as if a custom never to be broken through. But what is badly wanted in this particular show is a person to take charge of

the arrangements, and see that the details are properly and expeditiously carried out. If judges were appointed beforehand and their work defined, the judging which on Tuesday was extended to nearly two hours, might be got over in less than half the time.

SNOW AURICULAS.—These possess the greatest value in the eyes of the florist, and are the leading feature on these occasions. They are the aristocrats of the Auricula community. They are clothed in jewelled garments, and in the case of the selfs, in blue, claret, or crimson, the golden tube, where it is present, and the zone of mottled paste, add distinction to the blossoms. They filled one side of the table, the monotony of the edged flowers broken only by an intermixture of the selfs. Perhaps never before were there seven collections of twelve varieties, and, it may be added, not a collectively inferior one among them. Some of the selfs were a little stale, but then they are generally the earliest to blossom. The foremost raiser of new varieties of the day, the Rev. F. D. HORNER, Lowfells, Bruton-in-Lonsdale, was 1st in this class, his collection containing the unusual number of five green-edged varieties, four of them being of his own raising—viz., Rev. Cecil Dalton, probably the most refined and best green-edge Mr. HORNER has yet raised; Orient, Kingfisher, and Dolphin—a quartette of which any raiser might well be proud; and Shirley Hibberd (Simonite), which greatly resembles the Rev. F. D. Horner by the same raiser, the latter one of the most popular and useful green-edges. Of grey edges, there were Lustre and Bulls-eye; Heatherbell, white-edge; and Favourite, Melanie, Iolanthe and Midnight, selfs, the last a large, dark, almost black self, faultless in pip and highly promising. It is rarely indeed that an exhibitor can stage eleven varieties out of twelve of his own raising.

Mr. A. J. SANDERS (gr. to Viscountess CHEWTON, Brookham Lodge, Cobham), was 2nd, and Mr. J. DOUGLAS, 3rd.

There were eight collections of six varieties. Mr. T. E. HENWOOD, Hamilton Road, Reading, taking the 1st prize with a superb green edge of his own raising, the large, solid, well-formed pips being edged with bright deep green, the other parts proportionately good; this variety was eventually selected as the premier Auricula in the Show, though some favoured Mr. HORNER'S Rev. C. Dalton as deserving of this honour. Mr. HENWOOD had Dinham, a bold green edge, and the ever popular George Lightbody; while George Rudd had quite a white edge on this occasion, and Acme and Mrs. C. Phillips, a rather small dark self of fine quality. The Rev. F. D. HORNER came 2nd with six of his own raising. Mr. A. J. SANDERS was 3rd with four plants. Mr. C. PHILLIPS, Bracknell, Berks, was 1st; he had the Rev. F. D. Horner, green edge, George Rudd and Dr. Kidd, grey edge, and Mrs. C. Phillips, self.

Mr. J. SARGENT, Cobham, came 2nd, and Mr. W. BADOCK, Reading, was 3rd; but with two plants the latter took the 1st prize, having The Rev. F. D. Horner, green edge, in excellent character, and Richard Headley, grey edge. Mr. J. SARGENT came 2nd with George Lightbody, as companion to The Rev. F. D. Horner.

Single Specimens.—Of these there was a goodly quantity put together in a somewhat irregular manner, from which the judges have to select about eight prize flowers. Such classes afford a little more prize-money to the exhibitor, but add little to the interest of the Show, or its effect, as no order is observed in placing the collections on the stage. The best green edges were the Rev. F. D. Horner and Horner's Day-break, small, and not yet developed, but decidedly promising. In the grey-edged class George Lightbody carried off the leading honours; Acme was the best white edge, Bean Blossom (Horner), taking 2nd place. The best self was Horner's Heroine, Mr. Potts taking the other prizes.

Collections of Fifty Auriculas.—Of these there were four, one coming from distant Sunderland. Mr. J. DOUGLAS who has generally taken the highest honours in this class had on this occasion to give place to The GUILDFORD HARDY PLANT COMPANY, who had the advantage of not contributing plants to any of the previous classes. In this group Old Lancashire Hero, in its green-edged character, was very good; also Buttercup, yellow self; other selfs in good character were Black Ross, and Mr. Potts; green edge, Abbe Lizst and the Rev. F. D. Horner; while Col. Champney's grey edge, now rarely seen, was very conspicuous with its violet body colour. Mr. DOUGLAS had white edge, Miss Prim, with a bright purple body colour; and Venus, also white edged, Buttercup, Ajax, grey, and Mr. Pott's self. This is a class which adds to the bulk of the Show, but it has little value as adding to its effect.

Alpine Auriculas.—These always attract by their bright and telling colours. The charm of the edged class of show Auriculas is that they are so chaste and unusual, with a quaint softness and demureness that irresistibly attract. The Alpines have striking combinations which afford brilliant colouring, and they at once attract the eye. But there were only four collections of twelve varieties, Mr. J. DOUGLAS being 1st with varieties generally of excellent character, mainly of his own raising. Dean Hole was one of the most vivid in point of colour in the whole Show. But there was generally throughout this section a lack of the fine finish which usually characterises them; and varieties of large size, strongly grown, are bound to show some coarseness. Mr. A. J. SANDERS was 2nd; he had Edith (Turner), a pretty cream-centre, in good character; Mr. C. PHILLIPS being 3rd.

There were seven collections of six varieties, Mr. C. PHILLIPS being 1st, mainly with seedlings of his own raising; Mr. J. DOUGLAS was 2nd; and Mr. A. J. SANDERS, 3rd.

With four Alpines, Mr. J. J. KEES, Southampton, as 1st, also with varieties of his own raising, but showing a good

deal of success in character; Mr. W. L. WALKER was 2nd, also with seedlings. Every exhibitor of Alpine Auriculas is also a raiser of seedlings.

*Single Specimen Alpines.*—Mr R. PATTERSON, of Sunderland, had the best gold-centred variety in Gertrude Jane, a production of his own; Mr. KEEN taking the three following prizes with seedlings. Mr. Harry Turner, shown by Mr. A. FISK, was the best white-centred variety. Mr. J. GILBERT came 2nd, with Victor; and Mr. KEES 3rd, with Theosus.

*Fancy Auriculas.*—These may be taken as representing curious breaks in the show section of Auriculas, appearing among the seedlings, and blooming in grotesque garb as if aliens to the race. Rich in colouring, yellow predominating, and of fine form of pip they are too good to be made out-casts, and so they are grouped as fancies, and a class is provided for them, to which yellow self, doubles, and laced varieties can be admitted. The best twelve came from the GUILDFORD HARDY PLANT COMPANY, Mr. J. DOUGLAS being a close 2nd, and Mr. R. DEAN 3rd.

*Giant Polyanthus.*—These were shown in pots and in baskets. The best twelve plants in pots came from Mr. DOUGLAS, who had large examples of attractive colours and highly effective. Mr. A. J. SANDERS was 2nd. The 1st prize for the best basket went to Mr. J. T. POE; the 2nd to Mr. DOUGLAS, but we think the order should have been reversed. Messrs. PAUL & SON were 3rd.

*Primroses, Single Varieties.*—Shown in pots of twelve, were striking patches of colour, but there was a drawn appearance about the plants and a coarseness observable in some of the flowers, as if too highly fed. Mr. J. DOUGLAS, who was 1st, had some bright colours; Mr. A. J. SANDERS was 2nd. The double varieties were in sixes. Mr. DOUGLAS had well-grown and flowered potfuls of the rich double crimson, late yellow, lilac, white, purple, and blush. Mr. R. DEAN was 2nd, with smaller plants.

*Groups of Species, &c.*—Mr. DOUGLAS was the only exhibitor of twelve specimens, generally large, nicely grown and bloomed, consisting of two varieties of japonica, three of Sieboldi, including the bright-bued laevis, verticillata, melis, obconica (a poor example), Forbesi (small, but very pretty), floribunda, intermedia, and Auricula. There was also a class for a group of species or varieties in a box or basket. Mr. J. DOUGLAS had his 1st prize lot in a box of rockwork. At the back of this were examples of japonica, verticillata, and Sieboldi, with show, Alpine, and fancy Auriculas, and small Alpine species. The GUILDFORD HARDY PLANT CO. came 2nd, with a similar arrangement in a small basket, having strong-growing forms behind, with small Alpine species, Auriculas, Primrose, &c., in the foreground. This we thought the more effective of the two, but it did not commend itself to the judges in that light.

With six species and varieties, Messrs. PAUL & SON, Cheshunt, were the only exhibitors, having types similar to those shown by Mr. Douglas.

*New Varieties of Auriculas.*—In the class for seedling white edges, a 1st prize was awarded to Mr. J. DOUGLAS for Vesta, a classic and pleasing flower, of a promising character; the Rev. F. D. HOBNER taking a 2nd prize with Snowflake. No group of grey-edges, or selfs of character, were shown. Mr. DOUGLAS'S Vesta was also awarded the special prize offered by Mr. W. SMITH for a white-edged variety, judged to be an improvement upon existing varieties.

Of seedling Alpines, Mr. C. PHILLIPS had, of gold centres, Pluto, which took the 1st prize; Mr. DOUGLAS coming 2nd with Lord Collingwood; but it would be difficult to say these are improvements on existing varieties. In the class for white centres, Mr. C. PHILLIPS had 1st and 2nd prizes for two unnamed seedlings.

*Miscellaneous Contributions.*—Messrs. JAMES VEITCH & SONS had a striking collection of Mr. G. F. Wilson's blue Primroses in many shades of colour, all profusely bloomed; and Mr. R. DEAN a collection of gold-faced Polyanthus, and yearling Primroses of bright colours, both from the open ground. Some blooms of a very large common yellow Primrose came from Hampton Court, Loominster; white Primroses and Polyanthus were to be seen in almost every collection of hardy flowers in the Hall.

## INTERNATIONAL HORTICULTURAL EXHIBITION at LEDEBERG, near GHENT.

APRIL 12-19.—This Exhibition, organised by the *Cercle Horticole Van Houtte* under the presidency of M. Gustave Botcheberg, was a great success. A great hall, specially built for the occasion, the sales des fêtes and de mariage, and the court-yard of the Hotel Communal, were literally crammed with plants. The following is a brief notice of the various groups:—

*1st Group.—Miscellaneous Plants.*—The Société Anonyme Horticole Louis van Houtte Féro won the first prize (par acclamation) for forty miscellaneous plants, including *Alceosa Thibautiana*, *Phyllotanium Lindenii magnificum*, *Anthurium crystallinum*, and *Schismatoglossis Robelini*.

M. DELARUYE and MM. DE SMET FRÈRES won success with groups of well-known and favourite decorative plants. Flowering plants from MM. DRIESSECH LEYS, and COLLIARDIEN were excellent. Among the noteworthy exhibits of the former were *Rhododendrons* Countess of Haddington and Edgworthii, and of the latter exhibitor *Acacia cordata*, several specimens of *Erica* and *Genista Andreana*.

An *Anthurium Scherzerianum atrosanguineum* superbum, from M. JULES DE COCK had an unusually large spathe.

*2nd Group.—New Plants.*—Among M. JULES DE COCK'S exhibits in this Section were *Myriolepis Scortechini*, *Juniperus japonica aureo-picta*, *Geonoma Schmiti*, *Eriocnema Sanderiana*.

M. A. DE SMET showed *Dianella Tasmanica*, fol. var., M. DELARUYE, *Nephtytis picturata* and M. A. RIGOUTS, *Dracena Rigoutsi*, raised from D. australis.

The Section for Seedling plants other than Azaleas, *Rhododendrons*, and *Orchids*, included *Dracena cannaefolia aureo-striata*, and *Corypha australis*, fol. var., from M. JULES DE COCK; *Pteris Buchneri* from M. A. VANDER HEDEDE, and *Dracena cannaefolia variegata* from M. A. DE SMET.

*3rd Group.—Flowering Orchids.*—An award was made par acclamation for seventy-five *Orchids* from M. CH. VUYLSTEKE; among which were *Odontoglossum triumphans*, luteo purpureum, tenticulatum, radiatum, macropodium, and mulis; *Cattleya amethystoglossa*, *Masdevallia ignea pulchra* (a new introduction), and other species.

M. JULES HYE won seven 1st prizes for his beautiful *Orchids*, among which were *Odontoglossum nobile*, much spotted; *Pescatorei album*, as rare as elegant; heterodon, very rare; *nevadense*, elegans, Andersoni; and nobiliss, a wonderful and successful variety; *Cypripedium triumphans* (Sallieri Hyeanum x *anethum superbum*), a hybrid, and very glossy; *C. Hyeanum*, with a bloom of unusual size and beauty; *C. Albertinum*, ornatum, C. Flamingo, C. Minerva; *Miltionopsis Bleui*, with twelve very large flowers, and a fine *Ephippionit Veitchii*.

MM. DE SMET FRÈRES exhibited fifty well-bloomed examples of *Odontoglossum crispum*; M. JULES DE COCK some fine *Cypripediums*, notably exul, *Haynaldianum*, *Elliottianum*, and nitens. I would further mention *Vanda Wallichii* from M. HYE; and a fine plant from the Beaucarne sale, and of which M. DE LA DEVANSAYE possesses a second example.

*4th Group.—Palms, Ferns, Cycads, Pandanus.*—THE BROTHERS DE SMET were highly successful here with their magnificent specimen *Palms*, *Ferns*, and *Cycads*. M. ALBERT RIGOUTS showed some fine *Palms*, among them *Kentia australis*; *Phoenix senegalensis*, and *Sabal Blackburniana*.

Among new *Palms* may be mentioned *Geonoma acaulis*, and *Arenga Wightii*; and *Calamus Alberti* from Messrs. SANDER & CO.

The Tree Ferns of MM. DE SMET FRÈRES; the herbaceous and the Ferns (greenhouse) from M. DESIRE VAN HERZELE were excellent, as were those from MM. DUYREZ FRÈRES; among the latter plants being a good *Adiantum macrophyllum*, fol. var. M. VAN HERZELE sent some fine *Selaginella*; M. ERNEST DELARUYE a fine *Pandanus Veitchii*; and M. PYNARST a good and well-grown plant.

*5th Group.—Store and Greenhouse Plants, non-flowering.*—*Anechthochilus*, *Bertolonias*, and *Sonerias* from M. VAN G. DALLIÈRE also this exhibitor's *Nepenthes*; *Bromeliads* from M. POELMAN-MANNOU, including numerous *Vrieseas*.

*6th Group.—Aroids.*—A very important group. M. A. DE SMET won the 1st prize with twenty-five flowering *Anthuriums*: *Secrétaria E. Fiensis*, *Comtesse de Kerchove*, *Souvenir de Lieven Spae* (with a large and bright red spathe), *carneum*, and particularly *Wm. Wallen* deserve special notice. The latter variety has a spathe which is first white, then shaded with pale rose, and lastly rosy salmon. The *Anthurium Scherzerianum* with red spathes from M. A. DALLIÈRE were good examples; so were those with white spotted and speckled spathes from M. A. DE SMET, notably the varieties *M. Regnier*, *Victoria*, *Mme. Wallen*, *Sung gaulois*, and *Reine des Pays Bas*.

M. VERVAENE-VERVAERT exhibited *Anthurium Scherzerianum* Louis De Smet, *Mme. Wallen*, *tigrinum* (with a greenish white ground), *La Reine* (beautiful and white), and *Congolais* (dark red). In the same group was a lot of *Caladium* from the Co. LOUIS VAN HOUTTE, the foliage handsome; the specimens well grown.

*7th Group.—Greenhouse and Open Air Foliage Plants.*—MM. JULES DE COCK and PIERRE PARRÉ showed fine collections of plants with variegated leaves; MM. ERNEST DELARUYE, BERNARD SPAK and THIENPOT ET CIE., collections of greenhouse *Arcturarias*, including the varieties *elegans compacta*, *Cunninghami*, *Rufei*, *Bidwillii glauca gracilis*, and *B. glauca robusta*.

M. PIERRE PARRÉ showed *Dracena Prince Albert*, with the leaves very narrow, gracefully curved, green in the centre, the edges whitish-yellow. The same exhibitor staged D. Donetti; MM. DE REYS FRÈRES, D. australis (variegated). M. MAERTENS BEYS obtained a 1st Prize for *D. cannaefolia*, fol. var., the petioles and edges of the leaf-blades of which were yellowish-white: a beautiful plant.

MM. C. KERCKVOORDE and F. BURVENICH FÈRE, staged fine collections of *Conifers*; the specimens were small, not more than 3 feet in height.

*8th to 10th Groups.—Flowering Specimens of Azalea indica and of Out Door Azaleas and Rhododendrons.*—The firm of D'HAENE and M. JOS. VERVAENE won each a 1st Prize for their groups of large and fine specimens, not necessarily new.

Among the seedlings (ten varieties), from M. J. VERVAENE the best were: *Merveille de Ledeborg*, double, dark carmine with black spots with a sheeny metallic lustre, very beautiful; *Spitfire*, flame coloured, double, with black spots; *M. Debulle*, carmine, single flowers with purple spots; *Prince Albert*, reddish lake, rounded in shape, delicately spotted with black purple, single; *M. Ker*, single, bright lake spotted with crimson. 1st Prize for a seedling *Azalea*, double, M. Millaut, very bright Bordeaux red, resembling A. Le Flambeau, the flower large, well rounded; very free-

flowering and strong-growing apparently. 1st Prize for a seedling *Azalea*, single, *Mme. Millaut*, bright cerise red with bluish and white shades over it when seen against the light. A fixed spot not in the market was, *Salmonea*, with a single, orange rosy flower streaked with red, with a wide white border.

M. EUGÈNE DE COCK obtained a 2nd Prize for an unnamed double seedling: the flower broad, well rounded, pure white, with two corollas within the other, the centre variegated with streaks of rose colour and greenish spots. Among the sports M. J. VERVAENE showed with success *Madame Carnot*, *Ami V. Cuvelier*, *Madame Romain De Smet* and *Madame J. Vervaeue*.

M. VERVAENE-VERVAERT among his six new hybrid *Rhododendrons* showed *Souvenir de Dominique Vervaeue*, rosy white with a deep black purple spot at the base, clearer above; *Printemps*, rather bluish white at first opening, afterwards turning nearly white, spotted with black; *Ch. De Bosschere*, bright rose with a black spot.

M. J. BAUMANN sent some beautiful Himalayan and hybrid *Rhododendrons*, among them *Dalouisia*, *Victorianum*, *Marchioness*, *Rosy Bell*, *Countess of Sefton*, *roseum odoratum*. The latter is not a Himalayan hybrid but a cross between an *Azalea* and a hardy *Rhododendron*.

M. V. CUVELIER staged R. *Tonkinense* grown from seed from Tonkin, the flowers white with a wide blue margin; *Dalouisia roseum* with rose-coloured flowers; *Annamense*, a species from Annam with moderate sized scented flowers, white with a golden yellow spot; *magniflorum*; *Bridal Bouquet*, a seedling with a large rose-coloured flower with a blackish spot, and highly perfumed.

R. *Jacconii* sent by M. MAERTENS BEYS is a pretty outdoor variety with white flowers which seems to remain dwarf and will be useful for bedding; apparently very free-flowering. There were many *Azalea mollis* but all unnamed.

*Camellias* were well represented by M. VAN DRIESSECH and by a specimen plant from M. J. VERVAENE; C. *Augustine superba*.

*11th Group.—Greenhouse Flowering Plants.*—In this group were some fine *Chivias* from MM. B. FORTIE and G. VAN HERZELE, with large rounded trusses and flowers of brilliant colouring.

In M. FORTIE'S collection were *Gust Botelberge*, *Martha*, *M. R. de Kerchove*, *Dr. de Ph. Blanquet*.

M. CH. VERMEIRE obtained the 1st prize for a seedling (*Chivia* which has a fine truss of large framing orange flowers with parallel pure white streaks down their centres, the base golden yellow).

Some good plants from the Cape and New Holland were shown, among them *Genista elegans*, *Grevillea rosmarinifolia*, *Acacia verticillata*, *paradoxa*, *Barkeri*, *cordata*, *Erica arborea*, *E. arborea cucullata*, *Grevillea alpestris*, *Boronia molini*, *Leptospermum bullatum*, *Brachycaea acuminatum*, *Diosma fragrans*, *Lithospermum fruticosum*, and other species. The finest entries were those from MM. J. DE COCK, L. VERVAENE FILS, E. COLLIMBIEN, G. FIETIN, G. DE SAEGHER; some remarkable *Boronia* came from MM. A. DIGOUTI and E. COLLIMBIEN, and a fine *Cytisus* from M. DE SAEGHER.

*12th Group.—Flowering bulbous and tuberous Plants.*—There was a good collection of fifty *Amaryllis* from M. C. VUYLSTEKE; of *Cyclamen* from M. L. BOTELBERGE FILS; *Gloxinias* from M. ERNEST DELARUYE; and *Hycacinths*, *Tulips*, and *Narcissus* from the SOCIÉTÉ LOUIS VAN HOUTTE FÈRE.

*13th Group.—Herbaceous and Perennial flowering Plants.*—*Pelargonium Odier* from M. DELARUYE; *Convallaria majalis* from M. L. COLLE; *Hydrangea* from MM. POL. WYCKAERT FILS, and VERVAENE-VERVAERT; *Spirea japonica aurea reticulata* from M. L. COLLE; *S. jap. compacta multiflora* from M. B. BOUCKBOU; and *S. palmata* from M. A. DE MEYER, were noteworthy.

*14th Group.—Out-door Plants and Forced Shrubs.*—This Group included some fine white-flowered *Kalmia* from M. J. DE COSTER and the firm of D'HAENE; a fine flowering specimen of *Andromeda* and a lovely white *Deutzia gracilis* from M. CARMONT.

*Unclassified.*—There were some fine specimens of *Asparagus Sprengeri* from MM. SCHURRER & CO., of Bonn; *Cochin-Chinese Pineapples* from M. F. BUYESSE; *Caraguata cardinalis* from M. DE LANGHE-VERVAENE; *Streitizia* from M. G. BOTELBERGE. Messrs. SANDER & CO. showed *Calamus Alberti*, *Ch. de Bosschere*.

## THINNING CHOICE FRUITS.

It is a bad practice to allow individual trees of the under-mentioned kinds, which have set heavy crops of fruit, to waste their forces in swelling up to the stoning stage three or four times as many fruits as it is intended should remain, there being no fear that healthy trees, whose roots are kept uniformly moist, will drop their fruits before ripening. In the case of trees the reverse of healthy, the practice is even less to be defended, seeing that the means employed to secure a fair crop of fruit are rather calculated to thwart the object in view by greatly exhausting the energies of the trees, by carrying fruit that will be sacrificed, as to render the tree incapable of carrying a fair crop to maturity. From this cause arises the dropping of the fruits left on the trees for a crop, which, had the surplus fruits

been removed at the outset, would have gone on without any loss. In the case of strong, healthy trees, the deferring of the thinning of the fruits till stoning has taken place is simply a wasting of the forces of the tree; but with trees the opposite of this it means loss of crop, if not absolute collapse. Hence the necessity for early thinning—that is, thinning the fruit to the proper distances from one another as soon as set. This remark applies equally to the same kinds of fruit when grown under glass, as well as to Grapes. Apricots should be thinned out to 6 inches (super.), allowing 6 inches more space every way between the fruits on Peach and Nectarine trees in robust health; but cropping less robust-growing trees lighter. This is sound practice and good advice, looked at from a commercial point of view—which is the all-important point, not only in horticultural and agricultural pursuits, but in most others. The result of judicious thinning of the fruit is that an equal weight of crop is obtained from less than half the numerical quantity of ordinary-sized under-thinned fruit, and which, owing to the fact of being extra large and handsome in appearance, command more than double the price per dozen.

GRAPES.

In determining the number of bunches of Grapes which a Vine should carry, the length and strength of the rods should be considered, as well as the size of bunch which the variety is capable of bringing to perfection with high cultivation, bearing in mind the fact that young vigorous Vines will produce larger-framed bunches than would result from the same Vines grown under favourable conditions when ten or twelve years old; consequently, fewer bunches should be left for a crop than would otherwise be deemed sufficient, in order to swell out the berries to the largest size, obtain fine colour, and ripen satisfactorily, without overtasking the energies of the Vines.

A fully-established and well-conditioned Vine of, say, 18 feet in length, of Black Hamburg, Madresfield Court, Muscat of Alexandria, Gros Colmar, Gros Maroc, Mrs. Pince's Black Muscat, Mrs. Pearson, Golden Queen, Foster's Seedling, Buckland Sweetwater, Black Alicante, and Alwick Seedling, showing fairly large bunches, likely, when ripe, to turn the scale at 3 lb., and colour well at the same time, should not be allowed to carry more than seven or eight bunches; and during growth, such Vines should have liberal supplies of tepid liquid-manure at the roots, alternated with dressings of artificial manure when affording clear water.

A greater or lesser number of bunches, according to their size and the length of the rod, may be safely retained for a crop, providing the weight of Grapes does not much exceed 1 lb. weight per foot run. In a general way, nine or thirteen bunches of Lady Downe's, weighing from 1½ lb. to 2½ lb. (thirteen of the former, and nine of the latter weight) each, may be left on each Vine of the length indicated for a crop.

In the case of large bunched varieties, such as Gros Guillaume, Trebbiano, and White Nice, mistakes are often made in leaving more bunches for a crop than the Vine is capable of finishing satisfactorily, cultivators forgetting that the larger the bunches the fewer the number. One twelve-pound bunch of Gros Guillaume, and two or three smaller, should be allowed for a crop in preference to leaving two large bunches. Three or four seven-pound bunches of Trebbiano or White Nice are sufficient for a Vine if its continued vigour is duly considered, and all surplus bunches should be removed as soon as it can be seen which are the best bunches; and the berries should be thinned very soon after they are set, so as not to unnecessarily waste the forces of the Vines, as is the case when Grapes are allowed to attain to the size of Green Peas before being thinned. The berries should be thinned-out at once to 1 inch from berry to berry as early as possible after they are set, retaining the crown or central berries. Those engaged in the work of thinning should, in addition

to a sharp-pointed pair of scissors, have a small-forked Birch twig with which to raise the shoulders of the bunches whilst thinning them. Loose shoulders are better cut off, single-stemmed bunches being preferred. A space of rather more than 1 inch from berry to berry should be allowed in thinning bunches of Gros Maroc and Gros Colmar; and in thinning bunches of Gros Guillaume and Buckland Sweetwater, all that is necessary in a general way is to cut out all the small berries, as these, being furnished with long footstalks, will have ample room to swell out to due size.

Large bunches of White Nice, Trebbiano, and Gros Guillaume should have the shoulders tied neatly and carefully out, suspending the points with a series of ties from the trellis, care being taken to afford additional support to the points and shoulders generally as they extend in growth, otherwise the increased weight of the extremities of the individual bunches will cause them to assume a perpendicular position, and to be cut through at the point of contact with the ties W. H. Ward.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.				10ths Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 24, 1895.		
	Above (+) or below (-) the Mean for the week ending April 18.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.					Below 42° difference from Mean since December 29, 1895.	
0	18	17	+ 74	- 274	3	86	20.9	35	18	
10	aver 33	17	+ 87	- 206	1	61	5.9	38	27	
2	1	29	15	+ 96	- 196	2	49	4.6	39	25
3	2	35	17	+ 68	- 219	1	60	6.1	37	25
4	0	aver 40	11	+ 89	- 236	1	56	5.3	38	24
5	0	aver 38	5	+ 95	- 231	1	52	5.0	31	24
6	1	32	13	+ 102	- 204	2	71	13.9	45	23
7	0	aver 32	3	+ 123	- 235	2	64	9.3	43	24
8	2	46	0	+ 126	- 194	1	59	7.7	33	26
9	0	aver 35	3	+ 132	- 218	3	69	10.8	24	19
10	2	52	0	+ 169	- 199	2	62	9.7	27	22
11	1	57	0	+ 209	- 169	3	62	5.3	38	31

The districts indicated by number in the first column are the following:—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending April 18, is furnished from the Meteorological Office:—

"The weather was very changeable during the greater part of the period, frequent showers of hail or rain alternating during the earlier half of the week, with intervals of clear sky. Towards the end of the week, however, the conditions became more settled, and the showers ceased.

"The temperature was either just equal to or a little below the normal over the greater part of the kingdom, but was slightly in excess in Ireland, S.; England, S.W., and the Channel Islands. The highest of the maxima were recorded on the 18th, and ranged from 65° in the Midland Counties, and 64° in England, S.W., to 58° in Scotland, N. and Ireland, N., and to 56° in the Channel Islands. During the earlier part of the week the daily maxima were somewhat low. The lowest of the minima were recorded, as a rule, on the 14th or 15th; they varied from 24° to 26° in

Scotland, from 33° to 37° in Ireland, and from 29° to 36° over England.

"The rainfall did not differ much from the mean value, being slightly in excess in some parts of the kingdom, and showing some deficiency in others.

"The bright sunshine was fairly abundant over the greater part of the country, but was again deficient in Ireland, as well as over the east, south, and south-west of England, and in the Channel Islands. The percentage of the possible duration ranged from 45 in Scotland, W., and 43 in England, N.W., to 31 in England, S., 27 in Ireland, S., and 24 in Ireland, N."

MARKETS.

COVENT GARDEN, APRIL 23.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Arum lilies, pr. dz.	6 0-9 0	Foliage plants, doz.	12 0-24 0
Aspidistra, per doz.	12 0-30 0	Genistas, per doz.	6 0-9 0
— specimen, each	5 0-15 0	Hyacinths, per doz.	6 0-9 0
Azalea, per plant	2 0-3 6	Hydrangea, various	per doz. ... 9 0-24 0
— mollis, per doz.	12 0-24 0	Lilium Harrisii, pr.	dozen pots ... 15 0-24 0
Cineraria, per doz.	6 0-9 0	Marguerites, p. doz.	6 0-10 0
Cyclamen, per doz.	9 0-15 0	Mignonette, p. doz.	6 0-9 0
Dielysia, per doz.	9 0-12 0	Palms, various, ca.	2 0-10 0
Dracena, each	1 0-7 6	— specimens, ea.	10 6-84 0
— various, p. doz.	12 0-24 0	Primula sinensis,	per dozen ... 3 0-4 0
Ericas, various, doz.	9 0-24 0	Spiraeas, per doz.	8 0-12 0
Evergreen Shrubs,	in variety, doz. ... 6 0-24 0		
Ferns, small, doz.	1 0-3 0		
Ferns, various, doz.	5 0-12 0		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.		
Arums, p. 12 blooms	2 0-4 0	Narcissus, White,	12 bun. ... 2 6-4 0	
Azalea, 12 sprays ...	0 4-0 6	Narcissus, Various,	per 12 bunches ... 0 9-1 6	
Bluebells, doz. bun.	1 0-1 6	Orchids:—		
Bouvardias, per bn.	0 6-1 0	Cattleya, 12 blms.	6 0-12 0	
Carnations, 12 bn.	1 0-3 0	— Od on to glossum	crispum, 12 bn.	3 0-6 0
Cowslips, per doz.	1 0-2 0	Pelargoniums, scar-	let, per 12 bun.	4 0-6 0
Daffodils, double,	doz. bunches ... 1 0-2 0	— per 12 sprays ...	0 6-0 2	
— single, 12 bun.	3 0-6 0	Polyanths, 12 bun.	2 0-4 0	
Deutzia, per doz.	3 0-4 0	Pyrethrums, 12 bu.	2 0-4 0	
Eucharis, per dozen	2 0-4 0	Roses, Tea, per doz.	0 9-2 6	
Gardenias, per doz.	2 0-4 0	— coloured, p. doz.	2 0-4 0	
Hyacinths, per doz.	1 0-2 0	— yellow (Maré-	chal), per doz.	3 0-6 0
Lapageria, per doz.	blooms ... 0 6-1 6	— red, per dozen	2 0-4 0	
Lilac, French, p. b.	3 0-5 0	— Safrano, p. doz.	1 6-2 0	
Lilium Harrisii, bn.	3 0-5 0	Spiraea, doz. bun.	2 6-5 0	
Lily of the Valley,	per doz. sprays ... 0 6-1 0	Stephanotis, 12 sps.	6 0-9 0	
Maidenhair Fern,	per 12 bunches ... 4 0-8 0	Tuberous, 12 blms.	0 9-1 6	
Marguerites, per 12	bunches ... 3 0-6 0	Tulips, various, dz.	0 3-0 6	
Mignonette, 12 bn.	4 0-6 0	— Violets, 12 bunches	1 0-1 6	
		— Parme, French,	per bunch ... 2 0-3 0	
		— Czar, doz. ...	2 0-2 6	

ORCHID-BLOOM IN VARIETY.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.		
Apples from Nova	Scotland, per	Grapes, Gros Colmar,	1st quality, lb.	4 6-5 0
— barrel	14 0-22 0	Peaches, per doz.	15 0-18 0	
— Tasmanian, 1st	quality, per	Pine-apples, St. A-	chael, each ...	2 0-5 0
— bushel	case 14 0-16 0	Strawberries,	morning gather-	ed, Paxtons,
— do., 2nd do.	9 0-10 0	— per lb. ...	5 0-6 0	
— do., inferior do.	6 0-8 0	— packed in bxs.	per lb. ... 3 0-4 0	
Cobs, per 100 lb.	25 0-30 0	— seconds, per lb.	2 0-2 6	
Figs, per doz.	6 0-8 0			
Grapes, Hamburg,	per lb. ... 4 0-5 0			

Apples, ex s.s. Ballarat, sold on Wednesday from 10s. to 16s. per case. The condition of the Tasmanian fruit was much superior to the Victorian, although some varieties of the latter, which were sound, made from 12s. to 17s. 6d. The next steamer, the s.s. *Casco*, is due here on Monday next. J. B. Thomas.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.		
Asparagus, Worces-	ter, p. bundle	Potatoes, Channel	Islands, per lb.	0 2½-0 5
— Colchester, p.	bundle ... 5 0-6 0	Radishes, Channel	Islands, doz. bun.	0 8-0 9
Beans, per lb.	0 10-1 0	Seakale, per pound	0 9-1 3	
— Madeira, p. bas.	(8 to 10 lb.) ... 3 0-3 6	Tomatoes, English,	per lb. ... 1 3-1 6	
Cucumbers, per dz.	2 0-3 0	— Canary Is-	lands, per case,	12 to 14 lb. ... 6 0-7 0
Mint, per bunch ...	0 2-	— Canary, boxes,	4 to 4½ lb. ... 2 0-2 6	
Mushrooms, per lb.	0 6-0 8			
Onions, Eng. cwt.	3 0-4 0			
Peas, Channel Is-	lands, per lb. ... 0 10-1 3			

OLD POTATOES.

Good samples and quality in fair demand, inferior kinds unsaleable.

NEW POTATOES.

Arrivals from the Canary Islands this week were rather heavy, but demand being good, prices have been well maintained. Malta Kidneys, best, 12s. to 15s.; do., ordinary, 9s. to 11s.; do., small, 7s. to 7s. 6d.; do. rounds, 8s. to 10s.; Canary Kidneys, best, 12s. to 14s.; do. ordinary, 7s. to 10s. per cwt. J. B. Thomas.



## SEEDS.

LONDON: April 22.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market had an average attendance. There is now an active consumptive demand for the leading varieties of farm seeds, under the influence of which, combined with a daily increasing speculative inquiry, values all round exhibit considerable strength. Notwithstanding the recent advance, fine samples of Clovers and Grass-seeds can still be bought on most reasonable terms. Tares move off slowly. Canary-seed is lower than ever. The Hemp-seed market keeps steady. Wisconsin green boiling Peas readily find buyers for holding over. Haricot Beans are unchanged. Full prices are asked for Rapeseed.

## FRUIT AND VEGETABLES.

BOROUGH: April 21.—Quotations:—Onions, 4s. 6d. to 5s. 6d. per bag; Carrots, 2s. to 3s. 6d., and Turnips, 2s. to 2s. 6d. per dozen bunches; Cabbages, 2s. to 2s. 6d. per tally; Horseradish, 9s. to 12s. per dozen hundred; Apples, 4s. to 6s. per bushel.

SPITALFIELDS: April 21.—Quotations:—Bunch Greens, 1s. 9d. to 2s. per dozen; Parsley, 1s. to 1s. 6d. per dozen bunches; Mint, 1s. 6d. to 2s. do.; Spring Onions, 1s. to 2s. per dozen bunches; Kale, 9d. to 1s. per bag; Broccoli, 9d. to 1s. do.; Cabbages, 1s. 6d. to 3s. per tally; Cauliflowers, 4s. to 7s. do.; Carrots, 1s. 6d. to 2s. per dozen bunches; Turnips, 2s. to 3s. do.; Leeks, 1s. 6d. per dozen; Beetroot, 1s. 3d. to 1s. 6d. per bushel; Apples, cooking, 7s. to 9s. per bushel; dessert, 8s. to 10s. do.

STRAFORD: April 22.—Trade has been rather brighter, and better clearances effected. Quotations:—Cabbages, 2s. to 4s. per tally; Greens, 1s. to 2s. per bag; do., 9d. to 1s. per sieve; do., 2s. to 3s. per dozen; Cauliflowers, 9d. to 1s. 6d. per dozen; do., 3s. to 8s. per tally; sprouting Broccoli, 9d. to 1s. per bag; Beetroot, 4d. to 5d. per dozen; Horseradish, 1s. to 1s. 3d. per bundle; Parsley, 6d. to 1s. per dozen bundles; Rhubarb, forced, 1s. to 1s. 3d. do.; do., field, 1s. 6d. to 2s. do.; White Turnips, 2s. to 2s. 6d. do.; Leeks, 1s. to 2s. do.; Spring Onions, 1s. to 1s. 6d. do.; frame Cucumbers, 1s. 6d. to 2s. 6d. per dozen; salad, 1s. to 1s. 9d. per dozen punnets; Carrots, household, 20s. to 32s. per ton; do., cattle feeding, 14s. to 20s. do.; Parsnips, 4d. to 9d. per score; Mangels, 12s. 6d. to 18s. per ton; Onions, 5s. to 6s. per bag; do. Egyptian, 12s. to 130s. per case; Apples, Nova Scotian, 16s. to 24s. per barrel.

FARMINGTON: April 23.—Quotations:—Cauliflowers, 5s. per tally; Greens, 1s. per bushel; Cabbages, 2s. 6d. per tally; Onions, Spring, 1s. 6d. per dozen bunches; Horseradish, 1s. 2d. per bundle; Leeks, 1s. 6d. per dozen; Parsley, 1s. 6d. per dozen bunches; Asparagus, 2s. 3d. to 2s. 6d. per bundle; Tomatos, 1s. 9d. to 2s. per box; Cucumbers, 3s. per dozen; Apples, Tasmanian, Ribston, 15s. 6d. per case; Adams' Pearmain, 13s. 6d. do.; Pine-apples, 2s. to 3s. each.

## POTATOS.

BOROUGH: April 21.—Quotations, in a dull trade, ranged from 25s. to 8s. per ton for Old; and New Jersey were sold at 2d. to 3d. per lb.; Maltese at 10s. to 12s. per cwt.

SPITALFIELDS: April 21.—Quotations:—Bruce, Highlands, 40s. to 50s.; Main Crop, 40s. to 50s.; Sutton's Abundance, 45s. to 60s.; Imperators, 40s. to 50s.; Drones, 45s. to 50s.; Scotch Bruce, 40s. to 50s.; do. Main Crop, 45s. to 60s.; do. Dunbars, 70s. to 90s. per ton.

STRAFORD: April 21.—Quotations:—Dark soil, Bruce, 20s. to 25s.; light do., 25s. to 55s.; Reading Giants, 30s. to 60s.; Sutton's Abundance, 40s. to 60s.; Scotch Main Crop, 70s. to 85s.; do., Magnums (Dunbar), 55s. to 65s. per ton.

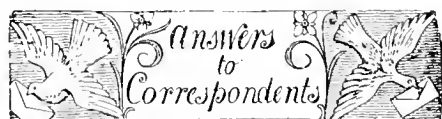
FARMINGTON: April 23.—Quotations:—Main Crop (Lincoln), 70s. to 80s.; do., Bed ords, 45s. to 50s.; Bruce, 35s. to 45s.; Magnums, 30s. to 40s. per ton; New Canary Is ands, 11s. to 13s. per cwt.

## HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 55s. to 87s. 6d.; inferior, 35s. to 69s.; hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 20s. to 40s. per load.

## CORN.

Averages. Official statement of the average prices of British Corn, imperial measure (qr) for the week ending April 18, and for the corresponding period last year—1896; Wheat, 24s. 11d.; Barley, 23s. 1d.; Oats, 14s. 1895; Wheat, 20s. 6d.; Barley, 21s. 2d.; and Oats, 14s. 5d.



APPLE ANALYSIS: J. M. The analysis quoted is that of the ash of the fruit, consequently it could not contain the amount of water, which is nearly 98 per cent.

ASPARAGUS CULTURE.—Mr. Louis Gentil desires us to say that it is not the stocks (see p. 488) that are to be destroyed when the gathering is finished, but the hillocks.

BARBER BROS. ADDRESS: J. M. It is not known to us. Too indefinite.

BOOKS: *Constant Reader*. For a list of British plants, get the *British Flora*, by Bentham & Hooker, together with illustrations (separate vols.).

CRICKET GROUND: J. T. If the slope of the ground is regular, it should suffice to turn it as it were on its axis; that is, the ground level at the halfway point should be retained, and levels taken from a wooden peg at this point in the length and breadth. To do this with simple contrivances, put in stout wooden pegs around the central one, at say 12 feet distant in radial fashion, and obtain a dead level with the plummet and builder's "straightedge;" then with three boring rods, i.e. T pieces of wood, 4 feet high, fix the levels all over the piece of ground by taking sights with these, driving in stout pegs so as to have points to level up or down to. In the high portion of the ground, so called drifts or narrow trenches should be dug out, and the levelling pegs be placed in these, or simple holes dug out sufficiently deep, and a peg placed in each. Having two level fixed points, the level of the ground can be ascertained in all directions. The levelling may simply involve the wheeling away of the soil down to the ascertained level in the high part, and depositing it on the lower part, so as to bring that part up to the height of the pegs. Before commencing operations it may be advisable to skim off the turf, if it be fit for turving the pitch, cutting it into squares of 12 inches or strips of 3 feet by 1 foot, and laying it in heaps out of the way of the ground work. The upper spit should also be reserved for covering the surface after the levelling is finished, it being placed in ridges or heaps convenient for wheeling on to the ground. All slopes at the sides of the new pitch should be made very easy.

ERRATUM.—Page 486, April 18, article "Market Gardening under Difficulties," line 26, for "ten" read "two."

EUCARIS: G. M. There may be some disease in the bulbs. Can you send one or two, and a spotted leaf for examination?

FUNGUS: *Thos. Trollope*. *Peziza* (Lachnea) *Sumneriana*, figured in Cooke's *Mycographia*, fig. 111. Usually growing under Cedars. M. C. C.

HOLLYHOCK: W. P. There is no disease. The stem died down from frost or other cause, and a number of shoots proceeded from the base as a consequence.

MUSHROOM-SPAWN: D. Field. So far as we can tell, it is very good spawn; but, as you know, "the proof of the pudding," &c.

NAMES OF FRUITS: G. F. I. Pitmaston Golden Pippin; 2, Rymmer; 3, Mère de Ménage.

NAMES OF PLANTS: H. E. D. 1, Thuja (Biota) orientalis; 2, *Kerria japonica*; 3, perhaps the Mountain Ash, *Pyrus aucuparia* (a poor scrap).—*Notice*. 1, *Acer platanoides*; 2, *A. pseudo-platanus*; 3, *Lucumbe Oak*, *dentata* var.; 4 and 5, varieties of *Evergreen Oaks* (*Quercus ilex*); shoots without a number—*Viburnum Lantana*.—G. M. 1, *Dendrobium superbum*, often called *D. macrophyllum*; 2, *Phlox subulata*; 3, *Berberis empetrifolia*; 4, *Forsythia suspensa*; 5, *Berberis* (*Mahonia*) *aquifolia*; 6, *Berberis Darwinii*; 8, *Phyllirea latifolia*; no number, *Doronicum caucasicum*, yellow.—S. G. 1, *Pyrus malus spectabilis*; 2, *Spiraea prunifolia*; 3, *Amelanchier canadensis*; 4, *Pyrus salicifolia*; 5, *Prunus pseudo-cerasus*; 6, a Pear which we cannot name.—F. G. *Sambucus canadensis*; *Hippophae rhamnoides*.—*Vvmo*. 1, 2, 3, 4, probably forms of *Rhododendron Veitchii*, but how can we tell from single withered blooms? 5, *Diosma capitata* alba; 6, *Amelanchier canadensis*; 7, *Cornus mas*.—J. R. *Dicentra eximia* and *Litobrochia vespertilionis*.—J. B. N. *Dendrobium formosum*.—*Blackmoor*. The large one is *Dendrobium albosanguineum*, the other *D. crepidatum*.—T. J. C. *Teucrium fruticosum*.—L. F. (*Fern*). So far as we can judge, the specimen sent is *Blechnum cartilagineum*.—G. H. M. 1, *Cattleya Mendeli*; 2, C. Skinneri.—*Ignoramus*. 1, *Draecena rubra*; 2, *D. fragrans*; the Palm is *Chamaeops excelsa*; the other cannot be identified by the leaf, send when in flower.—G. H. G. Thanks for your letter. *Oncidium* and *Odontoglossum* may

occasionally be seen flowering as your sketch shows.—G. B. Small pink flower is *Pyrus Malus spectabilis*; the other *Cianthus puniceus*.—H. S. Send better specimens, more carefully packed; you do not appreciate the condition in which they reach us.—J. C. 1, *Citrus trifoliata*; 2, *Spiraea prunifolia*; 3, *Amelanchier canadensis*; 4, Japanese Maple; 5, *Odontoglossum citrosium*; 6, *Gnidia*, a mere scrap.

PEACH BLISTER: A. W. Smith. Due to the attacks of a fungus, often figured in the *Gardeners' Chronicle*. Careful spraying with the Bordeaux Mixture in the early season would probably check it.

PRESSING AND DRYING FERN FRONDS: F. W. Purchase any coarse—not too bihulous—paper, place your fronds between the sheets, place under pressure, and change the paper every other day till the fronds are dried; and when this has occurred, fasten them on to the paper with gummed strips of paper; write the botanical and the popular name, and place away in a drawer or case in a dry place.

PRUNING MARÉCHAL NIEL IN A GLASS-HOUSE: W. G. Cut it back severely each year after flowering, it will then make, after resting a short time, a number of shoots; lay-in the best of these, so as to cover the space allotted to the Rose, removing all weakly shoots entirely. Get this wood well ripened, and do not prune it again till it has flowered. Manure heavily, and top-dress the border with strong loam and bone-meal.

ROSES: C. R. T. Probably, water has been allowed to remain on the flowers, or syringing was done when the sun was shining.

SEEDLING CARNATION: A *Constant Reader*. Your Carnation has many desirable properties. The two most important ones are a non-splitting calyx, and the fine scarlet colour possessed by the flowers. It would be better were it a little larger and more full, but for ordinary purposes the flowers are capital. Reply, as to leaf, next week. C. W. sends a very similar seedling, but not so good.

SEEDLING PELARGONIUM: F. G. E. B. The flowers you send are of good quality generally, and the trusses are large. Evidently they have been well grown, but apart from this, though the colours are good, we are of opinion that they are not equal to many existing varieties in regard to the size or form of the individual flowers.

VALUES: J. K. E. The prices depend on size, beauty, and general conditions, and also the fancy of the purchaser.

VINE LEAVES: G. T., and H. K. Warts on the leaves are generally the result of too much moisture and deficient ventilation.

VIOLAS AND PANSIES: *Dobbie & Co.* A very nice selection of blooms in numerous colours, but to make sure what these plants are fit for, and how they look when planted out, it is not of much use to inspect single blooms—not the worst we may be sure. It is necessary to inspect them as plants growing in the open air, in clumps, buds, or masses.

COMMUNICATIONS RECEIVED.—C. R. K., Paris.—C. de B.—H. M.—Nipetos.—J. R. J.—E. G. Lodeman, Ithaca, N.Y.—C. S. S., Boston, U.S.—C. H. P.—D. R. W. H., Corveion, Geneva.—J. N. Rose, Washington, Dr. B., Midhurst.—A. B. F. M.—R. W.—F. M.—C. R. T.—J. C.—C. Walker.—Y. H. M.—Pope & Sons.—Sander & Co.—J. B.—D. R. W.—Hong Kong Emporium Exchange.—C. W. D.—M. H. W.—J. R.—D. T. F.—C. B.—J. S. R.—H. W.—R. A. R.—W. B. H.—F. K.—K. & Sons.—J. McL.—A. D.—T. C.—A. D. W.—W. P. W.—W. H. W.—A. P.—G. Henslow.—E. H. J.—A. C. F.—H. W.—A. H.—R. M.—G. W.—E. M.—An Enquirer.—R. B.—T. B.—E. C.—E. Rehder.—W. Hartow.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED.—Dr. B., Midhurst.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

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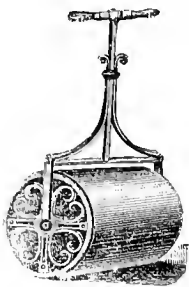
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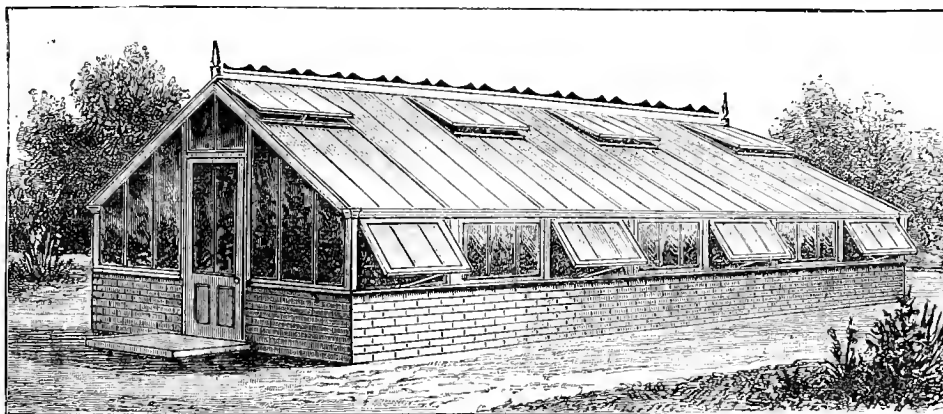
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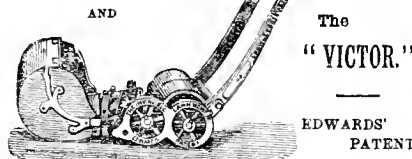
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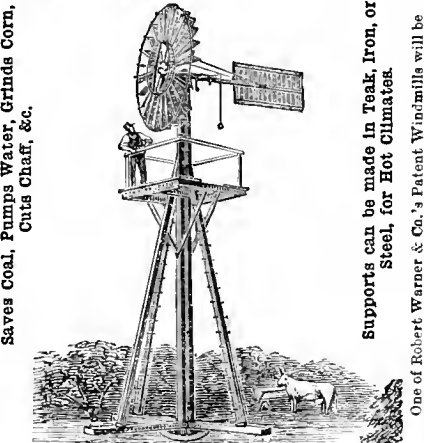


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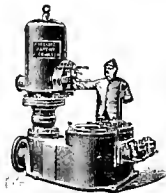
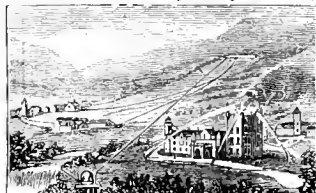


FIG. A.—This ram lifts part of the same water that works it. (Engraved from Photo. of Ram which raises 250,000 gallons per day of 24 hours to medium heights, with good working fall.)



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 532 ft., and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.



FIG. B.—This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

### TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to the RIGHT HON. LORD HINDLIP, Braley, Ashbourne, Derby. March 17, 1894.

DEAR SIR,—Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than 63 times that of the working fall. The Rams are worked by water from the River Dove, with the small working fall of 8 ft. 3 ins., and issuing from the rocky bank close by is a copious stream of pure spring water, 8000 gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of 523½ ft. above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.—Yours faithfully,  
T. FERNYHOUGH.

From the RIGHT HON. THE EARL OF HARROWBY, 44, Grosvenor Square, London. February 21, 1893.

I have pleasure in stating that the two Hydraulic Rams which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 ft. from a previously-existing mill-pool, the Rams supply reservoirs 168 ft. above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.—I am, Sir, your very obedient servant,  
HARROWBY.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon. April 24, 1891.

DEAR SIR,—In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 ft., with a working fall of driving water of 27 ft., and on your guaranteeing that performance, I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests, with the following results:—Working fall of driving water, 30 ft.; vertical height raised, 127 ft.; length of rising main, 550 ft. from Ram to outflow; length of supply pipe 300 ft.; gallons per hour raised, 1,612; driving water used per hour, 8,136 gallons, showing the remarkable and gratifying result of 83 per cent. of efficiency. The tests were carefully made and repeated, the water measured and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe, in order to reduce friction, with excellent effect.—Yours faithfully,  
T. DYNE STEEL.

From MARTIN CURTLER, Esq., Agent to the Right Hon. LADY NORTHWICK, Sansome Place, Worcester. Feb. 18, 1895.

I have great pleasure in informing you that the Hydraulic Ram which you put in for the Right Hon. Lady Northwick, at Northwick Park, last year, has worked, and is working, most satisfactorily. The water, as you know, had to be raised to the height of nearly 400 ft., with 1,900 yards of rising main pipe, to a large tank on the top of a hill, in order to supply several farms on the estate with water at a great cost.

The supply to the tank is most ample, and there is an adequate overflow left below the Ram. Altogether the work is a very great success.—Yours faithfully,  
MARTIN CURTLER.

JOHN BLAKE, Oxford Street Works, ACCRINGTON, LANCASHIRE.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HENRY ALFRED STRATTON, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, April 25, 1896. Agent for Manchester—JOHN HEYWOOD.



# The GARDENERS' CHRONICLE

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## CONTENTS.

Apple Annie Elizabeth	562	Inventions, new—	
Apples and Pears, the best flavoured...	552	Cheltenham syringe...	565
Asparagus, the best time and method of feeding...	551	Method of stopping preserve-bottles...	565
Asters, culture of...	556	Larch disease, the...	560
Bacteria in Carnations	549	Mulching...	562
Bitter Oranges...	560	Narcissi and their artistic use...	517
Books, notices of—		Nursery notes—	
Botanists' Directory...	559	Cypher's, J., Cheltenham...	563
Le Jardin de l'Herboriste...	559	Orchid notes and gleanings...	550
Los Bromeliadæ...	559	Plants, new or noteworthy—	
Nine hundred and ninety-nine Queries and Answers...	559	Diacrium bicornutum...	548
Border Auriculas...	560	Erythronium Johnsoni...	548
Chrysanthemum, chemical constituents of the...	557	Potatoes, the starch-content of...	565
Cineraria, the origin of the garden...	560	Propagation, methods of Rockery at Warnham Court...	559
Clayey sub-soil, a...	562	Röntgen's rays and phosphorescent fungi...	557
Colour in Apples and Pears...	562	Seedling florists' flowers, on raising...	550
Cork in Spain...	558	Societies—	
Costa Rica and its Orchids...	548	Brussels Orebideenne...	558
Dendrobium x Wiganianum...	553	Darlington Horticultural...	565
Florists' Flowers...	551	National Auricula...	564
Flowers of Conifers...	556	Royal Horticultural...	564
Food in Mashonaland, prices of...	557	Teak in glasshouses...	562
Forestry...	553	Trees and shrubs...	562
Forsythia suspensa...	566	Varietated Cucumber, a...	563
Ilans Sloane, unpublished letters by...	557	Week's work, the—	
Heating of greenhouses, old methods of...	557	Flower garden, the...	555
Herbaceous flowers, the crowding of, at exhibitions...	560	Fruits under glass...	555
		Hardy fruit garden...	554
		Kitchen garden, the...	554
		Orchid houses, the...	554
		Plants under glass...	555

## ILLUSTRATIONS.

Cucumber, a variegated	563
Dendrobium x Wiganianum	553
Erythronium Johnsoni	549
Preserve-bottles, a new method of stopping	565
Redwood, female flowers of	556
Rhododendron Schlippenbachii	561
View of the rockery in the gardens at Warnham Court (Supplement)	561
Wellingtonia, female flowers of	556

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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DENDROBIUM DALHOUSIEANUM, among the largest-flowered and most stately-habited of all Dendrobies.

A CYMBIDIUM SPECIES from Upper Burma, plants in grand order, and the pseudo-bulbs bear a strong likeness to the imitable C. Traceyanum.

DENDROBIUM CRYSTALLINUM, D. DIXANTHUM, D. CAMBRIDGEANUM, D. PRIMULINUM, D. CREPIDATUM.

DENDROBIUM WARDIANUM GIGANTEUM, the gigantic-flowered Upper Burmese type. The finest of all.

D. INFUNDIBULUM, D. JAMESIANUM, D. PIERARDII, D. CRASSINODE, splendid plants, lotted to suit the Trade.

A CEGELOYNE SPECIES, with dark green bulbs; flowers white and orange-yellow.

CYPRIPEDIUM INSIGNE MONTANUM, a grand lot of plants, evincing great variety in the foliage and appearance; every probability of novel forms from among them.

AN EPIDENDRUM SPECIES, flowers said to be borne on long branching spikes, each flower nearly 2 inches across, lip rosy-purple and white.

DENDROBIUM NOBILE, LANG TANG VARIETY.—From the district which has yielded such grand forms as Amesiae Sanderi, Sanderianum, Ballianum, &c., &c. Cypripedium Curtisii, C. exul, &c., &c.

Also strong imported bulbs of an EUOHARIS SPECIES, probably E. grandiflora or E. subdentata.

Also 75 lots of ODONTOGLOSSUM HASTILABIUM (another property).

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 8, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday, May 12.

SPECIAL SALE OF ORCHIDS IN FLOWER and BUD.

MESSRS. PROTHEROE AND MORRIS beg to announce that they will be holding a SPECIAL SALE OF ORCHIDS IN FLOWER and BUD, on TUESDAY, May 12, at half-past 12 o'clock, and will be glad to receive List for printing in Catalogue on or before Wednesday next, May 8.

Central Auction Rooms, 67 and 68, Cheapside, E.C.

Preliminary Notice.

HIGHLY IMPORTANT SALE

OF THE

ARDDARROCH COLLECTION

OF

ESTABLISHED CATTLEYAS.

By order of R. Brooman White, Esq., who is giving up the Cultivation of Hothouse Orchids.

MESSRS. PROTHEROE AND MORRIS have been favoured with instructions to SELL by AUCTION, on the Premises, Arddarroch, Garellochhead, Dumbartonshire, on TUESDAY and WEDNESDAY, June 9 and 10, at half-past 12 o'clock each day, the whole of the well-grown CATTLEYAS and LILIAS, and a few ODONTOGLOSSUMS in flower.

Fuller particulars will be given in future announcements,

Normandy, near Guildford, Surrey.

By order of the Trustees.

IMPORTANT SALE OF A HIGH-CLASS FRUIT GARDEN and NURSERY, with Possession.

MESSRS. PROTHEROE AND MORRIS in conjunction with Messrs. MUMFORD AND BOND, will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY, May 27, at 2 o'clock, at a low reserve, on balance an Estate, by order of the Trustees of J. P. Parrott, deceased, and Mr. Wm. Parrott, the productive MODEL FRUIT GARDEN and NURSERY, of 41 a. 3 r. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade, and in splendid condition; 16 modern Greenhouses, heated and fitted upon the best hot-water principles; ranges of newly-built Stables, Coach-houses, Van, Cart, and Store Sheds, Pigeries, &c. The soil is of the best quality, and there are 1500 feet of frontage to existing roads.

Particulars, Plan, and Conditions of the above, also the Farm and of the remainder of this Estate may be had on the Premises; at the principal hotels in the neighbourhood; at the Mart; of Messrs. J. & T. PARROTT, Solicitors, Aylesbury; of Messrs. MUMFORD AND BOND, Auctioneers, Brill, Bucks; and of Messrs. PROTHEROE AND MORRIS, Auctioneers, Valuers, and Estate Agents, 67 & 68, Cheapside, London, E.C.

LONDON, N.W.—Aristocratic neighbour-

hood. FOR IMMEDIATE SALE. Thorough genuine FLORIST'S BUSINESS. Established upwards of 20 years. Owner retiring from business. Average turnover for last three years, £4250. Large Profits. Premises comprise Noble Shop, Commodious Dwelling-house. Lease, 7, 14, or 21 years. Rent, £150 per annum. Strictest investigation invited. Price £1600. Also, 3 Acres of productive Land, near Harrow-on-Hill, with small Stock, can also be had, if desired. Price £280 per Acre.

Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 5813.)

LONDON, W.—FOR DISPOSAL, GENUINE

FLORIST'S BUSINESS; unique position; lucrative trade done; turn-over £1100 a year. Large Conservatory heated (Dwelling-house let off at £24-£14 per annum). Frontage 13 feet. Lease, 7 years from 1895. Rent, £150 per annum. Price for business, including stock, utensils in trade, &c., £650.

Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C. (Folio 5817.)

SOUTH COAST.—TO BE SOLD, at an

enormous sacrifice, a NURSERY of 6 acres, with 6 well-built Greenhouses, 650 ft. run, of modern construction and efficiently heated. Has cost present owner over £4000. Stock of Orchids, &c., in good condition. Held on lease for 21 years from 1894 at £18 per annum, with option to acquire freehold at £250 an acre. Small walled-in Garden adjoining held at £14 per annum, can be taken if desired. Price, including stock, £1700, or near offer.

Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 5814.)

SPECIAL SALE

OF

H. B. MAY'S

NEW TREE CARNATIONS,

On WEDNESDAY NEXT, May 6.

MESSRS. PROTHEROE AND MORRIS

will Offer, at their Sale Rooms, 67 & 68, Cheapside, London, E.C., a Grand Lot of these WINTER-FLOWERING CARNATIONS, which are undoubtedly the finest set of New Varieties ever offered, including—PRIMROSE DAY, the finest Yellow; W. ROBINSON, the finest Scarlet; HENRY GIBBONS, the finest Crimson; LEONIDAS, fine Crimson-Scarlet; and many other sorts of great merit.

Camden Road, N.—Brecknock Nursery.—To Florists,

NURSERYMEN, FRUITERS, and OTHERS.

MR. ALLAN BOOTH will SELL by AUCTION,

at the Mart, on THURSDAY, May 14, at 2 o'clock precisely, the valuable LEASEHOLD PREMISES, with the Goodwill of the Old-established Business known as the BRECKNOCK NURSERY, occupying a prominent corner position, with important frontages to the Camden and Brecknock Roads, and comprising an excellent Conservatory and Seed Shop. Lease about 4 1/2 years unexpired; ground-rent, £10; with possession. Also the Leasehold, Semi-detached RESIDENCE, known as No. 229, Camden Road, N., containing five bedrooms, dining and drawing-rooms, surgery, domestic offices, and small garden; let on lease to a responsible tenant, at the nominal rent of £25 per annum; and the erection of Stable, Coach-house, and Store in rear (occupied by the Brecknock Nursery), lease about 4 1/2 years unexpired, at a rent of £15 per annum. May be viewed by cards, to be obtained of the Auctioneers; particulars with plan, at the Mart; of C. H. T. WHARTON, Esq., Solicitor, 31, John Street, Bedford Bow, W.C.; and of Mr. ALLAN BOOTH, Auctioneer, Surveyor, &c., 4, Brecknock Road, Camden Road, N. (Telephone, No. 7761).

FRUIT and FLOWER GROWING ESTATE,

in best part of South of England, FOR SALE, as a going concern. Cucumber, Tomato, and Grape Houses of best construction, fitted with latest improvements—All particulars—GROWER, 95, Newland Road, Worthing, Sussex.

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FLORIST'S BUSINESS FOR SALE.—Good

neighbourhood. Rent £32, partly let, private entrance. Same holds these years, only cause of selling wife's delicate health, ordered abroad. Thoroughly genuine.—Apply by letter, to P., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

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NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLOEBIST, 11, Dafforne Road, Tooting, Surrey.

FOR SALE.—NURSERY and FLORIST'S

BUSINESS, doing good trade. One Acre of Land, 8 Glasshouses, 80 feet long, all Heated. Stocked. Ninety-nine years' Lease; 84 years to run.—Apply, R. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

FOR SALE, as a Going Concern, the SUTTON

NURSERY, situated at Duckmanton, near Chesterfield, Derbyshire. The contents of this Nursery have been reduced from 74 acres of the above to 27 acres or thereabouts, and it is held on a lease having about 18 years to run; while the Hothouses have been increased to 31, each 100 feet long, with six additional forcing sheds 100 feet by 33 feet, potting-house, office, and stables. Also a large number of frames and loose lights. The houses and heating arrangements are of the most modern description, and there is an ample supply of water. The stock consists largely of Roses, Fruit Trees, Rhubarb, &c.

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BUSINESSES to be DISPOSED OF.

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HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

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PLANTS, in 5-inch pots, just coming into bloom, including Malmaison, blush and deep pink "Nightingales," also Germania and La Vilette (New). Apply—COURTIL DE HAUT, St Jacques, Guernsey.

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THE 57TH ANNIVERSARY FESTIVAL DINNER, in Aid of the Funds, will take place at the "Hotel Metropole" on SATURDAY May 30, 1896, when the Right Hon. the EARL of LATHOM, G.C.B., P.C., will preside.

The Committee have the pleasure to announce the following further amounts, which have been promised or received, and added to the Chairman's List:—

Table listing donors and amounts: LORD DERAMORE, per R. McLatosh ... £2 2 0; W. THOMSON-WALKER, per ditto ... 0 10 0; ROBERT HOLTRY, per ditto ... 0 10 0; Hon. W. F. D. SMITH, M.P. (Sub.), per Henry Perkins ... 5 0 0; HENRY PERKINS ... 1 0 0; Sir WILLIAM C. BROOKS, Bart. ... 1 1 0; E. KEMP ... 10 10 0; MARKET GARDENERS' NURSERYMEN, and FARMERS' ASSOCIATION, per Geo. Moore ... 10 10 0; J. PAGE, per GEORGE WYTHES (Sub.) ... 1 1 0; J. FODWELL, per George Wythes (ditto) ... 1 1 0; WORCESTER AUXILIARY, per J. H. White ... 10 10 0; CHAS. HEWITT ... 10 10 0; Mrs. BARTRAM ... 1 1 0; J. D. PAWLE ... 1 1 0; J. R. POLLARD (Sub.) ... 1 1 0; T. E. FISHPOOL (ditto) ... 1 1 0; J. G. PEARCE (ditto) ... 1 1 0; Mrs. LONSDALE (ditto) ... 1 1 0; GEO. HUNDLEBY (ditto) ... 1 1 0; THOS. KNOWLES ... 1 1 0; HORACE OVERTON ... 1 1 0; J. TALMAGE ... 1 0 0; W. DICK ... 0 7 6; J. GAIKINS ... 0 5 0; J. MENZIES ... 0 2 6.

Additional contributions will be thankfully received and duly acknowledged by the Secretary—

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HARDY BORDER and HERBACEOUS PLANTS, &c.—FORBES' new descriptive illustrated priced CATALOGUE for 1896, 146 pages, gives all particulars, including colour, height, season of flowering, &c., of thousands of these marvellously varied and highly popular flowers. Free on application.—JOHN FORBES, Hawick, Scotland.

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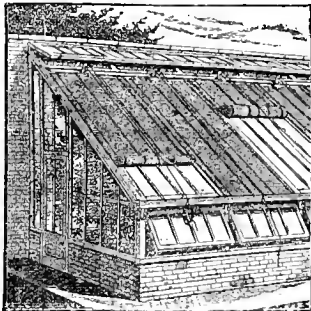
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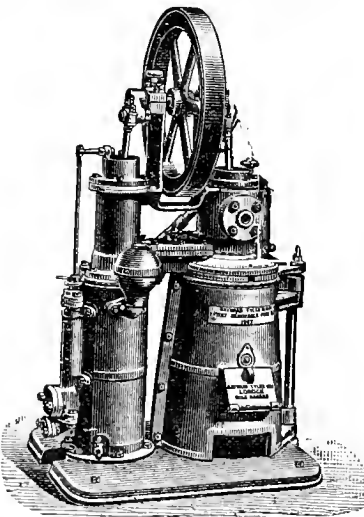
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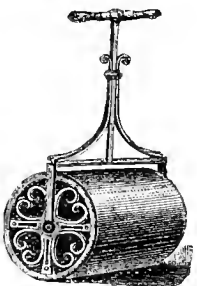
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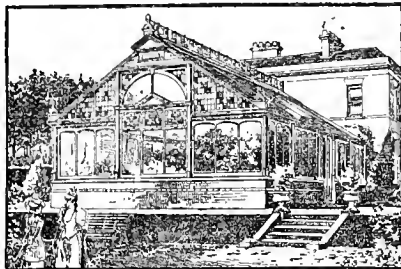
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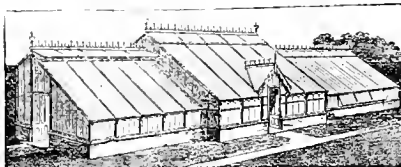


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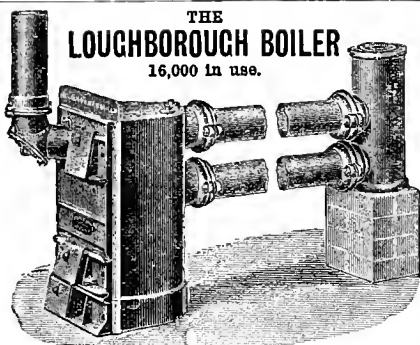
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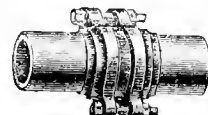
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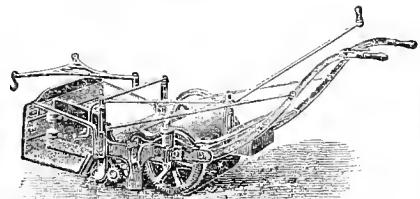
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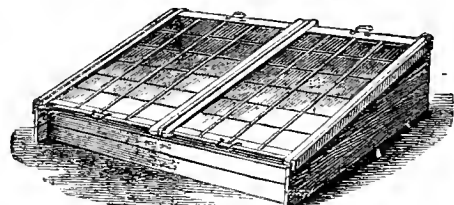
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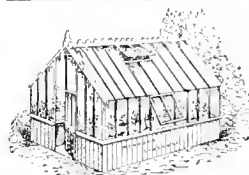
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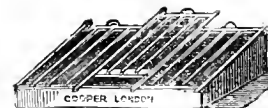
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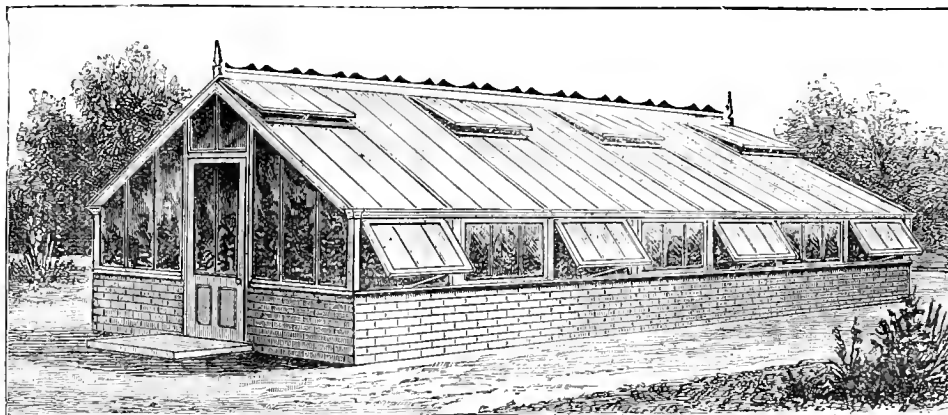
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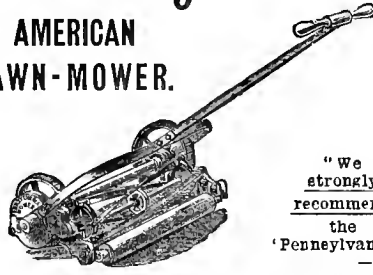
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NO AWARD WAS GIVEN  
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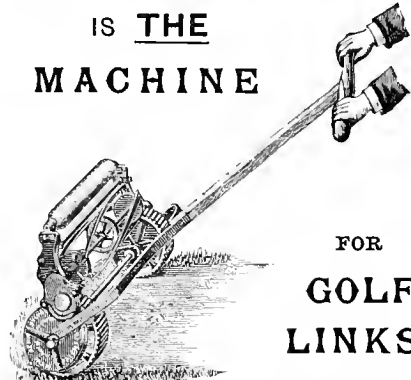
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"Gentlemen,—I desire to state that we have used the 'Pennsylvania' Lawn Mowers almost exclusively during the progress of the Fair, with the most satisfactory results. The ease in working them was remarkable, and they did more work than we supposed was possible for Lawn Mowers to accomplish. The appearance and condition of our lawns, in comparison with others, prove the high grade and superiority of these Lawn Mowers.—A. E. FARQUHAR, Executive Commissioner."

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THE

**Gardeners' Chronicle.**

SATURDAY, MAY 2, 1896.

**NARCISSI AND THEIR ARTISTIC USE.**

WHILE fair in form as any Orchid or Lily of the tropics, the Narcissus is as much at home in our climate as the Kingcups in the marsh, and the Primroses in the wood. And when the wild Narcissus comes with these in the woods and orchards of Northern France and Southern England, it has also for companions the Violet and the Cowslip, hardiest children of the north, blooming in and near the still leafless woods.

And this clear fact should lead us to see that it is not only a garden flower we have here, but one which may give glorious beauty to our woods, and fields, and meadows, as well as to the pleasure-ground. Nothing can be more beautiful than Mr. Walker's way of growing Narcissi for market, or such handsome borders of them as Mr. Burbidge grows, and they are beautiful in all ways, but in a great many cases it may not be well to have many of them in the flower-garden, which we want to be full of summer and autumn flowers; and, therefore, we have to think of other ways of arranging them.

In our country in a great many places there is plenty of room to grow them in other ways than in the garden proper, and this not merely in country seats, but in farms and orchards and cool meadows. To chance growth in such places, we owe it already that many Narcissi or Daffodils which were lost to gardens in the period when hardy plants were wholly set aside for bedding plants have been preserved to us, at first probably in many cases thrown out with the garden refuse. In many places in Ireland and the west of England, Narcissi lost to the gardens have been found in old orchards and like places. If we plant groups of those kinds we have to spare in the grass, and any wave of fashion should, unhappily, affect the Narcissi in the garden, our descendants may find them faithful as native flowers in the grass long after the Barrs, and Burbidges, and Hartlands, and others, who have done so much for the flower in our own day, have left their Narcissus grounds for, let us hope, the Elysian fields.

There is scarcely a garden in the kingdom that is not disfigured by vain attempts to grow trees, shrubs, and flowers that are not really hardy, and it would often be much wiser to devote attention to things that are absolutely hardy in our country, like most Narcissi, to which the hardest winters make no difference, and, besides, we know from their distribution in Nature how fearless they are in this respect. Three months after our native kind has flowered in the weald of Sussex and in the woods or orchards of Normandy, many of its allies are beneath the snow in the mountain valleys of Europe, waiting till the summer sun melts the deep snow. On a high plateau in Auvergne we saw many acres in full bloom on July 16,

1894, and these high plateaux are much colder than our own country generally. Soils that are cool and stiff, and not favourable to a great variety of plants, suit Narcissi perfectly. On the cool mountain marshes and pastures, where the snow lies deep, the plant has abundance of moisture—one reason why it succeeds better in our cool soils. In any case it does so, and it is mostly on dry light soils that Narcissi fail to succeed. Light, sandy, or chalky soils in the south of England are, we should say, useless, and Narcissus culture on a large scale should not be attempted on such soils. We must not court failure; and however freely in some soils Narcissi grow in turf, there is no law clearer than that all plants will not grow in any one soil—and it is a mercy, too, for if all soils were alike, we should find gardens far more monotonous than they are now. Gardening is an art dealing with living things, and we cannot place these with as little thought as those who arrange shells, or coins, or plates. At the same time, we may be mistaken as to failures which now and then arise from other causes than the soil. I planted years ago some Bayonne Daffodils on the northern slope of a cool field, and thought the plants had perished, as so little was seen of them after the first year. Despairing of the slope, it was planted with Alder, a tree that grows in any soil or water. Years afterwards, walking one day through the Alders, I found the Bayonne Daffodil in perfect bloom. The roots had doubtless been weak, and taken time to recover.

If the soil be right, all that need be done in planting is to make two cuts with the spade, raise the sod, put a few bulbs beneath it, again turn the sod down, firmly trample it down, and leave them to take their own way ever afterwards. It will often be well to turn up all the sods at first so as to see the outline of the groups.

Eight years ago I planted many thousands of Narcissi in the grass, never doubting that I should succeed with them, but not expecting I should succeed nearly so well. They have thriven admirably, bloomed well and regularly; the flowers are large and handsome, and in most cases have not diminished in size. In open, rich, heavy bottoms, along hedgerows, in quite open loamy fields, in every position they have been tried. They are delightful seen near at hand, and also effective in the picture. The leaves ripen, disappear before mowing time, and do not in any way interfere with the farming. The harrowing and rolling of the fields in the spring hurt the leaves a little, but the plants are free from this near wood walks, by grass walks and open copses and lawns which abound in so many English country places. The great group of forms of our large native Daffodils gave good results; they thrive better, and the flowers are handsomer than those of the wild plant. The little Tenby Daffodil is very sturdy, pretty, and never fails us.

A delightful feature of Narcissus meadow-gardening is the way great groups follow each other in the fields. When the Star Narcissi begin to fade a little in their beauty, the Poet's follow.

As to the kinds we may naturalise with advantage, they are almost without limit, but generally it is better to take the great groups of the Star Narcissi, the Poet's, and the wild Daffodil, of which there are so many handsome varieties. We can be sure that these are hardy in our soils; and, moreover, as we have to do this kind of work in a bold and rather unsparing way, we must deal with kinds that are easiest to purchase. There is hardly any limit except

the one of rarity, and we must for the most part put our rare kinds in good garden-ground till they increase, though we have to count with the fact that in some cases Narcissi that will not thrive in the garden will do so in the grass of a meadow or orchard!

The fine distant effect of Narcissi in groups in the grass should not be forgotten. It is distinct from their effect in gardens, and it is most charming to see them reflect, as it were, the glory of the spring sun. It is not only their effect near at hand that charms us, but as we walk about we may see them in the distance in varying lights, sometimes through and beyond the leafless woods or copses. And there is nothing we have to fear in this charming work save the common sin—overdoing. To scatter Narcissi equally over the grass everywhere is to destroy all chance of repose, of relief, and of seeing them in the charming ways in which they often arrange themselves. It is almost as easy to plant in pretty ways as in ugly ways if we take the trouble to think of it. There are hints to be gathered in the way wild plants arrange themselves, and even in the sky. Often a small cloud passing in the sky will give a very good form for a group, and be instructive even in being closer and more solid towards its centre, as groups of Narcissi in the grass should often be. The regular garden way of setting things out is very necessary in the garden, but it will not do at all if we are to get the pictures we can get from Narcissi in the turf. Whatever we do, it is always necessary to keep open turf here and there among the groups; and in dealing with a wide lawn or a meadow, we should leave a large breadth quite free of flowers. Bearing all these things in mind, it may be said with confidence that no one who has not seen it well grown and happily placed in the wild garden knows what the Narcissus may do for our lawns and home landscapes. *Mr. Robinson's Paper, read at the Daffodil Conference, Regent's Park, 1896.*

## NEW OR NOTEWORTHY PLANTS.

### ERYTHRONIUM JOHNSONI, Bolander.\*

Messrs. WALLACE, of Colchester, showed, at the last meeting of the Royal Horticultural Society, some specimens of this very pretty new species, the flowers being of a lilac-rose colour. The general appearance is sufficiently shown in our illustration (fig. 83, p. 549), and the botanical details are given in the subjoined note by Dr. Bolander.

### DIACRIUM BICORNUTUM, Benth.

On boulders and tree stumps, which would otherwise be bare and unsightly objects about the Botanic Garden and the Government-House Grounds, clumps of this most lovely Virgin Mary Orchid have been planted, and are now in full blossom (March 23, 1896). The pure white flowers, with dotted and streaked lip and column base, fill the air with a delightful aroma, and these, massed together in profuse numbers, form a very effective sight, glistening in the sun as though covered with frost. We have a specimen which differs somewhat from the ordinary white in

\* *Erythronium Johnsoni*.—Corm  $1\frac{1}{2}$  to 2 inches long, thinly coated, new ones evidently produced by offshoots from the base of the corm. Scape 10 to 12 inches high, flower-buds  $1\frac{1}{2}$  inch long, segments  $1\frac{1}{2}$  inch long, acuminate, three inner segments appendaged or auricled. Leaves two, 5 to 6 inches long, lanceolate,  $1\frac{1}{2}$  inch wide, strongly mottled. Style  $\frac{3}{4}$  to  $1\frac{1}{2}$  inch long. Stigmas three, long and spreading. Anther  $\frac{3}{4}$  inch long, bright yellow; filaments shorter, dilated. Capsule oblong obovate, obtuse above. Colour a bright pinkish-rose outside, inside golden orange, deepening to a dark purple. Coast Ranges of Southern Oregon. May Collected by A. J. Johnson. H. N. Bolander, in *Erythra*, vol. iii., August, 1895, p. 127.

this respect, that its flowers are purple-tinted, and the lip divisions narrower. The flower-stems are dark-coloured throughout, and, in consequence, show up the white bracts distinctly, and thus it resembles *D. indivisum*. In the other the peduncles are green. The sheathing leaf-base has purplish lines, the white form green ones. *D. indivisum*, growing beside its ally, presents a miserable comparison; its puny white flowers are quickly followed by seed-pods. *D. bicornutum* is a feature of Government-House Grounds during the early months of the year, when its flowers expand in large numbers. *W. E. Broadway, Grenada B.H.I., April 1, 1896.*

## COSTA RICA AND ITS ORCHIDS.

COSTA RICA (as well as the other Central American States) is divided into two distinct climatic zones, one facing the Caribbean Sea, with a moderate rainfall during the whole year; the other, including the territory of the Pacific waters, has six months of nearly complete dryness, corresponding with the northern winter, from November to April, alternating with six months of rains. But even the rainy season is very pleasant, as almost every morning one enjoys delicious weather, with refreshing breezes, under a bright sunshine. Towards noon the increasing heat becomes moderated by accumulating clouds; and, between 2 and 4 o'clock, generally, a heavy thunderstorm cleanses the atmosphere, and the nights are at most times clear again and truly delightful.

The dry season of the Pacific slope is due to the trade-winds, under whose domination that section comes, when they are following the sun south. The trade-winds are always saturated with the vapours of the sea, which, when striking against the high Cordillera, condense into rain, and, after depositing here all its moisture, the air-current precipitates down and over the Pacific plains in the form of a violent dry storm; which, indeed, during the "verano," or dry season, is a daily occurrence on the Pacific slope. Now add to that, that during verano the trees partially lose their foliage, and you will find that most of the Epiphytes of the Pacific zone at that time of the year have to endure nearly the full light and strength of the tropical sun, as well as the violence of the dry and drying-up north-east storm, while their companions of the northern slope have less extremes to withstand.

From the above it follows that Orchids from the Pacific side of central America need during winter a very pronounced rest; while during the summer, or vegetating time, all without exception require a liberal supply of water, and a moist air, continually renewed by a thorough ventilation.

The temperature, depending on the altitude above sea-level, will be indicated with each species. The few sorts from the hot plains of the coast may require the east-Indian house or its cooler end; mountain-plants of about 3000 feet do best in the so-called Cattleya-house; and alpine sorts, from about 6000 feet, will prefer the cool or Odontoglossum-house.

Most of the Orchids, principally those with hard pseudo-bulbs, as Cattleyas, Lelias, most Epidendrums, Oncidiums, &c., generally delight and flower much more easily if grown in an abundance of light, protecting them only from the direct rays of sun.

Yet a word about a certain item which I consider of importance. I find that the different manuals on Orchid culture are advocating the use of water of the same temperature as the house. In view of that general practice, I wish to state the undeniable fact that, on the tropical highlands, where most of the Orchids are concentrated, rain-showers are ordinarily about 5° to 10° colder than the temperature of the air, slight hail being no rare occurrence at the altitude of 4000 feet and more. And a second fact is, that connoisseurs, judging from the colour and consistency of the roots, are quickly aware how the Epiphytes seek for such refreshments. I am far from pretending to show such authors, practical cultivators, and keen observers as are the Veitch's, the Williams', the Linden's, &c., how to grow Orchids; but some-

times one plan has proved to be good, while another may be still better; and just in that special point I wish to say: Try, and see. *R. Pfau*, "Orchids of Costa Rica," *San José, Costa Rica*.

**BACTERIA IN CARNATIONS.**

"BACTERIOSIS is a disease of the Carnation leaf, rarely attacking the stem or other parts of the plant. It generally starts in the leaf when immature, and is best diagnosed in the younger but full-sized leaves nearest the upper end of the stem. Taking such a leaf, which on its surface presents no unusual appearance to the eye, and holding it toward a strong light,

still clinging to the stem. Such spots never show distinct central darker coloured specks, and rarely any concentric circles, as do the spots made by parasitic fungi, such as *Septoria* (spot disease) and *Heterosporium* (fairy ring).

"Very badly diseased plants, especially when much crowded and growing in damp atmosphere, have more yellowish-green leaves than normal, of a more transparent appearance, and usually smaller. The lower leaves of diseased plants in any atmosphere or soil die prematurely, and the vitality of the plant is so lowered as to check the growth and decrease the size and number of the flowers."

It has always been an all-important question among Carnation growers as to how the various

cuticularised outer walls of the epidermis were often broken down, apparently the attack coming from within. However, this very rarely or never occurs in the fleshy-leaved varieties, and in any case would be especially rare under natural conditions.

"It is evident that after the bacteria fall upon the leaf, sufficient moisture must be present, so they may move about and find their way into the cavities of the stomata. A natural dew or artificial sprinkling will furnish the needed moisture. And so it is that plants in a greenhouse, where the air is kept moisture-laden, will show most disease.

"In both natural and artificial infection, the earliest indication of the disease is the appearance of translucent dots, which are found by microscopic examination to be always underneath stomata. These dots are scattered over the leaf, and are round until they coalesce with adjoining dots, and thus form dots or areas of irregular outline. It may be inferred from this that natural infection is usually through the stomatal openings.

"It was early found that it is difficult to introduce the disease into mature leaves, but that it readily attacks young and partly-grown leaves. From what has been stated, it is not difficult to give an explanation of this apparent preference. The cellulose walls of the stomatal air-cavities are easily penetrated in young leaves, but in mature leaves they have become incrustated with lime-salts deposited from the evaporating water, and are also somewhat changed chemically, making them less susceptible to the action of enzyme, and consequently almost impervious to the bacteria.

"The question might be asked, why other species of bacteria do not gain entrance to the tissues in this manner also, for it is a fact that the surface of the Carnation-leaf, and practically of all foliage, is infested with numbers of bacteria, and often of yeasts. In fact, in studying the disease, one of the most troublesome intruders into the cultures was *Bacillus subtilis*, commonly called hay bacterium, which seemed to be a constant inhabitant of the leaf surface. Other species appeared less regularly. The first reason for immunity against these surface and other bacteria is doubtless the acid reaction of the plant juices, for we have seen that in artificial cultures, acidifying the medium hindered or prevented the growth of other forms. The bacteria which find their way into the stomatal chambers therefore develop no further, on account of the acid sap. The resistance of the living protoplasm is doubtless another strong factor, preventing most germs from making any advances, even after gaining an entrance to the interior of the cell. And it may be that the secretion of a proper enzyme is lacking, although on this point we have no evidence.

"When the disease has progressed sufficiently to kill the cells, saprophytic bacteria and even fungi, are not slow to take possession and complete the work of destruction. This accounts for the fact that the lower leaves of a diseased plant often rot or mold far worse than of a healthy plant under same conditions.

"Besides gaining entrance to the plant through natural openings, the germs of bacteriosis may enter through insect punctures. The only insects that require attention in this connection are plant-lice (aphides). The common green-fly, or aphid, of the greenhouse, may in some instances prove such an efficient bearer of the contagion that every leaf on a plant may be inoculated at hundreds of points, and the whole plant be turned a sickly yellow by the growth of the bacteria in the tissues. It is evident that only in a neglected greenhouse will the disease be seriously spread by this means, for only in such would the aphid be allowed to flourish."

On the subject of varieties that are most susceptible to disease, it is stated:—"No varieties of the Carnation are exempt from the disease, but they differ much in susceptibility. The seat of this difference is chiefly in the vigour of the plant. Weakly varieties like Buttercup, Sunrise, and La Parité, are most affected, while seedlings are least affected. Poorly-grown plants are more affected than those well grown. Partly starved or stunted plants are specially liable to attack. It must be remembered



FIG. 83.—ERYTHRONIUM JOHNSONI: FLOWERS ROSY-LILAC. (SEE P. 548.)

small pellucid dots may be detected scattered irregularly through the leaf, sometimes having a faint yellowish colour which are the centres of infection. The appearance of the dots has a close resemblance to those of the oil glands in the leaves of the common St. John's-wort (*Hypericum perforatum*), a rather abundant weed, or in the leaves of the false Indigo (*Amorpha fruticosa*), a native shrub, except that they have no regular disposition. Sometimes the surface of the leaf is slightly raised over the dots, making watery pimples.

"After a time the surface of the leaf above the dots changes enough to indicate their presence, and finally shows a distinct spot. As the disease extends inside the leaf, the surface tissues dry, the internal tissues collapse, and whitish sunken spots appear. In some coloured varieties of Carnation the spots vary somewhat by being more or less reddish or purplish. As the spots increase in size the leaves wither,

diseases that attack the plant find an entrance through the epidermis. On this subject, the *Bulletin* states:—"Our study of the disease gives no evidence that the germs are able to effect an entrance through the cuticle of the host, by means of an enzymic perforation. On the contrary, they are dependent upon either natural openings (stomata) or accidental punctures (insect stings) to get inside the plant.

"The stomata (breathing pores) are the usual points of attack. Germs of the disease, which have been deposited upon the surfaces of the host by wind or rain, find their way through the opening between the guard-cells into the air-chamber beneath. Here they attach themselves to the walls or the surrounding parenchyma cells, and, dissolving a passage, gain entrance to the living tissues of the leaf. In artificial infection, using a large number of vigorous germs, it was found that with thin-leaved Pinks, not only the cellulose walls of the inner tissues, but the



in this connection, however, that plants of any degree of vigour may be essentially free from the disease because the foliage is kept dry, so that the germs cannot pass from the surfaces into the stomata, and aphids are absent. Susceptibility can only be shown where the conditions for the spread of the disease are present. But, on the other hand, if the conditions are particularly favourable to the disease, any plant, however vigorous, may succumb."

Regarding distribution, we are informed, "it is safe to say that it is common throughout Eastern North America; and furthermore, the indications are, that no locality in this wide region, where any considerable number of Carnation plants are grown, is entirely free from it. One may say that a marked characteristic of the disease is its universality."

#### METHODS FOR CONTROLLING THE DISEASE.

The knowledge that has been gained by studying the cause and nature of bacteriosis makes clear a rational means of controlling it. As soon as the way in which the germs found entrance into the plant was discovered, a method of keeping them out presented itself.

As there must be moisture upon the leaves sufficient to enable the bacteria to move about and enter the stomata, in order that they may gain access to the interior of the leaf, it is evident that keeping the foliage dry will prevent the disease. Putting this inference to a practical test, it proved to be well-founded. In applying the preventive upon a commercial scale, difficulties are at once encountered, chief of which are the advent of the red-spider when foliage is kept dry, and the inconvenience of keeping the soil wet without wetting the foliage. But these difficulties can be adjusted.

The development of a rational method of treating the Carnation was hastened by the increasing interest among florists in other Carnation diseases, and especially in Carnation rust, which first attracted attention in this country in 1891. This and other fungous diseases are much promoted by the presence of surface moisture; and a sparing use of water on the foliage is advocated in order to keep them severally in check. In the discussion which followed the reading of a paper on Rust before the American Carnation Society at Buffalo in 1892, it was apparent that a majority of the growers present believed that, if anything were to be gained by it, there would be no great difficulty in so watering a Carnation-house that the foliage could be kept practically dry, and yet free from red-spider. Although there was much diversity of opinion regarding details, yet the essential features were (1) to sprinkle from overhead at long intervals, say, once a week in spring and fall, and less frequently in winter and only on bright warm days, when there would be rapid evaporation, thus giving sufficient moisture for the foliage, and (2) to wet the soil by sending a stream of water along the surface of the ground between the rows, thus watering the roots without wetting the leaves. At no time should the plants be watered overhead, or sprayed, at such a time that the foliage will remain wet overnight.

An improvement upon this method would be to do all watering between the rows beneath the foliage, and to spray the foliage as much as necessary may require with a weak fungicide, such as one of the copper compounds. Bordeaux Mixture may be used, or ammoniacal copper carbonate.\* The latter is to be preferred, as it does not stain the foliage.

Keeping the foliage dry is in direct line with the natural requirements of the plant. The Carnation shows by its structure that it is adapted to a dry atmosphere. The thick, smooth leaves, the firm epidermis, and the waxy bloom that whitens the

surface, are all devices for conserving moisture. A fairly moist soil and a dry atmosphere are, therefore, the ideal requirements for the Carnation, as indicated by the structure of the plant; and the experience of the observant florist corroborates the deduction.

#### SUMMARY.

1. Bacteriosis of Carnations is a widespread disease of the Carnation plant, only recently recognized.
2. It is seated in the leaves, but affects the whole growth of the plant, and checks the production of flowers.
3. The disease is caused by parasitic bacteria entering the plant from the air through the stomata, or occasionally by the punctures of aphides.
4. The germ associated with the disease may be separated and shown by artificial infection of healthy plants to be the cause of the disease.
5. The germ will grow well at any temperature not inimical to the life of the Carnation plant.
6. The disease does not usually affect other Pinks beside the Carnation, but may be artificially transferred to several species.
7. Plants outside the Pink family will not contract the disease, naturally or artificially.
8. Any varieties of Carnation may be affected, but old and weak, or poorly-grown varieties, are most susceptible.
9. Plants may be kept essentially free from the disease by keeping the foliage dry and preventing the presence of aphides.
10. Watering a Carnation-house is to be done by directing the stream of water between the rows beneath wire netting arranged to support the foliage.
11. Overhead spraying is only to be done occasionally on bright days, and with water containing a small amount of ammoniacal copper carbonate. *J. C. Arthur and H. L. Bolley, in "Bulletin 59," Purdue University Agricultural Station.*

## ORCHID NOTES AND GLEANINGS.

### LÆLIA PURPURATA.

MESSRS. SANDER sends us a double flower with three sepals and two rows of petals, the latter all more or less lip-like (peloriate). The column, as is usual in such cases, is straight, with a normal anther, and with one of the styles partly separate and projecting like a horn from the front of the column.

### ODONTOGLOSSUM EGREGIUM.

Mr. R. Brooman White writes that from some mischance, a plant of this species was awarded an Award of Merit under the name of *O. Andersonianum*, Ardaroeh variety, at the last meeting of the Royal Horticultural Society. It is desirable that the mistake be rectified, as Mr. White has a fine variety of *O. Andersonianum* which he calls Ardaroeh variety, while the true *O. egregium* was given a First-class Certificate in 1859.

### VARIOUS ORCHIDS.

From Mr. H. Bailey, The Briars, Reigate, comes a photograph of a plant of *Leptotes* bicolor bearing twenty-six flowers. It is a nice well-grown plant.

Dr. Billingham sends from Stedham Hall, Midhurst, a photograph of a plant of *Trichopilia suavis*, which made a grand show in his house this spring. There were six spikes bearing eighteen flowers in all, the leaves, thick and leathery, measured about 13 inches long, by 4 inches in width, and the blossoms were 3 inches long, with a beautiful fringed lip.

From Mr. Bond, The Gardens, Manor House, Bathford, came a photograph of a fine specimen of *Dendrobium thyrsiflorum*. These photographs were hardly suitable for reproduction; moreover, the plants have been already figured.

## RAISING SEEDLING FLORISTS' FLOWERS.

THE remarks at p. 524, on the raising of seedling Auriculas, seem to prompt a response from some practical florist. This being the time of the Auricula,

a few remarks on that spring favourite may be useful. Referring again to the editorial remarks at p. 524, if I understand them aright, it is possible that exception might be taken to the following:—"The gardener, "in his attempt to raise new and improved forms, has been working on the same lines as are operative under natural conditions." On the same lines truly, but the conditions are different. I stated in a few notes the other day that the laced Polyanthus, as it is termed, had not been improved in any way during the last thirty years, notwithstanding that able men had been trying hard at the art of cross-fertilisation in recent years. The late Mr. Samuel Barlow has been mentioned as one; but even the Midland florists did not admit that his seedlings were improvements on the old sorts, and their constitution was so bad, that they could not stand ordinary propagation. I have also watched the new laced Polyanthuses exhibited in the North of England for some twenty years; but no seedlings stand out prominently as rivals to varieties cultivated fifty years ago. Most likely the florists are working on the "lines as are operative under natural conditions." Nature does not remove the anthers from the seed-bearer before the pollen is scattered, and unless this is done, cross-fertilisation cannot be effected, for no florists' Polyanthus can be "pin-eyed;" that is, with the stigma protruding from the eye, and the anthers lower down in the tube of the flower. A pin-eyed flower may be cross-fertilised without removing the anthers; a "thrum-eyed" flower cannot; and unless the would-be producer of new Polyanthuses and new Auriculas will take pains to remove the anthers from the seed-bearer in time, so that the very best named varieties are really cross-fertilised, he cannot hope for success. I have several hundreds of seedlings from good laced varieties, but the seed was from flowers saved without the manipulation detailed above, and I do not find a good variety amongst them—a few as good as the parents, but none better.

I have worked on the Auricula for twenty-five years, and have had what may be considered good results, as I have raised some standard varieties in all the classes. I have frequently consulted the Rev. F. D. Horner, who may be considered the most successful raiser of seedling Auriculas of high-class quality. He, like myself and other raisers, has learned much by experience. When we first started, it was not thought worth while to cross-fertilise the selfs, as it was so easy to get selfs amongst seedlings of the green, grey, and white-edged varieties; but we found that selfs so produced were never up to the standard of excellence of the named selfs, and the only chance to get selfs up to the highest standard of excellence was to choose the best varieties in that class, and cross-fertilise them. The seedling-raiser chooses green-edged flowers to cross with the best in this class, and the same all through, white edge with white edge, grey with grey. Notwithstanding that the greatest care is taken, the results are most astonishing until one gets accustomed to them. Out of 1000 seedlings of the best crosses, I have had one variety only worth keeping as a florist's flower; some 50 per cent. of the seedlings were selfs, fancies, or some such erratic productions; as Mr. Horner aptly remarked to me, "that they were amusing in their absurdity." All the curious fancies seen at flower-shows have been produced from edged varieties, and the largest number I ever obtained in one year was from a cross in which John Simonite was the seed-bearer.

Some ten years ago (1886), when the first Auricula and Primula Conference was held, the late Mr. Shirley Hibberd stated in a paper read at the Conference, that the show Auricula (garden varieties of *Primula Auricula*) would not cross fertilise with the garden varieties of *P. pubescens*, alpine Auricula, he having tried the experiment. No one seemed prepared to traverse this assertion at the time, but since that, it has been found by actual experiment that they will cross, at least, with the edged show varieties as the seed-bearer. I flowered about fifty plants from a green-edged show Auricula crossed with pollen

\* The ammoniacal copper carbonate is prepared by adding enough water to 5 oz. of copper carbonate in a wooden pail to make a thick paste. Then add enough ammonia (about 3 pints) to fully dissolve the copper. This may be kept in a tightly-stoppered bottle as a stock solution, and a little added to the water at each sprinkling. It should be diluted about 100 times, that is, the formula will make about 50 gallons of an ordinary strength fungicide.

from one of my seedling alpiners, and a curious progeny is the result. There are three or four pretty garden varieties amongst them which the fanciers will speedily relegate to the "fancy" class. Their hybrid origin is easily traced by examining the centre, which in the show Auricula is pure white, densely coated with farina; but in the alpine, yellow or cream, and destitute of farina. In the seedling forms the centres are all yellowish and lightly coated with farina; some of them also show attempts to establish a green or grey margin, but one more like the margins of 200 years ago than those of the present day. I wish some raisers of seedling Polyanthus and Auriculas would give their experience; some interesting information would, I am sure, be forthcoming. *J. Douglas.*

## FLORISTS' FLOWERS.

### THE CARNATION.

THIS flower at the present time seems to be the most popular of florists' flowers, and the older cultivators are overwhelmed with questions from beginners anxious to succeed in the culture of the plants. It is difficult to impress upon this class of amateurs that the cultural details are simple, and such that one may easily learn if he have enthusiasm. During the last year or two I have been enabled to note the results of early and late potting and planting. I last year planted as late as November, and I have been filling a large bed at intervals during the present season, and I can say certainly that the latest planted look the best, which may be due to the fact of no check whatever being given them. They are well inured to the open air before planting, and carefully turned out of the pots. It is quite feasible if plants have careful attention during the winter and they are kept in frames, that they will be in better condition than when exposed during the winter. The great point is to avoid coddling the plants when in frames, and to afford protection only against heavy rain, snow, and severe frosts. Plants treated in this manner are in condition, fitting them to be placed out-of-doors at any time during the spring. Those plants which have been protected in frames since they were re-potted may now be placed out-of-doors on a hard bed of coal-ashes or similar material, putting a stick to each plant, in order to prevent injuring them by wind, which is apt to cause the plant to snap off close to the ground. The potting should be finished with all speed, and no plants should be purchased that are not established in small flower-pots. To lift layers from the open ground in the spring is to court failure, for such plants spindle rapidly for bloom, and the roots do not move freely enough to support the flower-buds, the result being weak stems, and a few flowers of poor quality.

Seedlings of Carnations will now claim attention. I sowed, in the last week in March, seeds of a large number of varieties, and the seed leaves of the plants are developed, and the plants ready to be pricked out into boxes or cold frames. Seedlings when pricked out should stand 3 inches apart. With good culture these will make strong plants fit for planting out in the month of July. In raising seedlings, few amateurs give a thought to the right time of the year for sowing the seed and planting out the seedlings. The best time to sow is towards the end of March or in April, which gives time for the plants to become well established before the growing season comes to an end; and strong enough to produce the wealth of bloom which astonishes those who have known the Carnation only as a plant propagated from layers or cuttings. Cuttings or slips of Tree Carnations should be put in to succeed those that were struck in February and March, but late cuttings do not produce plants that will flower before the spring; the earliest will flower in autumn and winter.

### THE PINK.

This relative of the Carnation deserves as much regard as the latter, and it ought to become a favourite, either forced or grown in the open borders.

During the months of April and May the varieties that bear forcing are delightful objects in the greenhouse, especially those with white flowers, of which I take Snowflake to be the best. Some long years ago a pretty little kind named Lady Blanche was a popular variety, but it degenerated rapidly, and is seldom met with in cultivation. Pink cuttings or slips should now be taken, and if they are rooted during the present month or early in May, strong plants will be obtained by the end of the season. Seedlings should be planted out in the open garden about the end of May in good soil in an open position; they will then grow rapidly, and develop into good specimens large enough to be potted into 6-inch pots in September. The plants soon fill the pots with fine fibrous roots, and are then ready for being forced at intervals during the winter and spring. Pinks dislike even more than the Rose a close stuffy atmosphere, or being placed far from the roof-glass. I have never had the advantage of specially-constructed forcing houses, but have been obliged to force my Pinks, Roses, Lilacs, and other things in early vivaries or Peach-houses, and have had to raise the plants on stages placed over hot-water pipes, near the fronts of the houses. The flower-stems of Pinks out-of-doors are now pushing up; and to make the beds, &c., neat and tidy they should be hoed and raked, and neat sticks placed to the plants. Slugs and the leather-coated grubs may want looking after when feeding at night.

### THE AURICULA.

I wrote of the Auricula at p. 371 of the present volume, that is, at a time when the trusses of bloom were becoming visible, and, owing to the previous mild weather, that early bloom was expected. But we were out in our calculations, for my best blooms were not open on the date of the Auricula show, and Mr. H. Turner informed me that the Alpine Auriculas at Slough were not in on April 21. Still the florists from various parts of the country were able to show fine collections, which, on April 21, formed in the aggregate one of the best exhibitions ever held by the Auricula Society. As soon as possible the plants should be put into a cold frame placed on the north side of a wall, a matter which should be especially attended to in the South of England. In the North, this does not so much matter; and Mr. Simonite, who lives at Sheffield, has a very fine collection, which it is not necessary to remove to a spot outside the Auricula-house, but that condition of things arises more from the smoky atmosphere than anything else. The lights should be removed from the frames as soon as it is possible to do so, replacing them if there is much rain. The re-potting of the plants should have attention as soon as convenient, using good yellow loam four parts, one part decayed manure, and one part leaf-mould. Before re-potting, remove all decayed matter from the roots, and brush off the woolly aphid which often clusters round the neck of the plants.

Seedling Auriculas should be pricked off and grown on as freely as possible in order to obtain good flowering plants within the year, the entire season being required by an Auricula to produce a flowering specimen. The plants, even in summer, ought not to receive too much water.

### THE POLYANTHUS.

The laced Polyanthus stands first as the type of the florist's section. I notice at p. 486, that "R. D." complains of this section being struck out of the schedule of the National Auricula Society, and adds that because no prizes are offered for them, "any encouragement to raise new varieties by means of seed is removed." Surely "R. D." must be aware that the Auricula and Primula Society would give awards to laced Polyanthus in the form of Certificates if they were new and good enough; but it is a fact that prizes have been offered by the society for twenty years, the result, as far as raising new varieties is concerned, being fruitless. But it is all a matter of money. If Polyanthus fanciers wish prizes to be given, they ought to provide the funds for that purpose. Something had to be done to meet a yearly

deficit, and as the laced Polyanthus seemed to be of poorer quality year by year, the committee decided to leave this section out.

It is of little use for "R. D." or anyone else, to enter protests, unless they back them up with subscriptions. The laced Polyanthus is really a northern flower, and is exhibited splendidly every year at the great spring flower-show held at Newcastle-upon-Tyne, and the old varieties which were in existence sixty years ago are still cultivated; prizes are offered for seedlings, and the growers produce new varieties year after year, but very few of them possess the requisite properties which entitle them to be placed with George the Fourth (Buck), Exile (Crownshaw), Cheshire Favourite, Lancar (Bullock), and other old sorts. Their names are not legion, for I do not think there are more than ten good varieties in existence. The fancy varieties are all very pretty, but they are easily grown, and are superior to the laced sorts for garden purposes.

It is now quite time the seed was sown for next season's crop. The seedling laced varieties never grow so strongly as the border kinds, and almost seem by their habit of growth as if they had been derived in the first place from a distinct parentage.

I have turned to Rea's *Flora*, published in 1876, and at p. 148, the variable scarlet or orange-coloured Cowslip is described in a way that would lead one to the conclusion that this is the parent of the laced Polyanthus. "It has," says Rea, "many small flowers on one stalk, which towards the bottom on the upper side in some are of a fine orange colour, and the leaves lifted about the edges with cinnamon colour, and something redder on the outside; some are of a fine scarlet colour, deeper or lighter in great variety." *J. Douglas.*

### FEEDING ASPARAGUS.

If the crop of this vegetable be deficient in quality or quantity, it is just as likely to be the result of over-feeding or untimely feeding as from insufficient food. I have seen excellent crops on land containing little manure, but what food was supplied was given at the right moment when the plant could absorb the nutriment. Heavy applications of manures in autumn are fatal to many plants, especially in heavy or wet land. As in the case of Asparagus, this is often accompanied by liberal dressings of salt, the plants have a great difficulty in living through the winter. Many roots actually decay from this cause, and the result is poor grass and weak plants. In the case of other vegetables, we do not apply food when the crop is cleared or the plant is at rest. It is impossible to obtain good results by such treatment; the plants being at rest cannot absorb the food to advantage. I am aware that to a certain extent the roots are active, but not sufficiently so as to require large quantities of food. The crowns, or portion of the stem which produces the heads, are formed during the previous season, and when these are forming is the time to apply food. If Asparagus is forced, the growth obtained is in comparison to the strength of the crowns and the condition of the roots, and no amount of food given during the forcing would increase its bulk or add to its quality. As to manuring, a few words will suffice to point out the value of summer dressings from May to September, and if plenty of food is given at that season there will be much better grass. The time named, however, is a busy season, and the Asparagus-beds after cutting are often left to look after themselves. In many gardens labour is none too plentiful, and the beds are left till late in the autumn. With a free top-growth, it may be asked, how can foods be best applied? Liquid-manure is one of the best manurial agents during the summer months. If the beds can be irrigated or flooded, say fortnightly, or even monthly, with liquid from stable-yards, it is invaluable, and there is no better season to apply salt than from May to the end of August. It gives the saline matter necessary to the plants, and it checks the growth of weeds, which thrive so freely in well-manured land. Salt applied in late autumn in my opinion does more harm than is

magned; it kills weak plants, keeps the ground cold and wet, and causes a late growth. Applied, say, once a month during the summer, it is beneficial, and I prefer to wash it down to the roots by copious supplies of moisture. Liquid manure from animals possesses much saline matter. Fish manure is one of the best summer fertilisers I have tried; and given at two or three dates at about three weeks' interval and plenty of moisture after, it gives much strength to the newly-forming crowns. The same remarks apply to dressings of guano given in showery weather at times during growth if given in small quantities. It may be asked, what time is manure to be applied to the surface of the beds? and I advise in the early part of the summer. It then serves a double purpose: it prevents the drying of the beds, and if water is given freely, it is soon washed down to the roots, but it should be thoroughly decayed. It is of great help in retaining the foods advised above; if the soil is shallow, heavy dressings are not necessary if the food above is given, and in all cases where practicable I advise growing the plants on the flat. *G. Wythes.*

## METHODS OF PROPAGATION.

(Continued from p. 432.)

In the spring there is much to be done in the garden among fruit-trees, and it is necessary that the operations of grafting be completed in good time—in fact, it is one of the chief elements of success. The Mahaleb stock for Cherries is seldom used except for dwarf or pyramidal trees grown in gardens or orchard-houses, and the usual method is to bud these stocks, as will be mentioned under its proper heading. When Mahaleb stocks are grafted, they are worked low down the same, as on the common stock.

### PEARS.

We will now take this, for which important fruit there are three kinds of stocks used, only two of which, however, are in general use—the Wild Pear and the Quince, the other being the Whitethorn (*Crataegus Oxyacantha*), which is used as a dwarfing stock for some varieties of strong growths; but it is seldom entirely satisfactory, as, sooner or later, the graft grows too vigorously for the stock, and is liable to push itself off, or be detached by the wind. It is better to adopt Mr. Rivers' plan, and double-graft such kinds, which method I will touch upon presently.

It frequently happens, however, in gardens that there are Pear trees of little or no use, either because the soil does not suit them, or they are not of desirable varieties. If the tree be grown as an espalier, or is trained on a wall, each tier of branches may be utilised to carry a different variety, the method of grafting being the same for all.

With a fine-toothed pruning saw, cut through the branch at right angles to its axis, and finish off smoothly with a knife, then proceed to cleft-graft. To do this, a piece of the wood should be removed by two diagonal cuts, forming an acute triangular incision, being careful to cut the bark cleanly, and not to bruise it, this cleft being for an ordinary branch,  $\frac{1}{2}$  inch deep at its base, diminishing to a point at the opposite acute angle. Now take your scion, and with two clean cuts shape its base so as to fit accurately the cleft in the branch, taking every care that the edge of the barks of the stock and scion accurately coincide, for reasons before stated; bind tightly with Raffia or other tying material, and finally put clay or grafting-wax over the tie.

Having frequently recommended the use of this wax, it may be useful if I give a simple receipt for making it. Take common resin, often improperly called "rosin," and to each pound, add 2 oz. of the best Russian tallow, melt these substances in an earthen pipkin, or old iron saucepan, over a slow fire, keeping them well stirred. When the mixture has boiled up, pour it out on a flat stone or slate, and when cool enough to handle, divide it into four portions, which for convenient use may be rolled by the hands into balls, and it is ready for use at any time, merely

requiring to be rendered soft by warmth, so that it can be applied to the tied graft with a stick and finished off by the fingers, which may be protected by dipping them into water. The lumps of wax should be moulded to a point, as directed for the clay or "pug." When it is necessary to remove the wax, a few sharp taps with the butt of the pruning-knife will cause it to fall away, and the tie beneath can then be loosened or removed.

Standard and pyramidal trees can be re-grafted in the same manner, but it is not advisable to put many varieties on these, but to confine the selection to one or two that are of good quality and free bearers. Young trees can be raised in private gardens by planting out a few Pear or Quince stocks, and grafting or budding these when of a sufficiently large size, but the gardener or amateur must avoid multiplying local sorts to any great extent, it being far better to get scions of well-known and tested varieties suitable to the climate and soil of the district from a nurseryman. Those of my readers who took an active part in the Pear Conference know well what an Herculean task it was to weed out useless local varieties, and there is little doubt that we still possess too many varieties.

As a lecturer on fruit culture, I have often had this experience: when I had finished the lecture, and had got through the cross-examination by some of the audience, I would be button-holed by some patriarch of the village, "Please, sir, what could you be thinking of not to give (naming some local Apples or Pears) a place of honour in your list of best sorts for us to cultivate?" No arguments were of the least use in convincing my friend that the varieties I had scheduled were all improvements on those which he named. Alas! we are all too apt to regard our own particular geese as being swans; and gardeners are, as a rule, very conservative.

All kinds of Pears succeed on the Pear stock, and the graft or bud should be put low down on the stock, to form either pyramids, espaliers, or standards. But there are some few varieties which do not succeed on the Quince stock, and these must be double grafted; that is, the first graft should be of a variety which unites well with the Quince, and this should be budded or grafted when large enough with the desired variety. These are the varieties of Pears which do not thrive on the Quince stock when grafted or budded direct upon it, viz., Clapp's Favourite, Duchesse de Bordeaux, Jargonelle, Marie Louise, Marie Benoist, Passe Crassane, Thomson's, Souvenir du Congrès, and Triomphe de Vienne. For these, put a free, clean-growing variety on to the Quince, as Beurré Hardy or Williams' Bou Chrétien. The following summer, most of these first grafts will be ready for budding, or grafts may be put on the next year in March. This kind of treatment ensures the formation of handsome and fertile pyramids, bushes, and espalier trees; and also may be adapted for either single and double cordons, on which fine fruit fit for exhibition may be produced. *Experience.*

(To be continued.)

## NOTES FROM THE ROYAL BOTANIC, MANCHESTER.

In the sunken grassy parterre adjoining the Exhibition-house the display of Tulips is very grand, and it is rendered the more effective by the scroll designs in which they are planted. The colouring is brilliant in the extreme, and on a day such as the show-day of the National Aricula Society, so bright, sunny, and beautiful, the floral emblazonry set in the beautiful emerald turf was eye-pleasing in the highest degree. Crimson was represented in solid mass by Crimson King, yellow by Chrysolora, a soft but decided lemon; La Reine is good pinkish-white; L'Inmaculata, Pottbakker, Gloria Solis, and Tournesol were admirable; Tournesol particularly, with its orange and scarlet double flowers, are far more telling out-of-doors in point of colour and size of flowers than when grown indoors. The example of a mixed assortment told well because of its lesser formality, the white, the purple, the crimson, the yellow, and the

piebald colours going well together, separated in a circular design by kinds of the variegated Phalaris, a dwarf "Lady-grass," which is kept knifed under for better variegation, and that, too, to some purpose. The dwarf tufty *Armeria Lauchea* is one of the best of our maritime *Armerias* for forming, as it is doing in one or more of the beds here, a sort of tufted fringe round the more brilliant-flowered Tulips.

### THE SHOW-HOUSE IN THE MANCHESTER BOTANIC GARDENS.

The span-roofed show-house, designed by Mr. Bruce Findlay, detached from the general range, and kept for a show of bloom at all seasons, is now remarkably gay with *Rhododendrons*, *Azaleas*, and miscellaneous plants. The perfume from the Edgeworthi section and other *Sikkim Rhododendrons*, is pronounced and pleasing. *R. Dalhousieanum* is in fine flower, as are also many others. The collection here of *Azalea amœna* is a large one, and the fine empurpled blossoms crowded together have a grand and imposing effect. The beautiful white, sweet-scented *Rudgea macrophylla* is full of its porcupine-quill-like flowers, is a noble plant for stove conservatories—indispensable, too, in every botanic garden.

### THE BEST-FLAVOURED APPLES AND PEARS.

In common with others, I was much interested in the communication from the Secretary of the Royal Horticultural Society, in your issue of the 11th ult., with reference to the Council's decision to take advantage of Messrs. J. Veitch & Sons' offer to give prizes for the best-flavoured Apples and Pears at each of the Society's meetings during the year ending with this last meeting in June, 1897, the first exhibition taking place at the first meeting in July, 1896. Various attempts have been made in many of the gardening journals to arrive at some decision on this subject, with varying success, but as far as I know no tangible or authoritative record to which intending planters may refer with confidence has been established. The subject opened up by the offer of these prizes is more important, and with possibilities of far more reaching effects, than appears at first sight. On the commercial aspect of the growth of these two fruits (especially the Apple) an authoritative pronouncement, such as we may hope this will be, will render it quite inexcusable for any planter in the future to plant other than the best varieties in their season, as decided by this public special test, in which every characteristic point in relation to each variety will come clearly out by following the mode of judging by points as specified. The only important point not clearly enough brought out in my opinion being, the robust or otherwise nature of the growth of the varieties, and their free-cropping qualities, as obviously it would be unwise to plant many trees of any variety, however superior its quality may be, if it is proved to be a poor grower and shy fruiter; but these points, no doubt, as well as many other important ones, will be fully noted when the results are published in the *Journal* of the Society. The results of these experiments will be equally useful to the amateur and the professional gardener, "for then he who runs may read," and learn the best varieties to plant for use during the various seasons of the year. This, I am afraid, is more than the majority of us know now, with the bewildering number of names we have, and with scarcely any two authorities recommending the same.

The exhibition of Apples from Christmas until June will be specially important and useful, and ought to be closely followed and watched by those whose duty it is to supply the market or private tables with this fruit at this season of the year, when good-flavoured English Apples are scarce, and also very expensive.

Up to Christmas we are not wanting in splendid varieties of both Apples and Pears, and of the latter I fear we may not hope to be able to grow many worth eating after that date; but of Apples it is dis-

tinctly within our power to have them, and that of the highest flavour almost until the end of May and even later (Cockle's Pippin is now delicious with me). Indeed, under the most favourable and best conditions of picking, handling, and harvesting the fruit, I am firmly of opinion that we may span the year round with dessert Apples of the highest quality, grown within the confines of our own country. If the successful exhibitors at these meetings could be induced to impart information on the conditions of housing the fruit, as well as the time of picking, much useful

The usual way of dealing with a subject like this is to appoint a sub-committee selected from the Fruit Committee sitting at the time, and no doubt the fruit committee is large enough and strong enough in special knowledge and talent to deal with any subject that may come before it, and strong enough also to allow of a sub-committee being drafted without weakening it in any material degree. The objection that presents itself to me against the adoption of this method, is the danger of mixing up the judges too much, a different set, as it were, acting at

the subject, would be invaluable, and would stand out for years to come as a standard authority for the guidance of future grateful planters. *R. G.*

### DENDROBIUM × WIGANLÆ.

THIS pretty cross-bred Dendrobe (fig. 84), whose parents are *D. signatum* ♂ and *D. nobile* ♀, was exhibited by Mr. White, gardener to Sir Trevor Lawrence, Bart., at the last meeting of the Royal Horticultural Society, and previously by Sir F.



FIG. 84.—DENDROBIUM × WIGANLÆ.

information would be elicited. In my opinion, late Apples are more often than not gathered far too soon, and housed in structures too airy and dry. If sketches of the winning varieties (1st prizes only) could be published in the *Journal*, with the descriptive matter, a completeness and much added value would be given to the subject.

I should like to say a word on the subject of judging these classes. It is not known, of course, what system the Council will adopt, but as we may hope that growers from most counties will exhibit at one season or another, not so much with a view of taking a prize, but to show which varieties succeed best for dessert in the various counties in which the exhibitors live. Therefore, it is not unlikely that the exhibits on some occasions may be numerous, and the work of the judges most arduous.

each exhibition, thereby preventing that continuity of knowledge, as regards the points of excellence in the samples exhibited at the various meetings, and which I think is so necessary to retain in order to come to a right decision. I would suggest rather that a number of gentlemen willing to serve should be selected (for their special knowledge of the subject) to deal with the classes at each meeting, and at the end of the year these judges should be asked to give a report of their labours, with notes added to the 1st and 2nd prize samples, clearly defining their several points of excellence over other varieties exhibited, with other information which the judges, from impressions formed of the facts ascertained in the course of the exhibition, would be able to give. A report of this nature on a subject of so much importance, and furnished by gentlemen having special knowledge on

Wigan's gardener, who failed to secure an award owing to the plant being immature.

The flowers vary in colour from creamy-white to white tinged with pink; the lip is dark purple, with a yellow basal area. It is a flower of pleasing colour, that is likely in time to become a favourite with lovers of Orchids. Sir Trevor Lawrence's plant was the recipient of an Award of Merit.

### FORESTRY.

#### SOME DISEASES OF CONIFERS.

A REPORT on two parasitic diseases of trees which have recently appeared in Germany, was concluded in the March number of the *Zeitschrift für Forst und*



*Jagdweiser* for this year. This report, the first part of which was published in February, 1894, has been furnished by *Forst-assessor* Bohm, of Eberswalde, and deals with a parasite on *Thuja gigantea* and *Pseudo-Tsuga Douglasi* respectively.

The first of these diseases, *Pestalozzia funerea* on the *Thuja*, appears to have done considerable damage to experimental clumps of that tree in the North German forests. The spores of the fungus usually germinate at the base of a shoot or small branch, which turns brown and dies early in the summer, through the mycelium killing the bark and cambium layer. In cases where the bark of the parent stem is involved, this also perishes where the mycelium runs entirely round it, but on large branches the diseased portion forms a blister similar to that caused by the *Peziza* of the Larch. In the latter case, a cork layer is formed between the diseased and healthy portions, which sometimes effectually and permanently isolates the diseased part, and which eventually becomes covered by new growth. A characteristic feature of the disease is the continued growth of the shoot above the place of infection, which occurs when the branch is sufficiently thick to carry a proper supply of sap through the wood. The base of the living portion becomes swollen and thickened, owing to it appropriating the whole of the organised matter from the leaves, which, under ordinary conditions would be distributed through the tree. From the infected spots small pustules subsequently break through the rind, from which spore-masses grow out as long black threads many millimetres in length.

The disease on the Douglas Fir has been identified as the *Phoma abietina* of Hartig, whose ordinary host is the Silver Fir. As with the *Pestalozzia*, the first external evidence of this disease is afforded by the death of the young shoots, and by the bark of the stem turning brown in patches in June and July. The infection does not appear to take place through a wound, but usually at the base of a branch where the bark is wrinkled and fissured, and where the germinating spores find no great difficulty in pushing through the bark. Out of one small plantation closely examined, about thirteen per cent. of the trees had lost their leading shoots, while thousands of blisters were present on the bark. A curious point in connection with the disease is, that it appears confined to particular years, although this may not be confirmed by subsequent experience. Plantations badly affected in 1893 were almost free from the disease in the following year, and blisters on the stems were rapidly being covered by new wood. Herr Bohm considers that the exceptional heat and drought of 1893 may have occasioned an abnormal fruiting of the fungus, as a result of which the spores may have failed to find suitable conditions for germinating. Young plantations were the most affected, owing to the relatively greater loss of shoots and leaders, and it was observed that the strongest and most healthy trees were as often attacked as their weaker neighbours.

It is impossible to predict at present what effect the spread of these fungi may have upon the growth of their hosts. Probably the general effect over a large area may be very slight, and serious injury to the trees an exceptional occurrence at the worst. But the fact that these American introductions are liable to attack by the same parasites as those preying upon European trees, deserves special attention from intending planters of the former. *A. C. Forbes.*

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

**CATTLEYS.**—The best varieties of *Cattleya* *Eldorado*, and especially the variety *Wallisii*, which has pure white flowers with orange-yellow throat, and which is a very distinct form, with an agreeable perfume, as have most of them, are very desirable plants. These *Cattleyas* are forming new breaks, and they should be placed so as to hasten growth in the warmest division, and afforded a moderate amount of sunshine and a large amount of ventilation. Although the plants may be growing freely, much care will be

required in affording water, any excess of it at the root quickly causing the growths to decay. Water may be more freely applied when the flower-sheaths are seen to be pushing up with the young leaves, but the quantity should be gradually lessened as the blooms fade. The proper time to re-pot these plants is when growth is fully completed. Few *Cattleyas* are more appreciated at this season than the distinct looking *C. Lawrenceana*, and when a large specimen, as seen at Burford, with between seventy and eighty blooms open at one time, it is not easy to realise anything more brilliant, especially when seen with the diffused sunlight which comes through blinds of laths. After the flowers fade, the plants should be placed in the least warm part of the house, and be kept comparatively dry at the root, otherwise they may recommence to grow instead of taking a rest, which should be a long one. In resting the plant, the pseudo-bulbs should be allowed very steadily to shrivel. As soon as the new roots are observed to push out from the current season's growth, and the old ones to send out new rootlets, then is the time to re-pot the plants or afford them some fresh rooting-material. The plants of the lovely *C. Schroderae* will now be passing out of bloom in most garden collections, and should be similarly treated to *C. Lawrenceana*, until growth recommences. Plants of *C. Mossiae*, *C. Mendeli*, *C. Schilleriana*, *C. Skinneri*, *C. Walkeriana*, *Lælia purpurata*, *L. tenebrosa*, and the various *Cattleya* and *Lælia-Cattleya* crosses whose flower-spikes are pushing upward in the sheaths, will require rather more water at the root till the flowers expand, when until growth recommences a smaller quantity will suffice for the needs of the plants. The dwarf-growing *Lælia pumila* and its varieties, *L. Dayana* and *L. prestans*, will require less water at the root now that they are at rest, and towards the end of May they should be removed and suspended in a light position in the cool-house. *Cattleya Bowringiana* is a plant which should not be unduly excited into growth by heat and moisture, but kept comparatively cool, when, as a rule, its breaks will come away vigorously; and very little water is needed to maintain the pseudo-bulbs plump and fresh. As this species produces the greatest number of roots during the autumn, re-potting is best performed at that season. *C. citrina* having completed its growth is sending forth its handsome fragrant blooms; and it should be kept in a cool dry house, and afforded a limited quantity of water. Under this kind of treatment the flowers last a very long time.

**THE MEXICAN-HOUSE.**—Plants of *Vanda teres* which are showing for flower should be exposed to direct sunlight, and syringed overhead several times a day in warm weather. *V. Hookeriana*, in its full growth, as it will be mostly, will require a similar kind of treatment, and the south side of a hot moist stove is the most suitable place for the plant.

**THE INTERMEDIATE-HOUSE.**—*Brasso-Cattleya* (*Lælia*) *Lindleyana* grows freely when suspended close to the roof-glass in this house; and if it be found necessary it may now be supplied with fresh material. The plant succeeds when planted in pots well filled with peat and sphagnum and plenty of drainage. When making its growth, place it in a light position and afford copious waterings at long intervals of time. Plants of *Phaius Humblotii* that are now sending up their flower-spikes should be well-shaded, and freely supplied with water till the flowers have expanded. *Cypripedium superbies* (*Veitchii*), is a plant one often sees in a languishing condition, but it is now becoming better known, and it is found that hitherto it has been grown too hot. The coolest position available in the *Cattleya*-house is an excellent place for it. It may be noted here that the species will at no time stand the least amount of direct sunshine, even strong light sometimes causing stunting, and yellowing of the leaves. The same remarks apply to the now rare *C. Schlumieri*. In addition to the ordinary roof-shading, it is advisable to lay a piece of tissue-paper over these plants during bright sunshine. They require a thorough watering every two or three days, as on no account should the materials get in the least degree dry.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**GENERAL WORK.**—The chief work in this department should now consist in protecting the trees from frost when necessary, disbudging all superfluous shoots on established trees of Apricots, Peaches, and Nectarines, stopping all young shoots required for forming fruit-spurs on the Apricot-trees, and nailing or tying-in all growths required for extension or fruiting. Great care is necessary when nailing or

tying-in these tender shoots, in order not to bruise them, and all the ligatures used should be of sufficient length to allow of the proper swelling of the wood. The small shoots from the *Syringa*, or the *Snowberry-tree* (*Symphoricarpos racemosus*), if cut into lengths of 6 or 8 inches, placed over the young shoots, and the ends inserted beneath the older wood, provide a very simple and effective means of securing the young growths in their places, without any fear of injuring them.

**CHERRIES.**—The *Bigarreau* and *Duke* varieties which are growing against south and west walls have been one mass of bloom here, and have set enormous crops of fruit. These trees sometimes cast a large quantity of their fruits before the stoning process commences, which is generally attributed to the strain endured by the trees in perfecting such a large quantity of bloom or to insufficient moisture in the borders. Carefully examine all borders, therefore, and if water is required, afford them a good soaking, which will undoubtedly assist the trees in holding and maturing their fruits. Cherries require but little dis-budding; merely the removal of those shoots that spring from the under-side of the branches, and thinning those growing in clusters, which, if allowed to remain, cause overcrowding. Train-in sufficient growths to furnish blank spaces, and to replace any worn-out branches. Let all other shoots be stopped at the third leaf, or if the two small leaves at the base are counted, then at the fifth leaf. Cherries are very subject to attacks from the black-fly, *Aphis cerasi*, and on its first appearance means should be taken for its destruction by well spraying the trees in the evening with some reliable insecticide. One pound of strong tobacco soaked in 3 gals. of boiling-water is a sure remedy. Spray the trees with this solution when it has sufficiently cooled, and well syringe them a few hours later with clear soft water.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Drogheda, Maidenhead.*

**RUNNER BEANS.**—A deep soil that has been previously trenched and well enriched with rotten stable-manure should be selected for this crop. The first portion of seed should be sown now, and another sowing made in six weeks' time, or two more made at intervals of one month from the first sowing. Runner Beans are generally sown in double drills about 3 inches apart, and these 3 feet asunder. A rather more economical method is practised here. When the ground has been trodden over to break down any lumpy pieces, and the surface made moderately fine, a line is laid down across the middle of the piece, and centres of 4 feet in diameter marked out along the line by inserting a stick at every 6 feet after the first, which should be 3 feet from the end. This allows circles to be drawn out with a diameter of 4 feet from each centre, and gives a clear space of 2 feet between each. Into these circles the seed Beans are dibbled 6 inches apart and about 2 inches deep, a few being also put in the middle of one of the circles as a reserve for replacing any failures that may occur. Rods 10 feet or more in length are used for supports, but before these are placed to the Beans, and when these are about 6 inches high, a wheel-barrowful of rotted manure is spread over the ground in each circle. When the rods have been inserted firmly in the ground, they are drawn slightly together about half-way up with a band of tarred string, the string being wound once around each rod to hold them firmly in position. In this way a greater number of pods are produced, and better exposed to light and air, than is possible on two double rows of Beans; and they occupy less space. Should the weather prove hot and dry, a good mulch should be given outside the circles, upon which water may afterwards be poured copiously. If stakes cannot be had, these Beans may be sown in single lines 3 feet apart, and have the points removed when about 1 foot in height. If they are afterwards pinched occasionally, good crops may be grown in this way, but the pods will be less in size and not of so good quality as those grown upon stakes.

**FRENCH BEANS.**—A good batch of *No Plus Ultra* dwarf French Beans may now be sown in the open. The climbing French Bean is a useful acquisition; it produces pods of the type of the dwarf Bean, but requires sticks about 6 feet in height. The rows should be 4 feet or more apart.

**BROAD BEANS.**—If a supply of these be desired throughout the summer, another sowing should now be made. The improved form of the *Green Windsor* is one of the best for summer use; although not so prolific as the *Long-pods*, it withstands heat and

drought fairly well, and the beans are good in colour and flavour.

**TOMATOS.**—Those intended for planting outside should now be ready for putting into 5-inch pots. When this has been done, return them to a light position in an intermediate-house until established, and from thence transfer them to frames or pits to harden off, planting them out at the end of the month or early in June, according to the locality and the state of the weather.

**BEETROOT.**—The seeds for producing the main crop of Beet may now be sown without much danger of coarseness arising from over-luxuriant growth. The land need not be rich, but it should be well worked, and if not already prepared, a piece from which a crop of green-stuff has been cleared may be utilised. Dig the ground, and then afford a good surface-dressing of salt and soot before treading and raking takes place, but put in no manure. Make the surface firm, and sow the seeds thinly in drills about an inch in depth, and 12 inches apart. The varieties of garden Beet are numerous: Dell's Crimson is one of the oldest, and is a good variety, of medium-size; Sutton's Blood-Red, Pragnell's Exhibition, Carter's Perfection, and Cheltenham Green-Top are all good main-crop Beets.

**MUSHROOMS.**—Beds in bearing should be covered with dry litter, which after rain should be shaken out to dry, the beds being left uncovered for a few hours. The last bed or beds out-of-doors should now be made up, and the position should be where there is shade from the sun by trees, or on the north side of a wall or building. If the manure has been properly prepared, the beds may be made up, trodden firmly, then spawned, and eased over with some fine unctuous loam 2 or 3 inches in depth.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Durlington.*

**COCKSCOMBS AND CELOSIAS.**—It is best to confine these plants to thumb-pots until they show their combs, which, if the seeds were sown in March, should now be seen. Select only those which show the most perfect combs, and shift these into larger pots. For the purpose of keeping the plants dwarf, remove some of the lower leaves, and set them low in the pots. For the potting-compost use dried cow-manure rubbed through a  $\frac{1}{2}$ -inch sieve, leaf-soil, and loam in equal parts. The last two should not be too finely broken up. Plunge the pots to the rim in a gentle hot-bed. Admit air on all favourable occasions to prevent the plants becoming leggy.

**INDIAN AZALEAS** which have ceased to flower, and are showing signs of fresh growth, should now be repotted or top-dressed as each plant may require. Previous to repotting, remove all stakes from the plants, except in the case of specimens, the centre stake of which may remain for the purpose of steadying the plants. Two parts peat, one part each of loam and coarse silver-sand, is a compost well suited to Azaleas. A move to one size larger pots is quite sufficient in the case of small plants, but pots two sizes larger may be given to specimen plants. Firm potting is very essential. Cleanse any of the plants infested with thrips or spider by using one of the many insecticides sold for this purpose. Give the plants a good watering after potting, and place them in a night temperature of 65°, rising to 75° by day, where they should remain until the growth is completed. Syringe the plants well overhead night and morning.

**GLEICHENIAS.**—It is not yet too late to divide these plants, if an increase of stock is desired. Large specimens for show purposes now growing freely require to be syringed several times daily, so as to keep them constantly moist. If the specimens have not been attended to in the matter of staking and regulating their growth, this should be done at once. In doing it, be careful that all decayed points of stakes are removed, as decaying wood is apt to develop fungus. The object ought to be so to distribute the fronds that the stakes may not be seen, and as few stakes as possible should be used.

**ADIANTUM CUNEATUM** is universally grown for use in pots, and for cutting purposes it should be grown in batches for furnishing fronds during the year round. If strong seedlings were potted into thumbs last season, they should now be ready to re-pot, and if grown on through the summer they will be fresh for autumn and winter use. Do not use pots of too large a size, it being much better to give

several small shifts in the season. Keep the plants on shelves near the glass, and give shade only during the hottest part of the day. They require an abundance of moisture, and with this intent the paths and stages should be damped frequently; but do not syringe the Ferns overhead. The best results are obtained from rich loam and good leaf-soil, to which should be added a sprinkling of river or silver-sand.

**THE STOVE.**—The season has so far been most favourable, there having been an unusual amount of sun-bine. Continue to use caution in the matter of ventilation, particularly where the cold air is not forced to pass over the hot-water pipes. Pot-on spring-struck plants until they are in the size of pot best suited for the various purposes for which they are wanted. Seeds of Palms should be sown as soon as they can be procured, which is generally during April and May. Seeds of some of the varieties of Bamboos can also be had; and if they are sown now, and the plants grown on through the season, they will make useful furnishing plants next season. If a stock of Bamboos is already possessed, the plants may be increased by division. These plants are now growing freely, therefore keep them and the beds well damped, and syringe overhead daily. Large specimens may require frequent waterings with liquid from the farm-yard; soot-water also suits them well. Palms require to be densely shaded at this period of their growth, and the foliage will assume a much deeper shade of green if this be done.

### THE FLOWER GARDEN.

By HEMLEY WARREN, *Gardener, Aston Clinton, Tring.*

**GENERAL WORK.**—Grass-berges to beds and walks will now need to be clipped more frequently, once a fortnight at least, or they will present an untidy appearance. Paths that have not been gravelled, or the materials of which they consist turned, may be given this attention if the weather be showery, after which they should be raked smooth and even, and well rolled. All vacant beds in the flower-garden should be prepared for the reception of the summer bedding-plants, and in doing this, avoid making the soil very rich by the addition of rank manure, but use only that which is thoroughly decomposed, such as that furnished by a spent Mushroom-bed. Any plants that will withstand a degree or two of frost may now be removed from the frames, and thus make room for less hardy subjects. Sweet Peas should be staked, and another sowing of Mignonette made in an open border. Stocks, Asters, and Zinnias may still be sown in a gentle heat; such will afford a late bloom. As soon as the seedlings appear remove them to cooler quarters, or, if sown on a hot-bed, remove the lights on all favourable occasions, so that the plants may not become weakly. Prick them off into prepared beds or boxes when large enough.

**SUMMER BEDDING** will now demand a good deal of attention in the way of arrangement. Many hardy plants are now used, even in the summer display, and greatly extend the season of bloom, being unaffected by early frosts.

**CONIFERS**, such as *Cupressus erecta viridis* and *Retinosporas* in variety; *Phormium tenax variegatum*, hardy Palms, Grasses, &c., may all be used with advantage in suitable positions. *Sedums glaucum*, *elegans*, *acre*, and *densum*, *Saxifrages* in variety, *Cerastium tomentosum*, *Herniaria glabra*, *Echeverias*, *Senpervivums*, *Gold* and *Silver-leaved Thymes*, *Yuccas*, &c., may also be used for filling small beds or as edgings. *Dracena australis* is a capital subject in the flower-garden or pleasure-grounds, used as a specimen plant, or in sheltered positions on the lawn in groups. In many places the plant is hardy, but in less favoured localities some protection during the winter months is requisite.

**SUMMER-FLOWERING CHRYSANTHEMUMS** may now be planted out in a sheltered border. Manure the ground well, and deeply dig it before planting. Should the soil be at all dry, afford the plants a good watering after planting.

**SUB-TROPICAL PLANTS.**—Such as *Giant Hemp*, *Solanums*, *Ricinus*, and others, may yet be potted and grown on in frames or pits, it being yet unsafe to plant these outside for a week or two.

**HERBACEOUS BORDERS** are now assuming a gay appearance, and most of the plants are making rapid growth. Afford support to plants that require staking, keep down weeds, and stir the surface of the borders with a hoe.

**BORDER CARNATIONS AND PINKS** will, perhaps, need some protection against birds. Small birds fre-

quently destroy the points and leading growths of these plants, and sometimes serious destruction is wrought by pheasants and rabbits. Well dust the plants with tobacco-powder, or spray them with a strong solution of Quassia-chips, as protection from birds, but rabbits must be kept away altogether.

**ROSES ON WALLS**, or in sheltered positions, are now swelling their buds rapidly, and even expanding their blooms. If the plants are infested with green-fly, syringe them well with a solution of tobacco-water, and a few hours afterwards cleanse the leaves with clear water. All the leading growths should be carefully secured, but not tied so close as to give a stiff appearance.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highgate Castle, Newbury.*

**THE PINERY.**—Careful attention should be given to firing and ventilating at this season, owing to the occurrence of cold nights often followed by bright sunny days. In the day-time the heated hot-water-pipes and the large amount of ventilation afforded, produce very trying conditions for young growing stock. The heat in the pipes under these circumstances requires to be kept well in hand, and as low as possible, and the paths, &c., frequently sprinkled to counteract the consequent aridity. Ventilation may begin early in the day, increasing the amount as may be required, and as gradually reducing it in the afternoon. To allow the heat to run up high before air is put on, and then to air freely all at once, is very injurious to the plants.

**SUCCESSION PLANTS.**—These, if they were re-potted early in the season, will now be growing freely. When closing the pits in the afternoon, a very high temperature should be avoided, or weakly instead of robust growth will be made. By employing as little fire-heat as practicable, and husbanding the heat of the sun, maintaining a moderate amount of moisture by occasional sprinkling of paths, a night temperature of from 65° to 70°, and allowing sufficient moisture at the root to prevent premature fruiting, satisfactory growth will be made. A light syringing occasionally at closing time will be advantageous, but the syringing should not be so heavy as to cause water to lodge at the base of the leaves. Some of the earliest plants of the Queen variety will now be swelling towards maturity, and when required at an early date these may be pushed on with a higher day temperature, affording plenty of aerial moisture, especially in the daytime, and when closing the pit, at which time the heat may reach 90° on bright days. As soon as the fruit begins to colour, the aerial and root-moisture must be lessened, and air in greater quantity given. Should there be fruits which are much earlier than others, remove them to a drier and more airy house, so that the proper conditions for perfecting the later ones may be carried out. Plants, on first showing fruit, should have the soil thoroughly moistened with weak guano-water, and liberal supplies of the same should be afforded as needed whilst the fruit is swelling, but when it begins to ripen, clear water, and that in lessened quantity, will suffice. With modern houses and large panes of glass, a slight shade for an hour or so at mid-day is beneficial to the plants in very bright weather, but much shade is injurious.

**LATE VINERIES.**—The Vines may now be pushed on by the aid of sun-heat as fast as possible, and as soon as the fruit is set, no time should be lost in getting it thinned. Such varieties as Alicante are difficult to thin, if thinning be not done early. Care must be taken to fertilise shy-setting varieties, of which Alnwick Seedling and Mrs. Pince are examples. This is best done with pollen from free-setting varieties. If red-spider is apt to infest the Vines, it is better to syringe the foliage occasionally, rather than allow it to gain a footing, but only clear, soft-water should be used. Over-dryness and starvation at the roots are fruitful causes of red-spider on Vines, especially on light soils and in dry localities; therefore, liberal root-waterings should be frequently afforded, as well as mulchings of half decayed manure, as a preventative of excessive evaporation of moisture, which will also tend to keep the roots near the surface.

"THE BOSTON FLOWER MARKET AND NEW ENGLAND FLORIST."—This is the title of a new horticultural journal, whose object may be gleaned from its title. It is specially intended to cater to the interests of the commercial florists in New England.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any writers which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE MONTH.

SATURDAY,	MAY 2	Dresden Internat. Hort. Ex. (six days). I. of Wight Hort. Assoc. Soc. Franc. d'Hort. Meet.
SUNDAY,	MAY 3	Royal Hort. and Agr. of Ghent Sh.
TUESDAY,	MAY 5	Royal Hort. Soc. Com. at Drill Hall.
THURSDAY,	MAY 7	Linnean Soc. Meet.
FRIDAY,	MAY 8	Roy. Bot. Soc. Lecture.
SATURDAY,	MAY 9	Roy. Bot. Soc. Meet.
SUNDAY,	MAY 10	Brussels Orchidœenne Meet.
WEDNESDAY,	MAY 13	Roy. Bot. Soc. Summer Show, at Regent's Park.
FRIDAY,	MAY 15	Roy. Bot. Soc. Lecture.
TUESDAY,	MAY 19	Temple Show of the Roy. Hort. Soc. (three days). Devon Agr. Soc. Sh. at Plymouth (three days).
THURSDAY,	MAY 21	Whitsuntide Exh'ib. at the Manchester Bot. Gardens.
FRIDAY,	MAY 22	Roy. Bot. Soc. Lecture.
MONDAY,	MAY 25	Linnean Soc. (Anniversary).
WEDNESDAY,	MAY 27	Bath and West of England Agr. Sh. at St. Albans (five days).
FRIDAY,	MAY 29	Roy. Bot. Soc. Lecture.
SATURDAY,	MAY 30	Roy. Bot. Soc. Meet.

SALES FOR THE ENSUING WEEK.

WEDNESDAY,	MAY 6	Japanese Lilies, Carnations, Begonias, Cannas, &c., at Protheroe & Morris' Rooms.
FRIDAY,	MAY 8	Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—52°2'.

Flowers of Conifers. At this season of the year we receive numerous specimens for identification, mostly miserable scraps, badly packed, and badly labelled; but we have our compensation in the receipt of others to which no such uncomplimentary remarks can apply, and many of which are of great beauty. Among them we have to note this week several specimens of Conifers. These are very acceptable, either from their beauty or for the interest attaching to them. It is curious that while observers note the full-grown trees and the ripe cones, they often pass over the flowers, notwithstanding their frequently brilliant coloration. Sometimes they grow at the

tops of the trees, and are thus not easily procured. Hence it happens that of several commonly-grown species, the flowers are not known at all, or only imperfectly so, and many of them are not figured even in botanical books. In this category we may place the Wellingtonia (Sequoia gigantea), of which we give an illustration (fig. 85). In this case the young female cones are so inconspicuous that we have had some

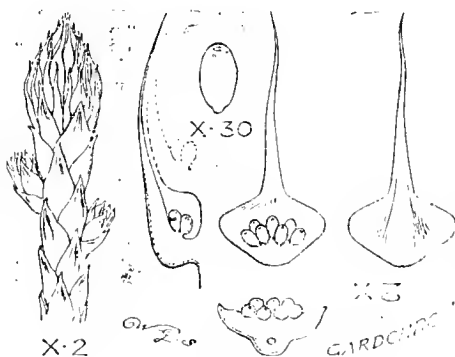


FIG. 85.—FEMALE FLOWERS OF SEQUOIA GIGANTEA (WELLINGTONIA).

difficulty in securing specimens, but thanks to Mr. HERRIN, of Dropmore, Mr. FORBES, of Bowood, and Mr. HARDING, of Orton, we have been enabled to secure a good supply of the flowers, both of this species and of the Redwood, Sequoia sempervirens, of which we give an illustration (fig. 86) for purposes of comparison. The structure is most simple, consisting merely of a bract with which the true seed-scale is inseparably fused. In most of the Pines and Firs the bract is small and inconspicuous, and the

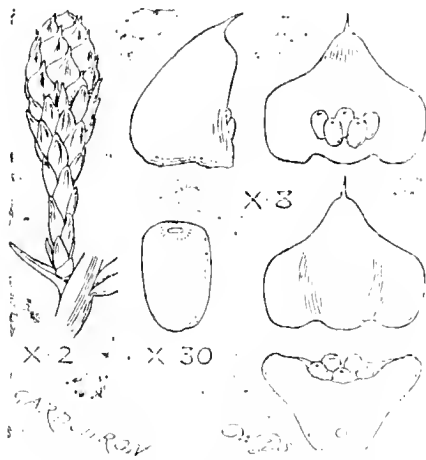


FIG. 86.—FEMALE FLOWERS OF SEQUOIA SEMPERVIRENS (RED WOOD).

great mass of the ripe cone is made up of the thickened seed-scales. In the Sequoias it is the developed bract that is the most conspicuous portion. In the Wellingtonia these bracts taper gradually into a very long point or acumen. In the Redwood, the bracts are rounded at the end, and the point or acumen is much shorter, and starts more abruptly from the tip of the bracts.

These flowers are chiefly of botanical interest, but those we have now to mention are exceedingly brilliant in their coloration. Thus, Mr.

DENNY, Down House Gardens, Blandford, sends female cones of Picea ajanensis (sent as Abies Alcockiana). Those are placed at the ends of the branches, and are of a lovely carmine colour of unrivalled brilliancy.

Mr. GEORGE PAUL sends female cones of Abies brachyphylla, which promises to be a first-rate tree either for ornamental or for economic purposes. In this case the female cones are cylindric-conic, and of a dull purple colour. They stand erect from the surface of the lateral branches like so many tapers. Mr. PAUL's specimens showed a peculiarity which we have not observed before. When received, the cones were as erect as grenadiers. They were taken out of the box in which they had been sent, and laid uncovered on a table throughout the night. The next morning the young cones, by the bending over of the short stalk that supports them, were bent over into a horizontal position almost parallel with the branch. This is an additional example of the remarkable movements observable in the shoots and leaves which have been noticed from time to time. The movements of the leaves of some of the Pines, e.g., P. halepensis, according to various conditions of the weather may be noticed in the Riviera, and to a less extent in this country. Now, Mr. CROUCHER, of Ochtertyre, tells us of a Japanese Pine, the species of which is uncertain, which, on a wet day and after rain, has a "drenched, drooping appearance," but whenever the sun appears and the air becomes dry, it changes rapidly, and assumes a totally different aspect. These movements are obviously intended as a provision against injury from an excessive amount of water.

From Orton also come sprays of Abies amabilis, with a profusion of male catkins springing from the under-surface of the branch; they are of a rich orange-crimson colour. Mr. HARDING remarks that they occurred mostly towards the top of the tree, which looked as if covered with bright Holly berries, and presented a grand spectacle. Some years since we figured a male spray of this species, and described the catkins as solitary!—but that description is very far from being applicable to the profusion of splendid catkins now before us. This is another illustration of the fact that the flowers which are first produced, and which we are so eager to see and to figure, are often much less satisfactory than those which appear afterwards.

A CORRESPONDENT asks for information about the culture of China Asters, and, as others may be interested in the subject, we subjoin the following hints, which may be of service: Above all things, the best possible seed of the various types, of which there are about twenty-four, should be obtained. The seed should have been sown on a mild hot-bed in the month of April, thickly broadcast, for the reason that scarcely 50 per cent. of the seeds from the very double varieties will germinate, owing to their imperfect development, itself partly the result of too much moisture in the autumn. The soil on which Asters are sown should be well-prepared; it should consist of light loam and leaf-mould, and should contain a small quantity, say one-sixth, of charred soil, and enough sharp-sand to allow water readily to pass through it. The bed of soil should not be less than 4 inches thick, and may be as much as 6 inches; it should be pressed with a piece of board to make it moderately firm and level, but not trodden.







VIEW IN THE ROCKERY IN THE GARDEN OF C. T. LUCAS, ESQ., WARNHAM COURT, SUSSEX.

After the seed is sown, press it into the soil with the board, water it with a fine-rose can, and then sift over it through a very fine sieve one-eighth of an inch of the same soil as the seed-bed is made of. Nothing more will be necessary beyond keeping the lights shut till the seeds begin to germinate, when air must be afforded, gradually at first, and then in larger quantity. Unless the sowing is made in March or early in April, no pricking out will be necessary, but the seedlings may be transferred direct to the open ground; and as the Aster is capable of withstanding several degrees of frost, the transplanting may take place early in the present month. The chief aim of the gardener should be to obtain a robust, stocky growth, and that is only to be obtained by careful ventilation at first, and full exposure of the plants to the air whenever the weather is not unfavourable. Weak, slender plants want sticking to keep them upright, and are, even then, easily broken by wind and the weight of their blooms.

The patches of the varieties in the seed-bed must be kept separate by pressing laths edge-wise into the soil, every patch having its proper label. The Dwarf Bouquet pyramidal, Chrysanthemum-flowered, pyramidal, Victoria, Crown, Peony-flowered, and Quilled, are an excellent class, of low stature. The first-named is early and floriferous, the second large-flowered and late, as is also the Victoria. Of taller growth than the foregoing are the Peony-flowered Globe, which has large flowers, abundantly produced; the Victoria, a capital variety; and the imbricated Chrysanthemum-flowered, a good showy, long-flowering variety. We believe that seed-saving has been successfully carried out in recent years in this country, notably at Eynsford, in Kent. The greatest dangers to successful Aster culture are very hot days following nights with a very heavy deposit of dew which causes rust; and abnormally wet, cold autumns, which cut off the plants, or hinder the ripening of the seeds, and the more double the blooms the more likely is this mischief to occur.

**LINNEAN SOCIETY** (April 16).—Mr. W. PERCY SLADEN, Vice-President, in the Chair. Messrs. V. H. BLACKMAN and W. B. HEMSLEY were elected, and Messrs. J. W. CORNWALL, W. M. CHRISTY, P. EWING, and J. H. LEIGH were admitted Fellows of the Society. Mr. GEORGE MASSEE read a paper on the "Types of Fungi in the collection of the late Rev. M. J. BERKELEY," which was presented to Kew in 1879, and which contains rather more than 11,000 species. Many of the species were described more than fifty years ago; hence the diagnoses are in some cases too brief, and do not embody points which at the present day are considered to be of importance. In many instances this has led to the same species being re-described by others as new. Mr. MASSEE now supplied careful descriptions of the types, with a view to obviate future confusion, and to secure for BERKELEY, as the original describer, the priority in nomenclature which is justly his. Mr. A. D. MICHAEL read a paper upon the "Internal Anatomy of *Edella* (the Red-nouted Mite)," giving the results of three years' work, and of many hundreds of dissections and serial sections. The material was furnished chiefly from the Zoological Station at Port Erin, and the subject is practically new, only one paper (describing a few parts of the female) having been hitherto published.

At a meeting to be held on Thursday, May 7, at 5 P.M., a paper will be read on "The Tooth-Genesis of the Canidae," by Dr. H. MARETT-TIMS. Exhibitions will be given:—1. Lantern-slides, illustrative of the Habits of the Tigerbeetle, *Cicindela campestris*, by

Mr. F. ENOCK, F.L.S. 2. Preparations of the Hermaproditic Glands of *Apus*, by H. M. EERNARD, F.L.S.

**ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Fruit and Floral Committees of the Royal Horticultural Society, will take place on Tuesday, May 5, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 5 P.M. At 3 o'clock, a lecture will be given by Mr. J. G. BAKER, F.R.S., on "The Species and Varieties of cultivated Tulips." An interesting feature of this exhibition will be a large collection of original paintings of Tulips and Daffodils by Mr. W. J. CAPARN, of Oundle, Northamptonshire.

**NATIONAL ROSE SOCIETY.**—A meeting of the General Purposes Committee will be held at the Rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday, May 5, at 2 P.M., for the purpose of revising a list of Hybrid Teas for the Society's Report, to draw up a list of the judges for the Crystal Palace Show, and other business. At 3 P.M., the matter of the space available at the Crystal Palace for the Society's show will receive attention. Other matters are the publication of the official catalogue in the new edition of *A Book about Roses*, &c.—H. HONEYWOOD D'OMBRAIN and EDWARD MAWLEY, Hon. Secretaries.

**ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.**—The acting directors of this Society met at the office of the Secretary (Mr. A. M. BYRES, C.A.), on Monday evening, 27th ult., Mr. JAMES MURRAY, Glenburnie Park, presiding. The meeting had under consideration the arrangements for the annual show, which is this year to be held in the grounds of Gordon's College. Committees were appointed to take charge of the various sections, judges nominated, and various other matters discussed.

**FLOWERS IN SEASON.**—Mr. DENNY, from Down House Gardens, Blandford, sends us a charming set of small Calochorti, grown under a south wall without protection—yellow lilac-white forms are sent. In severe winters a mulching of short litter is afforded them, but this year no such protection was needed. Messrs. BALCHIN & SONS send flowers of the superb *Posoqueria longiflora* (if that be the right name?), to which we shall refer on another occasion. From the same source come flowers of a seedling form of *Azalea sinensis* of gardens, with cream-coloured, very fragrant flowers, harmonising beautifully with the delicate green foliage. The original *A. sinensis* had yellow flowers, like those of *A. pontica*. What are now sent are more like some form of *A. mollis*.

**RÖNTGEN'S RAYS AND PHOSPHORESCENT FUNGI.**—The comparatively feeble light given by RÖNTGEN'S rays seems comparable, says our valued artist-correspondent, Mr. W. G. SMITH, with the feeble but very penetrating light given out by phosphorescent fungi. Since the discovery of the action of the X rays, I have not seen any phosphorescent mycelia, but I well remember the light penetrating several thicknesses of packing paper. In the *Gardeners' Chronicle* for Dec. 4, 1875, p. 719, I have recorded the light as having been distinctly seen through two thicknesses of writing paper. In the *Gardeners' Chronicle* for September 21, 1872, p. 1257, the Rev. M. J. BERKELEY has recorded an instance of the phosphorescent light from fungi penetrating through five thicknesses of paper, the light penetrating through all the folds on either side of the example, as "if the specimen was exposed."

**THE CHRYSANTHEMUM.**—The principal chemical constituents of the Chrysanthemum are said by M. GEORGES TRUFFAUT to be in the order of their importance: 1, lime; 2, phosphoric acid; 3, potash; 4, soda; 5, magnesia; 6, nitrogen; 7, silica; 8, sulphuric acid; 9, oxides of iron and manganese; 10, chlorine. In the flowers, nitrogen exists abundantly, as well as phosphoric acid, magnesia, and potash; lime exists in the leaves, and large quantities of silica in the roots. The compost recommended by M. TRUFFAUT in the *Journal of the Société Nationale d'Horticulture de France* as the

outcome of his investigations: Leaf-mould, 1 part; mould from an old Cucumber-bed, 1 part; coarse sand, 1 part; loam, 1 part; wood-ashes,  $\frac{1}{4}$  part. Over this is dusted a small proportion (1 per cent.) of phosphate of lime.

**LETTERS OF HANS SLOANE TO MR. JOHN RAY.**—HEATING PLANT-HOUSES: We are indebted to Mr. BRITTON for the following extracts from letters written by Sir HANS SLOANE to his friend JOHN RAY. The letters are in the possession of — ENYS, Esq., of Enys, Penryn, by whose permission a copy was made for publication. The last paragraph of SLOANE'S letter beginning with the words "of which" is said not to have been published previously:—

London, November 18, 1684.

Sir,—I received yours and had returned you sooner but that I hoped to meet Mr. WATTS, and to have spoken to him about what you desired; but hitherto have not had that good fortune, altho' I went once on purpose to Chelsey. But I believe I can procure what you desire either of him or some others of my acquaintances or in Fulham, and will then send them by Mr. FAIRBOURNE to you.

I am heartily pleased to hear that you are about soe useful a work as the history of Plants (done by you) will be. I am sure we want it extremely, and that it will be very much esteemed by the botanists beyond the sea, particularly Mons. TOURNEFORT, the King's Professor at Paris (with whom I correspond) who told me he desired it extremely, and that he had a very great respect and honour for you, and desired me to give you his most humble services, and if you will be pleased but to let me know anything you may have occasion for that can be procured at Paris or Montpellier, I will do all in my power to help you to it. I have several plants that I brought from this place, amongst which are several nondescripts, all which shall be at your service, with what remarks I made about them, either as to their growth or virtues. The following plants are thought rar at Chelsey and Fulham:—[Here follows a list of plants, &c.]

I believe you may have seen the most of these, they being survivors of the last winter, and probably the most of them will keep out this, Mr. WATTS having a new contrivance (at least in this country) v. z., he makes under the floor of his greenhouse a great fire place, with grate, ash-hole, and conveys the warmth through the whole house by the help of a tunnel, so that he hopes by the help of weather-glasses within to bring or keep the air at what degree of warmth he pleases, letting in upon occasion the outward air by the win-dows. He thinks to make by this means an artificial spring, summer, winter, &c. . . .

Of which I something doubt, but in that matter experience must be the only judge. There are scarce any books of concern to botany published this while past; only one, and called *Hortus Medicus*, Edinburg, in which is very little but what may be met with elsewhere. The author is one Mr. SUNDELLAN. There is another printed at Edinburg in fol., its title is *Prodromus Naturalis Historiæ Scotiæ*. In it is described the *Apium maritimum*, and one or two more Scotch plants. We expect here daily the *Catalogue of [the] Leiden Garden*, done by HERMANS, who is at present Botanical Professor, where are account of several East India plants, the author having lived at Batavia in the East Indies for several years. I wish you all success in your undertaking, and desire you may command me without ceremony in anything you think I can forward or give you; and be pleased to direct to me at Mr. WILKINSON'S, Bookseller, at The Blackboy, over at St. Dunstan's Hill Church, in Fleet Street, and it will find your most humble and most obt. servt. HANS SLOANE.

Mr. JOHN RAY, at Black Notly, near Brentry, Essex.

[EVELYN in his *Diary* mentions a visit to the "Apothecaries Garden of Simples" at Chelsey, where he saw the method of heating above referred to:—

"What was very ingenious was the subterraneous heat conveyed by a stove under the conservatory, all vaulted with brick, so as to have the doores and windowes open in the hardest frosts, including only the snow." *Evelyn, Diary*, August, 1685.]

**PRICES OF FOOD IN MASHONLAND.**—Dr. GALL, Bishop of that ilk, who is endeavouring to raise in this country the wherewithal to enable him and his family to "live, move, and have their being" with less of the disagreeables of life in an uncivilised community than now obtains, writes that "out there," quarter-leaves of bread cost 2s. 6d.; Potatoes are £6 and £7 per bag—once they were £12; butter varies from 5s. to 10s. per lb.; meal for porridge ranges from £2 to £3 per bag; eggs, the "living of vigils and fasts," cost from 5s. to 10s. per dozen. It may not be uninteresting to note here (per Agent-General) that notwithstanding political complications of recent days, there has been no alteration in prices in Natal for either field or garden produce.

## MEETING OF THE BRUSSELS ORCHIDÉENNE.

The last meeting was held soon after the customary annual banquet of the society, and was a very successful one. Among the finest exhibits were M. LINDEN'S *Odontoglossums*, including:—*O. crispum* var. *meleagris*, all the divisions of the flower clear purple, with many spots and dots of clear brownish-red; *O. crispum* calos, with large dark violet-carmine pots; *O. × spectabile*, of the excellens type, flower spreading, of a beautiful yellow colour, bandsomely marked; *O. × concinnum*, of the Wilkeanum type, finely variegated with brown spots on a pale yellow ground. M. LINDEN also shewed a very interesting *Oncidium* multicolor, the lip sulphur-yellow, the divisions of the flower chocolate-brown, the gynoesteme and crest of the lip purplish-claret; *Enlophia congoensis*, suggesting in the habit of the plant and structure of the flower *Calanthe Veitchi*—the flower is a pretty clear rose-colour; *Cattleya Mendeli*, very fine; *Odontoglossum × miniatum*, with very large and dark spots; *Cattleya Mendeli eximia*, very pretty; *Cypripedium Argus* var. *Lindeni*, splendid in size and colouring; and *C. exul*. With seven charming blooms, M.M. LUCIEN LINDEN ET CIE. sent, from Moortebeke, *Odontoglossum Pescatorei* var. *guttatum*, with large spots on the three sepals, and small ones on the other divisions; also *Mesospidium vulcanicum grandiflorum*, which certainly deserves its last name; a group of *Odontoglossum cirrosium maximum*, with enormous trusses of pretty flowers; and some fine *Cattleya Trianaei*. M. J. MOENS continued his display of *Cypripediums*, sending such as *C. Stella excelsior*, *barbatum illustre*, *Imshoottianum superbum*, *Anna*, &c. M. JOHN SCHULZ showed *Cattleya Trianaei* var. *Schulziana*; M. CAHUZAC, *C. Skinneri* var. *oculata*, a good colour; M.M. DALLEMAGNE ET CIE., *C. Mendeli*, of fine habit and delicate colouring; M. le Chevalier DE WARGNY, *Cypripedium Wallisi*, as rare as curious; Mr. THOMPSON, from Stone, exhibited *Cattleya Lawrenceana*, brilliant in colour, and *Odontoglossum crispum* var. *Argus*, which was awarded a Certificate of Merit *à l'unanimité*; also *O. triumphans*, well coloured; and *Cattleya Skinneri*, Thompson's var. M. FLORENT PAUWELS sent a fine *Lycaste plana* well bloomed; *Cattleya speciosissima*, *Odontoglossum Reichenheimi*, a very beautiful variety; *O. Rossi majus*, *Bifrenaria Harrisoni*, *Cypripedium ciliolare*, &c. M. WAROCQUÉ sent a pretty *Eulophiella Elisabetha*, *Odontoglossum cirrosium maximum*, with very large flowers; and a specimen plant of *Oncidium ampliatum majus*, with thirty floral stems bearing splendid trusses of bloom. M. VAN WAMBEKE showed a remarkable variety of *Cypripedium Rothschildianum*, a good *Odontoglossum hystrix*, well bloomed; and *O. Wambekeanum*, an excellent variety, with two splendid flower racemes. Mr. H. KNIGHT exhibited a fine *Cattleya Lawrenceana*; M. DE LOMBAERDE, *Odontoglossum Ruckeri*, nicely spotted; and Mr. STEPMAN, *Cattleya Mendeli*. I would also mention *Odontoglossum polyxanthum* and *Pescatorei* from M. COPART, two specimens flowering abundantly; also *Cattleya Mendeli × Mossiae*, the lip of which is especially ample, and the colouring excellent. M. LIBRECK, of Paris, sent two elegant plants—*Polygonis muscifera* and *Nanodes Mantini*. *Ch. de B.*

## ULSTER HORTICULTURAL CHRYSANTHEMUM SOCIETY.

It has been decided, writes a correspondent, to throw open to the three kingdoms the Nurseryman's Class for cut blooms of Chrysanthemums, and it is to be hoped that similar competitions will be extended to gardeners on a future occasion.

## "DICTIONNAIRE PRATIQUE D'HORTICULTURE."

The forty-seventh *livraison* of this work, often mentioned in these columns, is now published, bringing the work down to the letters Pass.

**BULLETIN DE L'ASSOCIATION POUR LA PROTECTION DES PLANTES.**—This Society, founded at Geneva in 1883, is still flourishing, and the present *Bulletin* includes a very favourable report, brought up to March, 1896. Other contents are:—"Notes on

the Exposition Nationale Suisse, at Geneva;" "Au Pied du Cervin;" "*Betula nana*;" and various paragraphs and letters on subjects relating to the interests which the Society has undertaken to protect. The *Bulletin* is issued by W. KÜNDIG ET FILS, Vieux-College, 3, Geneva.

## TORQUAY DISTRICT GARDENERS' ASSOCIATION.

We have before us the report and balance-sheet of this body for the year 1895-96, of which the President is Dr. R. HAMILTON RAMSAY, and the Hon. Treasurer and Secretary, Mr. FRED. C. SMALE, Isaline, Avenue Road, Torquay. The report shows a state of continued prosperity, and proof of this has been apparent in the increased attendances at the ordinary meetings during the past session, and by the satisfactory state of the society's finances. The balance-sheet shows a surplus of £6 4s. 9d., as compared with a balance of £4 15s. 11d. at the last annual meeting. The amount of subscriptions, as compared with those of last year, is very satisfactory, and is larger than in any previous year. The new venture of the association, in holding a Chrysanthemum show in October last year, turned out a success financially and otherwise.

## ABERDEEN CHRYSANTHEMUM SHOW.

—Arrangements are now complete for the holding of a Chrysanthemum show in Aberdeen on November 20 and 21 next, the committee in charge having settled one of the last details the other day, when they had the good fortune to secure the Aberdeen Art Gallery in which to hold the exhibition. More than a decade has elapsed since an exhibition of this kind was held in Aberdeen. The show is to be called the Aberdeen Chrysanthemum, Fruit, and Vegetable Show. The schedule will contain pot-plants, cut flowers, fruit, and vegetables—sixty-six classes. As regards the prize-money, it has been deemed advisable to let the apportionment of this rest upon the success or failure of the show. It has only to be added that Mr. A. GRIGOR, gardener, Fairfield, is chairman of committee, and Mr. WILLIAM REID, 8, Hadden Street, Aberdeen, secretary. The last day on which entries can be made is Monday, November 16.

## WOBURN EXPERIMENTAL FRUIT FARM.

—We are requested by Mr. SPENCER PICKERING to state that, although no formal invitation to visit the Woburn Experimental Fruit Farm will be sent to horticulturists this year, all who are interested in the undertaking will be welcomed there on any Saturday during the month of May. Those who purpose paying the farm a visit are requested to send notice of their intention two days previously to Mr. L. CASTLE, Ridgmont, Aspley Gnuise.

## G. D. EHRET.

—In the recently-issued part of the *Proceedings of the Linnean Society of London*, is a very interesting autobiographical note concerning this most talented draughtsman, who began life as a gardener. The translation has been effected by Miss E. S. BARTON.

## GEORGE PRINCE MEMORIAL PRIZE FUND.

—The following additional subscriptions have been promised or paid:—EDGAR HANBURY, Esq., £1 1s.; ALEX. DICKSONS & SON, £1 1s.; R. G. N. BAKER, Esq., £1 1s.; O. G. ORPEN, Esq., £1 1s.; Messrs. H. & A. TURNER, £1 1s.; A. HILL GRAY, Esq., £2 2s.

**CORK IN SPAIN.**—It is not so many years since that rough or refuse cork, namely, that unsuited for bottle-stoppers or bungs, was considered a waste product. Since the introduction of linoleum, however, cork cuttings have found a market as an ingredient in the manufacture of these modern floor coverings, as well as in the manufacture of a paving material when mixed with cement. These new demands appear to have been the cause of a new trade in the Cork-growing districts of Spain. The British Consul at Barcelona referring to the fact that Cork forms the staple industry of Palamos, says that the cutting of Cork into stoppers after the sheets have been steamed, boiled, and pressed is carried on to a large extent, and that the shavings are collected, pressed into bales, and shipped for the purposes

above mentioned. The machinery used in cutting the Cork is stated to come for the greater part from one large factory in France—the only one worked by steam and owned by a German firm; the engines and driving machines, as also the electric-lighting machinery, were of German manufacture; but some of the Cork-cutting machines were of English make, and in connection with this part of the industry it is considered there is an opening for British trade and enterprise. Regarding the quantity of Cork exported from Spain, it appears to be very difficult to obtain reliable information, but the following facts are given as being probably accurate: In the province of Gerona, it is estimated that 198,000 acres are devoted to the cultivation of Cork-trees, the amount of Cork being reckoned at about 20,000 tons, and the value at about £1,610,000. Cork is the third item of importance in the list of exports from Spain. Raw or unprepared Catalonian Cork is not exported, as it requires to be worked in a special way, and the Catalans themselves appear to be the only workmen who are able to treat it properly. The prepared Cork is largely exported to British markets, notably to London, Dublin and Edinburgh, Calcutta and Bombay, Sydney and Melbourne, Montreal and Quebec.

## ALFALFA AS A HONEY-PLANT.

—The cultivation of Alfalfa (*Lucerne*) has added considerably to the honey crop of the United States. No other honey-plant has given such a "boom" to bee-keeping, especially in the Western States. This plant stands the drought, and when well rooted seldom fails to produce heavy crops of hay and seeds when almost everything else fails, as its roots penetrate very deep in the ground, in many cases reaching water at 15 feet deep. I have seen a continuous flow of honey from this plant, commencing the middle of May, and lasting until September 1, for several years, without any regard to drought or season. Alfalfa honey differs but little from that from white Clover. It is in every respect as good, and is quoted in the markets at the highest price. *A. H. Duff*, in *Vegetarian*, April 18.

## GLOWING TULIPS.

—Mr. HARTLAND sends us from Cork specimens of Tulips to show their brilliancy. *T. Gesneriana* var. *ixioides* is a form with bright golden-yellow flowers, the base of each perianth segment marked with a dark-green velvety spot. *T. Gesneriana aurantiaca* has fine reddish-crimson flowers faintly flushed with yellow, the segments marked with a central narrow yellow feather, and marked at the base with a brownish-dotted blotch edged with yellow. *T. aurantiaca maculata* is similar to the preceding, but the flowers have more yellow in them, and the basal blotch is greenish-brown.

## BAD TASTÉ.

—In the Paris florists' shops, and lately in our own, *Araucarias* in pots, pans of Hyacinths and Tulips, and what not, are "decorated" with huge bows of coloured ribbon. Though the bows are tied by the deft hands of French women, who enjoy a monopoly in this respect, and though the colours are fairly well assorted, yet the general appearance to the lover of flowers is so repulsive that we trust this fashion will be evanescent. We regret, however, to find that the practice is gaining ground in America.

## "FLORA OF BRITISH INDIA."

—We received last week, just too late for insertion in our comments on the books of the week, the twenty-first part of the above-named book. It is wholly devoted to the grasses, and is a striking example of the industry, patience, and judgment of the author. Sir JOSEPH HOOKER may be congratulated on the near approaching conclusion of his laborious task.

## PUBLICATIONS RECEIVED.

—*The Forester*, an Illustrated Journal devoted to Forestry (C. S. MAGRATH, Printer and Publisher, 121, Federal Street, Camden, N.J.), Vol. II., No. 2, March 1.—*The National Nurseryman* (Rochester, N.Y.), Vol. IV., No. 3, April.—*The Displacement of Species in New Zealand*, by F. KIRK, F.L.S.—*Boletim da Sociedade Brotteriana* (Coimbra), XII., 1895.—*Nuovo Giornale*



*Botanico Italiano*, Vol. III., No. 2, April 5.—*Bulletino della Societa Botanica Italiana*, Nos. 2, 3 and 4, for February, March, and April.—*Some New Orchids from Sikkim*, by G. KING and R. PANTLING (Calcutta).—*Delayed Germination of Cocklebur and other Paired Seeds*, by J. C. ARTHUR (Springfield).—*Peach-growing for Market*, by ERWIN F. SMITH, U.S. Department of Agriculture; *Farmers' Bulletin*, No. 33 (Washington).—*The Grass and Grain Joint-worm Flies* (U.S. Department of Agriculture, Division of Entomology).—*Agricultural Gazette of New South Wales* February, 1896.

PLANT PORTRAITS.

- ANORÆCUM SESQUIPEDALE, *Orchid Album*, t. 518.
- BIGARRÉAU HEDELÉFENOËN GIANT.—Fruit large, oval obtuse, good flavour, mid-season. *Bulletin d'Arboriculture*, April.
- CATTLEYA BLESENSIS X (PUMILA X LODDIGESII). *Orchid Album*, t. 519.
- CHIRITA HAMOSA.—A Gesneriad, with oblong lanceolate leaves, and lilac funnel-shaped flowers in racemes, which are concrescent with the petiole. *Revue Horticole*, April 15.
- CUPHEA PURPUREA, LANCEOLATA, ROSEA, MINIATA, *Revue de l'Horticulture Belge*, April.
- CYPRIPEDIUM LAWRENCKO-REGNIERI.—Leaves mottled, flowers white, heavily flushed with pink, and with numerous, fine deep purple spots, lip shining rosy-purple. *Lindena*, t. 504.
- GAZANIA PYGMÆA, leaves with a central silver stripe, silvery beneath, flower-heads white, flushed with pink. *Illustration Horticole*, March 15.
- LELIA ACTUMNALS, Lindl., var. ALBA. *Lindena*, t. 501.
- LEPTOSYNE MARITIMA.—Yellow Composite, with deeply lacinated foliage. *Garden*, April 11.
- MAMMILLARIA SIMPLEX, *Revue Horticole*, April 1.
- ORNITHOGALUM ARABICUM.—Flowers paniced, white ovary, deep shining black. *Garden*, April 25.
- PÆREZIA SONCHIFOLIA, Baker.—Foliage elegantly cut; flower-heads ½-inch across, in loose panicles. *Revue Horticole*, March 16.
- RICHARDIA LITWYCHEI, N. E. Brown, in *Gard. Chron.*, 1893, August 19.—Spathes yellow, with a deep purple spot. *Revue Horticole*, February 1.
- SPATHOGLOTTIS AUREA, *Orchid Album*, t. 520.
- TEOMA SMITHII X.—Hybrid between *T. capensis* and *T. velutina*. *Illustration Horticole*, April 15.
- THUOPSIS STANDISHII, *Revue Horticole*, April 1.
- TROPEOLIUM PENTAPHYLLUM, *Revue de l'Horticulture Belge*, April.
- VANDA CERULEA, LORD ROTHSCHILD'S VAR.—Very deep blue. *Orchid Album*, t. 517.

NOTICES OF BOOKS.

**BOTANISTS' DIRECTORY (BOTANIKER ADRESS-BUCH, ETC.).** J. Dörfler. Wien, III., Barichgasse 36.

This is an index of the names and addresses of botanists throughout the world. It comprises also lists of the principal botanic gardens, societies, institutes, and botanical and horticultural publications of each country. It will be of use not only to students, but in the offices of our large commercial establishments. So far as we have tested it, it is accurate, and full, as may be illustrated by the pages devoted to Japan.

**LES BROMELIACÉES.** Par L. Duval. (Paris: Octave Doin.)

A small treatise devoted to an order of plants which for some reason or other, we know not what, is not popular in this country. On the continent it is widely different, and we find these gorgeous plants in the great garden establishments, in the marketplace, and on the stall, whence they find their way to the modest apartments of the citizens. The plants, as a whole, are interesting, their coloured leaves and flowers often gorgeous. They are not difficult to grow, though they demand watchful attention and cleanliness. The principal species of horticultural interest are mentioned in this little book, which may be commended to those conversant with the language as an excellent little handbook, compiled with knowledge and judgment by an experienced practitioner.

**NINE HUNDRED AND NINETY-NINE QUERIES AND ANSWERS.**

One wonders how it is that the round thousand has not been obtained, and the temptation to complete the number by asking, Why was this book published?

is great. We entirely sympathise with the spirit of the compiler when he tells us that farmers and gardeners "do not give enough thought to the why and wherefore, cause and effect; for, as a rule, they go on year after year without profiting by the personal opportunities afforded them of observation, or by the results of experiments at scientific stations. With rare exceptions the young farmer and gardener does not take up his work from the scientific side, but strictly from the labourer's side; and he begins at the bottom, meeting the same difficulties as did his father, and too often not acquiring information beyond what his father possessed." Messrs. Landreth & Sons, the eminent seed farmers of Philadelphia, have hit upon the plan of printing the questions they have received, and the answers they have supplied. The idea is a good one, but in carrying it out some sort of classification should have been adopted, and before publication the answers, especially those relating to vegetable physiology, should have been revised by some expert. The explanations given even when correct greatly need condensation and more agreeable presentation.

"Where can I get nitrogen?" some one asks; and this is the answer he gets:—"Assimilable nitrogen may be had to the extent of 20 per cent. in sulphate of ammonia, 15 per cent. in nitrate of soda, 14 per cent. in nitrate of potash; or it can be had in dried blood or flesh from slaughter-houses or fish-factories." How about farmyard manure?

"What are cryptogamic germs?" asks another correspondent, and is told in reply (p. 105):—"The reproductive organs of flowerless plants. Some such plants become trees, but those injurious to cultivated garden vegetables are always microscopic in size, and are known as garden fungi. They have neither leaves nor stems; their reproductive organs are situated in a mass of cellular substance."

It is interesting in this land of Free-trade to see that in the States, where Protection is favoured, thousands of farms (p. 191) are abandoned, and land only one-third of its former value, and agriculture in as bad a state as it is here. The book is likely to be useful as a reminder to proficients, but it is not one we should recommend to novices who have to take statements on trust.

**LE JARDIN DE L'HERBORISTE.** Par M. H. Correvon. (Paris: Octave Doin.)

This is a little book devoted to the requirements of those who wish to cultivate in their gardens herbs and "simples," and to protect themselves from hostile microbes or unsanitary conditions by means of resinous or aromatic plants. The plants treated of are arranged alphabetically, beginning with *Abies* and ending with *Viscum* (*Mistletoe*). It is evident even with herbs that some precautions are necessary. We observe in the book before us, p. 35, that *Aconite* contains an active principle, aconitin, which, given in a large dose, is a violent poison. It does not require a large dose to produce fatal effects, for, on the contrary, an excessively minute dose may be productive of the most dreadful results. It is dangerous to dabble in medicine, and to treat symptoms without knowing the causes that produce them.

**THE ROCKERY AT WARNHAM COURT.**

[SEE SUPPLEMENTARY ILLUSTRATION.]

In our issue of September 28, 1895, the supplement represented a scene in the extensive and well-arranged rockery belonging to C. J. Lucas, Esq., and with the present issue is given another view of the same. In the meantime we have walked through this charming rock-garden on more than one occasion, and have always found in it a large number of showy and interesting plants in flower; the different plants in flower at each season, seeming to give a totally new aspect to the whole. The rockery is cleverly planted, and groups of the same genera are kept as much together as possible. Thus at one turn one comes on a fine display of the showier species of *Iris*, with the rock above them capped with *Saxifrages*; in another

cool moist nook are the blue-flowered *Gentians*, and beyond are patches of the early *Primulas*, such as *P. japonica*, with its variously-tinted flowers; the charming magenta-pink Indian highland *P. rosea*, the soft blue and lavender-coloured varieties of *P. denticulata*, and the clear yellow *P. verticillata*. At every point some distinct feature is observed, and in some parts the *Conifers* of smaller growth, and dwarf, flowering shrubs are very effectively used, while all around the fine rock-garden has the advantage of having, either in the near or far view, the noble trees which the estate possesses. A rockery amid such surroundings appears very different to what it would do if seen in an open field, or with a brick-wall for a background. The unsuitable surroundings of many expensively-arranged rockeries often prevent their becoming the objects of beauty their possessors intended them to be. The present has been a wonderful season in many respects, and its influence on hardy plants in rockeries and in the open garden has produced unusual results in the number of plants to be seen in flower; and it may be as well to name some of the most noticeable plants in flower in the Warnham Court rockery during the third week in April, and also remark on the flowers which first appeared in the year. This we are enabled to do by the courtesy of Mr. Duncau, the gardener at Warnham Court.

*Morisia hypogæa*, that pretty little yellow Corsican plant, was in flower in the open in January, since which it has continued in flower, it is likely to last much longer; the plant is said to succeed best if planted in full sun. In February *Narcissus minimus*, *Chionodoxa Lucillie*, *Leucojum vernum*, *Primula denticulata*, and *P. d. alba*, *Anemone fulgens*, *Hepatica angulosa*, some *Cyclameus*, *Saxifraga Burseriana*, *S. luteo-purpurea*, *Iris reticulata*, *Arabis precumbens*, and *Eria carnea*, all in more or less quantity, were in bloom on the rockery, the last-named and some of the others continuing in bloom until now. Beside the above-named, there were in flower during March, large numbers of the dwarf *Saxifrages*, including *S. Boydii*, *S. Rudolphiana*, *S. coriophylla*, *S. marginata*, and fine patches of the varieties of *S. oppositifolia*, which formed charming irregular masses of rose, purple and white flowers on the higher and more prominent pieces of rock. There is much variety in this handsome rock plant, and the best appeared to be *S. oppositifolia pyrenaica*, *S. o. major*, *S. o. splendens*, and *S. o. alba*. The month of March brought a fine show of flowers, including the varieties of *Anemone coronaria*, *A. pulsatilla*, and *A. blanda*, *A. apennina*, and other *Anemones*, while the *Primulas* were augmented by *P. Palinuri*, *P. Cashmeriana*, *P. marginata*, *P. pubescens*, and *P. spectabilis*. Early in the month there also flowered *Rhododendron præcox*, and one of the earliest and most beautiful species of *Tulip*—*T. Kaufmanni*, a species from Turkestan, with fine, creamy-yellow flowers, each petal having a broad cerise-scarlet band. If planted in sheltered but still sunny spot, and not disturbed, it is one of the finest early bulbs we have, but unfortunately it is still uncommon. *Soldanella alpina*, *Orobans vernus*, *Aubrietia Hendersoni*, and *A. Leichtlini*, *Omphalodes verna* and *O. v. alba*; *Daphne Mezereum* and the pretty *D. M. Paul's Snow-white*, all flowered during March, besides *Fritillarias*, and the usual and common spring flowers.

In April most of the things which flowered in March were still good, and there were also a great number of other species. Of the finest were the great bushes of *Andromeda japonica*, with its heavy load of graceful flowers. *Saxifodelus acutalis* also came well into flower, the larger *Saxifrages* (*Megaseas*) made a great show; the many varieties of *Primula cortusoides* and *P. auricula* displayed their handsome flowers, and some of the other showy things which are ordinarily not seen before early summer began to bloom. Among others, were *Shortia galacifolia*, *Primula ciliata* (*Balbisi*), *P. elatior*, *P. farinosa*, *Anemone trifoliata*, *A. ranunculoides*, *A. vernalis*, *A. nemorosa*, *A. palmata alba*, *Arnebia echinoides*, *Androsace sarmentosa*, *A. villosa* and other *Androsaces* *Lychnis pyrenaica*, *Viola biflora* and other *Violas*



*Tulipa oculis-solis*, *Phlox Nelsoni* and other dwarf *Phloxes*, *Daphne Cneorum majus*, *Onosma albo-roseum*, *Trillium grandiflorum*, *Iris pumila varieties*, the *Erythroniums*, *Hutchinsia alpina*, *Bryanthus erectus*, *Arenaria balearica*, *Dryas lanata*, *Draba borealis*, *Erysimum ochroleucum*, and various dwarf *Veronicas*, *Alyssums*, *Arabis*, &c.

The Warnham Court rockery may be pronounced to be a fine example of its kind, and one of the most interesting and pretty features in this large and well-kept garden.

## HOME CORRESPONDENCE.

**THE CROWDING OF HERBACEOUS FLOWERS AT SHOWS.**—I was very glad to read the protest of "D. T. F." (p. 494) on the excessive crowding of the flowers of herbaceous plants at the large exhibitions, and I hope that both show committees and exhibitors will take to heart the suggestions he makes therein. I noticed a bad case of crowding at Shrewsbury last year, and it was made all the more striking by reason of contrast with the floral designs, bouquets, &c., in another part of the same tent, or not very far off. These designs, &c., were veritable dreams of beauty, and to follow on with masses of herbaceous flowers put up in heavy bunches, sometimes not relieved by much or any foliage, was so incongruous, that many persons felt no desire to examine the latter. Heavy masses of colour, and, for the most part, strong colour, are wearying to the eye, especially when to this mass of colour is added the rounded or Cauliflower style of the bunches. One can understand that an exhibitor wishes to show off the wealth and the number of varieties of his collection, but this laudable purpose is defeated by overcrowding. Fewer flowers, lightly put together, and with some of their own foliage, makes a better and more acceptable presentation of them than the style "D. T. F." condemns. *H. L.*

**THE ORIGIN OF THE GARDEN CINERARIA.**—From a trial of seedlings raised from *Cineraria cruenta* in these gardens, the result favours the opinion held by the director of Kew and others, that the garden *Cineraria* originated solely from *C. cruenta*. In vol. xviii., p. 17, of the *Gardeners' Chronicle*, I referred to a single plant of *C. cruenta* then in flower in these gardens, and from which it was intended to raise seedlings and grow some of them on for the purpose of noting if any variation took place amongst them. Forty of these seedlings have now flowered, and almost all of these differ from each other in colour of flowers, and in habit of growth. The plant from which these seedlings were raised was not pollinated by *C. lanata*, as that species did not flower in these gardens last year; but as I have remarked in the note referred to above, the plant may have become pollinated with pollen from the garden *Cineraria*, as they were in flower at the same time, though if this happened it was not by design. Judging from the varieties which we have raised from this single plant of *C. cruenta*, it would not be a work of many years duration before one could obtain by judicious selection and good cultivation a strain of *Cinerarias* from them, similar to those of the florists' varieties. The plant of *Cineraria cruenta*, from which these seedlings have been raised, was presented to these gardens by the regius keeper of the Royal Botanic Gardens, Edinburgh, and had the appearance of having been raised from a cutting. The seedling plants are much more vigorous and floriferous than the parent; they are particularly well-grown, the foliage being strong and more lasting than that of the garden *Cineraria*. The habit of the plants varies from compact neat specimens about 18 inches in height, to others 3 feet 6 inches, with loose spreading heads of flower 2 feet 6 inches in diameter. The diameter of the flowers vary from 1 to 2 inches, and particular attention should be drawn to their floriferousness; 684 buds and flowers were counted upon one plant, and there are several like specimens. I am sending you by post some sprays of some of these seedling forms of *C. cruenta*. *W. Harroun, Curator, Botanical and Horticultural Society's Garden, Sheffield.* [The specimens sent showed obvious traces of having been pollinated with flowers of the garden *Cineraria*. Ed.]

**STEAM LAWN-MOWERS.**—On p. 495, your correspondent, Mr. A. J. Knapp, shows a strong desire to see steam-engines applied to lawn-mowers. To a

practical man the question arises, are they necessary? In the case of private gentleman's pleasure-grounds the lawn mower, whether propelled by manual or horse-power, is a most efficient implement. It is also more in harmony with rural surroundings than one propelled by steam-power would be. Should it be a question of economy, the price of a steam lawn-mower would pay a couple of good labourers for a year. Mr. Knapp speaks feelingly of the toiling labourer, working an 18-inch machine, but such work in the open air would hurt no man. Of course, the iron-horse on the iron-road is an important factor in our daily life, but we still want a few quiet corners where men have time to think and grow young again; and we do not want all the land covered with iron-roads, steam-engines, and cinder-heaps. *R. M., Newbury.*

**BEES SWARMING.**—My first swarm of the season came from a straw-peg on April 21. This is the earliest I have heard of in this neighbourhood. *South Bucks.*

**THE LARCH DISEASE.**—In continuation of my remarks on the Larch disease on p. 494, I prefer rather to run the risk of repeating some of the things that I have said than to fail to make myself sufficiently understood. I have already said that I consider the blister in the Larch as being emphatically a bark disease; that is to say, it originates in the bark, and develops in the bark. Unfortunately, it does not always end there, but on the contrary, it frequently extends so as to destroy the tree. The blister originates in early spring. There appears scarcely any room for doubt that, at all events, it takes place while the sap is in active movement, neither before the sap begins to flow, nor after it has passed the active flowing stage. In proof of this, we have only to look at the zone or ring of the last-formed layer of wood, and we there find that the blister-fungus has not in any way penetrated or injured it, but has entirely confined its development to the bark outside the last-formed layer. It is not, however, to be inferred from this circumstance that in no case does the blister ever indirectly cause any woody part of the tree subsequently to rot and decay; on the contrary, if the wound in the bark is large, and spreads over a considerable surface of the stem of the tree, under these circumstances the wood necessarily remains so long open before the new bark and cambium can possibly cover and protect it, that the elements in process of time dissipate the resin, which for long protected the wound, but now leave it exposed to the natural processes of decay. This, however, is not a very common occurrence, and were it the only evil connected with the blister, it might well be regarded as only of minor import. The most serious aspect of the malady probably consists in the wound caused by the primary decay of the bark remaining open so long, that malformations of a very serious nature are thereby formed upon the stem of the tree. These excrescences, on which the commercial value of the tree almost entirely depend, are as varied in form and size as can possibly be imagined or conjectured, but on which I need not here enlarge, as every forester too well knows these grotesque and sometimes loathsome appearances. The origin of the disease lies deeper, more concealed, and obscure—so hidden, indeed, that to many the disease in its embryo state is but little known or suspected. As already said, the disease evidently begins in April, or not later than the first few days of May, and the first signs of it are revealed by breaking the surface of the bark with the point of a knife, when the well-known dark cinnamon colour of the inner bark presents itself, which has already been deprived of its vitality, and the disease established beyond remedy. Another form of disease which must not be mistaken for the blister, consists in the sap or resin oozing through the bark and running down the stem in streams. This, however, does not often terminate seriously or fatally, and is caused by widely-different influences, which may be subsequently explained. Sometimes one spot or patch of injured bark is found on a tree and no other part is affected, and this point most commonly occurs at from 12 to 18 inches from the surface of the ground, and if it does not extend quite round the tree, there is as much sound and healthy bark as constitutes an unobstructed channel for the sap to ascend; in such cases the tree survives and outlives the injury, and in process of time it almost, if not entirely, disappears, nor is it either seen or heard of again till years afterwards, when the tree is sawn up, when the long forgotten and hidden ills are again brought to light. In other cases the wounds are not single but numerous upon the stem, which

most frequently they are, and not confined to one side of the tree only, but exist on all sides; sometimes the wounds are large, and in other cases small, and of every shape and form. That the producing cause of blister is cold and damp I am fully persuaded, but opinion or assertion is not proof, such as anyone is entitled to ask for, and which the writer will endeavour to give in a subsequent contribution. *C. Y. Michie, Cullen House, Banffshire.*

**BITTER ORANGES.**—Seedling Oranges rarely attain to a fruiting state in this country, owing to lack of room and patience for their development, and the theory mentioned by Mr. Wolley Dod cannot, therefore, be easily tested here; but I have tasted Oranges from hundreds of seedling trees in Florida, and have not found one of them bitter—in fact, this mode of raising them is preferable for groves in the long run. And although trees budded with improved varieties fruit much quicker than seedlings, still they do not attain to the size and productiveness of the latter. The bitter Orange is occasionally met with out there, and is chiefly used for planting by the roadsides as an avenue tree; but the Evergreen Oak, called there "Live Oak," is generally used for this purpose. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

—A distinguished correspondent in last issue enquires whether the belief of some gardeners that "Orange trees raised from seed of a sweet Orange produce bitter fruit unless grafted on a sweet Orange-tree" is correct. This is a popular fallacy. The seedling either more or less from the parent variety, and improved sorts have thus been obtained. Grafting is resorted to not for the purpose of improving the flavour, but to induce fertility and to perpetuate well-known sorts. The seedlings are used for stocks, and varieties of proved excellence are grafted upon them just as choice varieties of Apples are grafted or budded upon stocks raised from seed or cuttings. The origin of the sweet Orange is lost in pre-historic obscurity, and certain varieties have become so fixed that they come pretty true from seed, and bear sweet Oranges without grafting, but they are longer in coming into fruit if allowed to grow naturally. *W. Roupeil.*

—In answer to C. W. Dod, in *Gardeners' Chronicle*, p. 527, I may say that seedlings from the sweet Orange do not always bear bitter fruit; and an example proving this fact can be found in the gardens of C. D. Cave, Esq., Sidbury Manor, Devon. A seedling sown by one of the family when at school bore a crop of ten or twelve very handsome fruit in the year 1892 or 1893, which were considered by all who tasted them to be remarkably sweet and of good flavour. It was named Edith, and received a Certificate from the Royal Horticultural Society. *R. Carter.*

**NARCISSUS BARRI CONSPICUUS.**—We send herewith two stems of *N. Barri conspicuus* with two flowers on each stem. We have never noticed this before; while this season a large number are coming the same as the enclosed. Perhaps some of your readers may have noticed the same occurrence. *Pope & Sons, Birmingham.*

**FLOWERS IN REGENT'S PARK.**—I was much pleased to observe the notice of the flower-beds in the last issue of the *Gardeners' Chronicle*, and especially so to find *Viola Bullion* so much used. It is quite the best early yellow *Viola*, although raised by me nearly twenty years ago. About *Saxifrage Camposei*? I trust the enclosed paper on its history may be useful, and if you can find a corner for it in your paper you will oblige. *J. Griev.*

**BORDER AURICULAS.**—Without doubt, the alpine *Auriculas* exhibited the other day at the Drill Hall were the best of their kinds grown in the kingdom, and were exceedingly beautiful. I fear that few, if they had been grown out-of-doors, would have been from a show point of view, presentable. On the day following the show, I came across a charming display of hardy border *Auriculas*, right in the midst of Kingston-on-Thames, and the sight was as much a surprise as it was pleasing. Kingston has its share of sooty and other impurities, and being riverside lies somewhat low, yet here was seen quite a large and varied collection of these plants blooming as finely, as fresh, and as beautiful as they could have done in any garden in the kingdom. I found on enquiry that the grower was Mr. Shepherd, one of the partners in the firm of Puttock & Shepherd, the garden being attached to his private residence.

The show, if it may so be called, was at once a tribute to the worth of the border Auricula as a town plant, and also to its great fitness for spring-flower decoration. The strain, though many coloured, has the merit of having good stiff flower-stalks, not always the case in Auriculas, the flowers being thus boldly held up to view. Then all the plants were

**THE TEMPLE SHOW**—An enthusiastic reporter recently referred to one of the Drill Hall exhibitions as "grand." If he employs such expressive adjectives in that case, he will probably find his store of these useful superlatives exhausted when he visits the forthcoming show of the Royal Horticultural Society in the Temple Gardens. That exhibition, it

continues favourable, there will be a formidable addition to the country visitors. The Temple show is literally the horticultural May meeting, but it is far more bright, beautiful, and cheerful than is the majority of those gatherings. It has the misfortune, however, to occur at a time of the year when all gardeners are very busy with bedding-out. But not

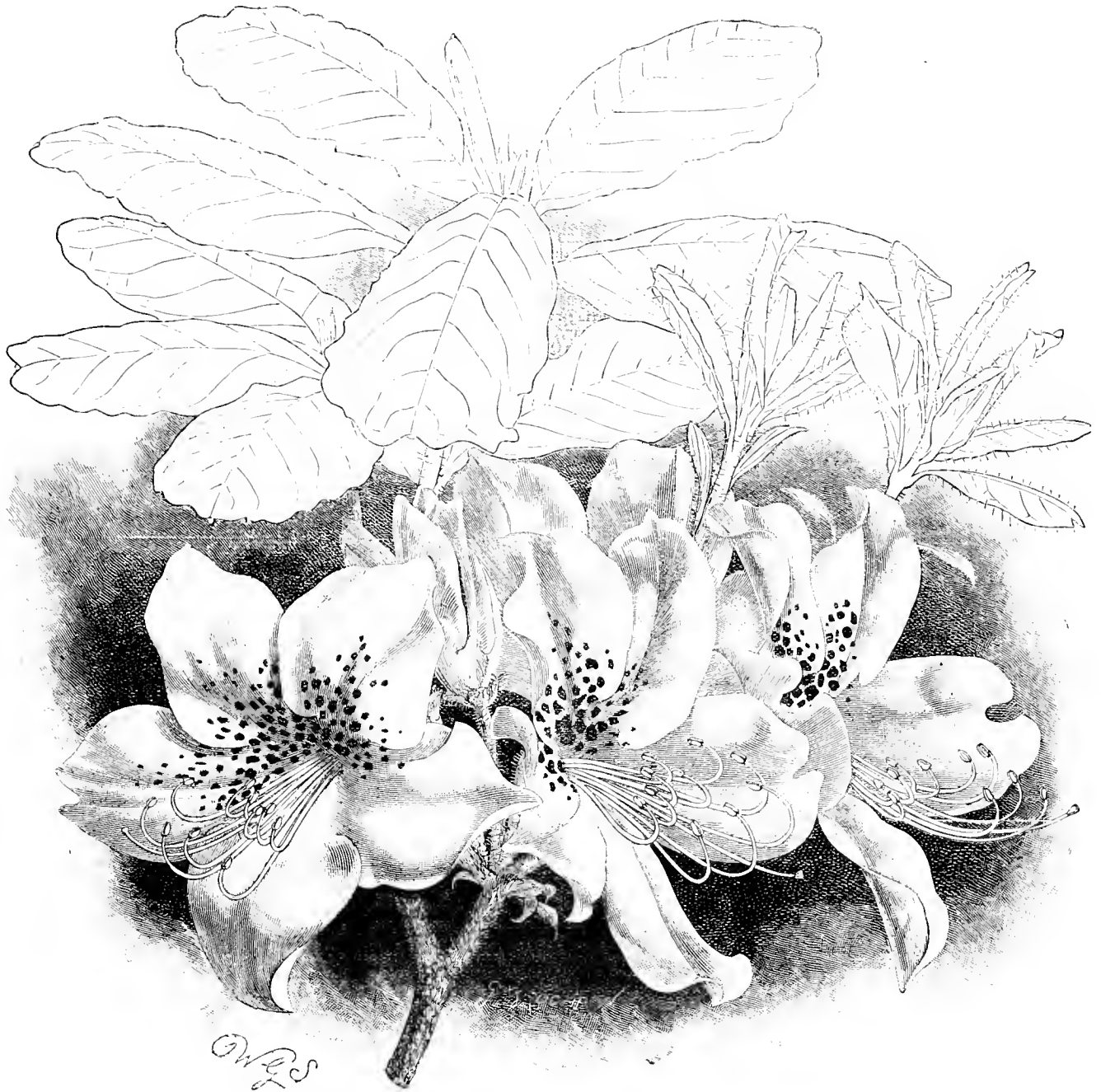


FIG. 87.—RHODODENDRON SCHLIPPENBACHII.

(Colour pale rose, with a few spots at the base of the upper segments. Shown by Messrs. J. Veitch & Sons, Chelsea, at the Royal Horticultural Society's Meeting on April 21.)

blooming simultaneously. Somehow, gardeners largely fight shy of border Auriculas, being perhaps too much under the impression that they need considerable attention. That is so far from being the case, that once strong enough to plant out, few plants need so little care. Seed should be obtained and sown at once in shallow pans and on fine sandy soil, keeping the pans slightly shaded, and the soil just moist. If growth is slow, give patience, and there will later be ample reward. *D.*

may be taken for granted, will show no defections, but probably many embarrassing additions. It is interesting to note how much interest in this great show, literally the greatest flower show in the kingdom, has grown up in the country districts during the past two or three years. Gardeners and others who have not yet visited the Temple, but have read the reports of the exhibitions annually furnished in the papers, have had their minds much stirred, and there is every prospect that this year, should the weather

only is the Temple show the great floral gathering of London, but it can fall but once a year, and that in the early summer. Because, too, of its singularly representative character, myriads of things may there be seen literally, as it were, under one roof that cannot be met with in the same variety at any other flower show in the kingdom. The show, too, is held so literally in the heart of London, that it is most accessible to every one, and, as it were, near to everything. Thus, even in

these respects, advantages are offered not to be found elsewhere. As a meeting-place for the gardening clans it is unique. But it is to be desired that some things open to criticism in relation to the show might be amended. There is the always interesting matter of refreshments, the supply and cost of which compares so surprisingly with what is charged, or facilities furnished, outside. That is, perhaps, after all, a small matter to some, but not so to gardeners. There is the matter, also, of some needful form of reception which seems to be desirable at such a gathering, though to enable that to be carried out, a special tent would be needful, and two or three members of the council told off to act as M.C.'s. Many country gardeners and others who visit the show find themselves distressingly isolated, from lack of some sort of introduction. A large tent so utilised might also be employed for an hour during the first or subsequent afternoons in holding Council receptions, where visitors might be welcomed, and the work of the Society be explained. Anything like a formal conference, or the reading of papers, could not be too strongly deprecated. In the arrangement of the show, it is most desirable that, as far as possible, long, formal, straight tabling and banks of plants and flowers be broken up, as the monotony hitherto seen in that direction soon becomes most wearisome. Exhibitors who foolishly cram their collections to the utmost do themselves great harm, whereas those who aim at securing striking effects with less material, charmingly displayed, arrest attention, and greatly benefit. It is time now that in all the arrangements, whether of individual groups or of the show in its entirety, greater efforts were made to secure pleasing grouping and charming effects, and thus serve to make the exhibition more attractive. A. D.

**THE ROYAL HORTICULTURAL SOCIETY'S RULES FOR JUDGING.**—I have looked, but looked in vain, for a reply from some of the many members who formed the committee of the Royal Horticultural Society to draw up the new code of rules for judging, to the searching criticisms of "Ayrshire Lad" and "Iro Bono Publico," in the *Gardeners' Chronicle* of April 4, p. 436. The members of that committee are all men of knowledge, with good gifts of speech; many of them ready with the pen, and yet, none of them seems willing or able to reply to the criticisms of your two correspondents. "A. D." has valiantly done what he could in explanatory notes on the new rules since they were published, but even he shrinks from tackling these doughty champions on the points they have so forcibly brought up. When one looks through the list of names of the committee, one is astounded at the silence they maintain. Surely, there is something to be said on the other side? H. L.

**NEWLY DUG-UP CLAY SUBSOIL.**—I noticed some time ago in these pages a query on the subject of clayey subsoils. Now I have had a good deal to do with breaking-up clay soils in my time, and once made a rash experiment for which I had to pay dearly. I took charge of a garden which had to be extended into an old pasture; and I was well aware at the time of the effect of bringing up a clayey subsoil to the top, namely, that it would be so infertile that no plant would thrive on it until subsoil was incorporated with the old top-soil. But in this case the subsoil looked of such excellent quality that I thought it might be trenched to the depth of 14 or 15 inches, a depth that was really required to get the long grass properly buried. As the work could be done early in the autumn, and no crops would be put on it till the following spring, a presumably reasonable time for frost, wind, and rain to act upon it with good effect. The soil became workable, having been well pulverised by these influences, but nothing would grow upon it; and seeds, which vegetated freely, came to nothing, and dwindled away. The seeds sown consisted of Peas, Parsnips, Carrots, Onions, Beans, &c. As the soil was heavy and lacked lime, I had it trenched once more, and before cropping it I afforded it a good dressing of newly-slaked lime. It will now grow any kind of crop from Parsley to Carnations. If anyone can afford to leave newly-trenched ground fallow for one season, the above is an excellent plan to get it into good heart; and in the event of its being left fallow for a year, it may be trenched much deeper than 14 or 15 inches. The plan to adopt, if it is intended to crop the ground soon after turning it over, is to bastard-trench it, that is, to dig up the top spit, and also shovel out the loose earth. The subsoil can be forked up to the depth of 8 or 9 inches more, but leave it in the bottom, then turn over the

top spit of turf and soil, and repeat the process of digging up the subsoil; and although but 10 inches or so of the maiden loam be turned up, the complete success of anything planted or sown upon it cannot be assured the first season after; and it conduces to better results if some old fertile garden soil be put on it before sowing or planting. I bastard-trenched about an acre of good soil (meadow land) two years ago, and was very successful with all kinds of crops the same season. Fruit-trees and bushes had good soil placed immediately around their roots; Peas when sown had the drills filled in with siftings from the potting shed; and Onions, Carrots, &c., were treated in a similar manner. A gardener has sometimes to deal with infertile subsoils turned up to the surface by someone else, and if the extent of the surface is not large, it might not be difficult to afford a dressing of rich fertile soil; a layer 3 inches thick of this kind of soil and rotten manure in equal portions would, if lightly dug in, give a good start to almost any kind of plant. Manurial mulchings would be helpful likewise in the summer. J. Douglas.

**COLOUR IN APPLES AND PEARS.**—It is well known to market-men that high colour will sell an otherwise inferior variety of Pear or Apple, the popular belief still holding that high colour goes with fine flavour always. The connoisseur, however, knows better, preferring even a greenish Ribston or Sturmer Pippin to, say, Kerry Pippin, Worcester Pearmain, or Devonshire Quarrenden. It is the same with Pears; for what looks more enticing than sunny-brown tinted fruits of Beurré de Capiaumont, the red-brown cheeked B. Clairgeau, or the rich golden Gansel's Bergamotte, which not every gardener is competent of selecting just at its best? Compare these with the uninviting fruits of Beurré Bosc, B. d'Anjou, Brown Beurré, &c. Which section of the public are we, therefore, to cultivate for—the many, who do not know a good fruit when they see it, or the expert, who does? As a matter of food it does not matter a straw whether the buyer of an Apple or Pear is satisfied with a poor or a good-flavoured fruit, and the verdict will be given in favour of the more productive varieties of high colour, irrespective of flavour. It has always been so; the best for those who can afford to pay the high prices demanded for good fruit, and the inferior for those whose means are slender. Those who write for the gardening press, who give lectures at country gatherings, and prospective planters, should bear this fact in mind, and not beat the air. In the good time coming we may get enormously productive varieties of large size, the finest flavour, and of the richest colouring; but until that time has arrived, the market grower will continue to plant for the masses. All the same, the systematic cross-breeding of Apples and Pears should be diligently carried on by our Rivers' and Pearsons', by County Council Research Stations—when we get them: [at Chiswick] and, above all, by amateurs. There are two or three points besides those I have mentioned: the variety should bloom late, i.e., the bloom should have leaf-protection, the fruit be capable of long keeping, possess travelling properties, and a small core. *Pyrus Malus*.

**MULCHING.**—The application of farmyard manure as a mulching to fruit-trees is the best stimulant that can be applied. There is nothing so difficult to estimate as a cart-load of manure, for it may contain a readily available amount of plant-food, or it may be no better than decaying straw, especially if it be incapable of fermentation when thrown in a heap. Mulching with manure is good practice when applied to late-planted trees, and during the summer as a conservator of moisture; but as a fertiliser, I have a poor estimate of it. During the past winter I have seen many examples of fruit-trees surrounded with heaps of manure, sealing up the land and consequently the roots from the healthy influences of the atmosphere, and in no way being of any use. If I had a fruit-tree to manure, and were offered the choice of a load of ordinary manure or a bushel of dry soot, I should accept the soot, with the certainty that it would benefit the trees and give added colour to the fruits. I am somewhat surprised at the remarks of "A. D." (p. 465) on this subject, as he seems to give more credit to warmth at the root as a producer of high colour than to soot. As a fruit-grower, I can see no difficulty in giving credit to the soot for the improved appearance of the fruit. It may be said that in support of my contention that soot contains a good percentage of ammonia, one of the best kinds of manure for fruit-trees, and a soil containing appreciable quantities of ammonia means

increased action in the roots, and consequently healthy growth and well-finished fruits. And when there is dark-green healthy leafage and high colouring and finish in the fruits, we have also good flavour. Light, temperature, &c., also exert an influence on the colour of fruits. J. R.

**APPLE ANNIE ELIZABETH.**—Your report of the proceedings of the Fruit Committee of the Royal Horticultural Society at the Drill Hall on April 7th mentioned the fact that some of the members of the committee objected to the granting of an Award of Merit to this fine Apple on the ground that the variety is a shy bearer. But even that seems to be very much a matter of opinion as well as of experience. For instance, Mr. C. W. Cummins, who has had large experience of Annie Elizabeth at the Grange, Hackbridge, spoke of it as being a heavy cropping variety. I have seen it growing and fruiting well in other places, and the trees are always robust and healthy. The growth is erect, and if found widely sparse in cropping, perhaps the vertical form of growth may have something to do with it. Still, other vertical-habited varieties prove to be very good fruiters. It is, however, an excellent variety for certain kinds of soil. Only a few days since I saw several fine clean standard trees growing on grass at Hackwood Park, Basingstoke, each tree having been about six years planted, and these trees had borne, I was told, a nice crop of fruit last year, and are now covered with blossom-buds. Mr. Bowerman is pleased with its excellent cropping qualities, its fine clean fruit, and long keeping. A. D.

**THE USE OF TEAK IN GLASSHOUSES.**—I read the note on Siamese Teak on p. 456 of your issue of April 11, with the more interest that I was fresh from an inspection of the beautiful conservatory erected by Mr. Frank Lloyd in the garden of his Croydon residence, Coombe House. This noble building is constructed throughout of Teak, and I think it probable that if the extraordinary durability and handsome appearance of the wood were better known, it would be far more extensively used for horticultural buildings than is the case at the present time. One of the most important points in its favour is, that it requires no painting; a coat of varnish every eight or ten years being all that is needed. When it is remembered that the time-honoured "well-seasoned yellow Deal" needs its four coats of paint in the first place, and to be painted at least every three years subsequently, it will be seen that although the first cost of Teak is greater than that of Deal, it is not more expensive—probably less—in the long run. As a guide to the difference in cost, I may note that the original estimate sent to Mr. Lloyd was for a conservatory constructed of St. Petersburg redwood, and that the subsequent decision to employ Teak instead increased the cost by 13 per cent. Mr. Lloyd has a range of stoves likewise constructed of Teak, and from a practical point of view, its advantages for such houses, with their increased moisture and heat, are proportionately greater than for cooler and drier structures. However, it is impossible to stand in the spacious and lofty conservatory at Coombe House without being struck by the peculiar appropriateness of the brown wood in the case of a structure entered from a drawing-room. It is at once refined, subdued, and harmonious. It should be noted that in the early stages of its use in glasshouses, the Teak in parts becomes discoloured, arousing disquieting fears of incipient decay. The wood, however, is perfectly sound, and the discoloration is merely a sort of "sweating" (I trust the editor will pardon a rather loose term), the effects of which are easily washed off. But for my fear of trespassing unduly on valuable space, I would add a few lines about the gardens at Coombe House. It is particularly gratifying to observe with what liberality, combined with judgment, provision has been made for improving the herbaceous borders and shrubberies, which promise to become amongst the most beautiful in the country. Possibly, this is not a little owing to the influence of a valued friend and neighbour in the person of the Rev. W. Wilks, W. P. Wright.

## TREES AND SHRUBS.

### PARROTIA JACQUEMONTIANA

Of the two species of Parrotia known to botanists, one (*P. persica*) is a native of Persia; and the other (*P. Jacquemontiana*) is found in Kashmir, Afghanistan, &c. The former of these is fairly well

known, at any rate, by repute, a figure of a flowering twig having appeared in the *Gardeners' Chronicle* for March 18, 1893; *P. Jacquemontiana* is, however, a rarer plant. It is flowering now in the collection of Hamamelidaceæ at Kew. It is a small tree, attaining a height of about 12 feet, and in general aspect resembles a Hazel. The leaves are elliptic-obovate, 2 to 3 inches long, the margins crenulate, and the lower surface covered with a stellate pubescence. The flowers, which are small and yellow, are borne in a conical head, the base of which is surrounded by broad, dull white bracts, which are  $\frac{3}{4}$  to 1 inch long. It is to them that is due whatever value as a flowering tree this species may possess. This year they have been injured by hail and frost. In Kashmir this *Parrotia* is very abundant, and shares largely in the formation of the dense shrubby jungle. Its stems and branches are used for making wicker-work.

#### PRUNUS (CERASUS) PENDULA.

This Japanese Cherry is one of the most lovely of all spring-flowering trees. It is of naturally pendent habit, several young trees at Kew having been raised from seed, whose branches have quite as decided a downward tendency as those of the worked plants sent out from nurseries. During the past week or two the species has been fully in blossom, and the profusion of its flowers, combined with the graceful habit, give it a singular charm. Each flower is about half an inch across, and of a beautiful soft pale rose. Professor Sargent says that, although he never saw it wild in Japan, cultivated specimens, 50 to 60 feet, are not uncommon in the old temple gardens of that country. *W. J. B.*

#### RHODODENDRON NIVEUM.

This variety is perfectly hardy at Belvoir, but in my opinion it is not so pretty as other hybrids, its flowers being too closely packed together, and the colour poor. The other Himalayan varieties which we have outside, viz., *R. Falconeri*, *R. campanulatum*, and *R. Thomsoni*, are far preferable as regards the effect which they make. The latter variety was lately described as a red *Lapageria* by a lady who noticed it in flower, its colour being very similar to that flower, and it is perhaps the finest hardy shrub that we have in flower at the present time. When not in flower the peculiar glaucous foliage of *R. Thomsoni* is distinct and telling, differing from that of most *Rhododendrons*. *R. campanulatum* grows to a large size here—about 10 feet high, and is worthy of being extensively planted where sheltered positions can be found for it. The brown colour of the lower side of the leaves shows well during the winter when the plant is moved by the wind. I hope to try other *Rhododendrons* of this class, and shall be glad to hear of varieties which are known to be hardy and worthy of cultivation. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

#### SALIX HUMBERTIANA VAR. FASTIGIATA.

*M. André* in a recent number of the *Révue Horticole*, April 16, gives an illustrated account of this Willow. *M. André* met with the tree on the Andes of Colombia, and managed to strike some cuttings in bottles of water, on his way home. These were planted on his arrival in the South of France, and have grown well. It is of fastigiate habit, like a Lombardy Poplar, and is a valuable introduction for the South of France. The leaves are exceedingly narrow and pointed.

#### THE DWARF LEBANON CEDAR (CEDRUS LIBANI NANA).

There is growing in grounds adjoining one of the oldest parks at Hemel Hempstead, a specimen of this dwarf and interesting Conifer—a variety that probably has not been heard of since Loudon's time, just half a century ago. The specimen in question is only 4 feet high, and about the same in spread of branches, obtusely cone-shaped, and abundantly supplied with the healthiest of foliage. The flattened, horizontally-arranged branches readily reconcile it with the species, the only difference being that these are so thickly produced one above the other that the hand cannot be passed between any two, this giving the plant a dense, somewhat stiff appearance,

that is further augmented by the almost uniform length of the branches. There is no perceptible difference in the foliage from that of the species; perhaps generally the leaves are shorter, and decidedly sharper, and average between three-fourths of an inch and one inch in length. The plant in question must be of considerable age, as the gardener told me that it had hardly increased in size during the eighteen years he has had charge of the place. This must therefore be considered as a real dwarf

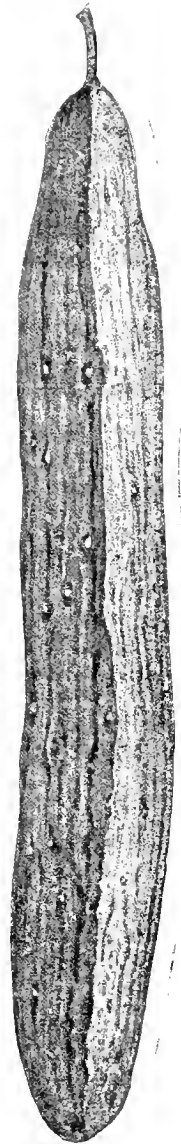


FIG. 88. A VARIEGATED CUCUMBER.

form, and as it is of neat growth, and of a pleasing dark bluish-green tint, its propagation and dissemination is more to be desired than is that of many so-called pigmy Conifers. *A. D. Webster.*

#### ILEX DIPYRENA.

I send a flowering specimen of *Ilex dipyrena*. The specimen is taken from a plant 12 feet in height, and is well covered with flower all over. I have never before noticed the plant in flower till this year. It is probable the mild winter has got something to do with its flowering. *M. Chapman, Easter Duddingston, Portobello.*

## VARIEGATED CUCUMBER.

MESSRS. WALTERS & RENTON, of the Goff's Oak Nurseries, Cheshunt, send us the remarkable Cucumber shown at fig. 88. One-half the fruit was green, the other half yellow, from defect of chlorophyll. It is noteworthy that the whole plant was parti-coloured in the same way, stem and leaves being yellow or white on one side, green on the other. From the white side were also produced two wholly white fruits, which are still hanging. Why the cells on one side should develop green colouring-matter, whilst those on the other are devoid of chlorophyll, is more than we can explain.

## NURSERY NOTES.

### MR. J. CYPHER'S, CHELTENHAM.

FEW horticultural establishments can boast of such a wide range in their operations as the Exotic Nurseries, Cheltenham, and few have attained to so great excellence in the subjects undertaken as Mr. James Cypher, with the assistance of his son.

There the humble bedding plant, the showy exotic Orchid, Gardenias, Roses under glass, and other things useful in the extensive cut-flower business, are grown in profusion and in first-rate style. There the giant specimen stove and greenhouse plant, both flowering and foliage, occupy many large houses, and are grown to perfection, as visitors to flower shows all over the country can testify. This stronghold of the specimen exhibition plant seems to form a link between the modern flower show, with its endless groups of small plants, "arranged for effect," and those of the past, when giant specimens were the only things deemed worthy of consideration. Neither is the hardy plant department neglected, for in the newly-added 3 acres the herbaceous perennials and shrubs are grown; but even there, in a glass-house, are the huge specimens of *Erica Cavendishii* and other New Holland plants in training for coming events.

About sixty commodious, well-ventilated houses, chiefly span-roofed, are devoted to plant-culture, and of these a goodly number are filled with

### THE ORCHIDS.

And here it may be remarked that a great attraction, apart from the healthy appearance of all the plants, is given by the artistic arrangement of the plants in flower. Evidently at home as well as at flower shows, Mr. Cypher wishes to keep good the oft-repeated remark, "Cypher flowers his things well, and makes the most of every one of them in staging." As an example, in the first house we entered, we found a most charming display of the slender *Epidendrums* arching over from the stage to the highest point in the roof, and composed of fine specimens of the scarlet *E. radicans*, the purple *E. evectum*, and the bright red *E. O'Brienianum*; together with smaller plants of the chrome-yellow *E. xanthinum*—a most charming arrangement. On the centre stage was a group of *Cattleya Lawrenceana*, some with seven to nine flowers on a spike; some good *Laelia purpurata*, and *Cattleya Mendeli*, and one fine specimen of *Laelia-Cattleya* × *Schilleriana superba*, with very large bluish-white flowers, with crimson-purple labellum.

In the next intermediate-house were many examples of *Cattleya citrina*, with their pendent, fragrant yellow flowers; and a group composed of a noble specimen of *Cymbidium Lowianum*, *Cypripedium exal*, *C. villosum*, *Maxillaria venusta*, *Epidendrum vitellinum*, *Platyclinis glumacea*, with here and there the pure white heads of the yellow-centred *Dendrobium infundibulum*. In the next, a cool-house, at the entrance is a bright-looking batch of the dark rose *Pinguicula caudata*; a nice lot of *Odontoglossum crispum* and *O. Pescatorei*, some very fine *O. Hallii* and *O. luteo-purpureum*, fine spikes of *Halcidium macranthum*, &c.; and, suspended overhead, plants in flower of *Masdevallia Chimera*, *M. bella*, *M. Shuttleworthii*, *Nanodes Medusa*, *Odontoglossum Cestatii*, *O. Cer-*



vantesii, O. Rossii majus, scarlet Sophronitis, and other dwarf-growing species. In the following house we found a good show of Cattleya Schroderae, C. Mendeli, and C. Trianoi, the last-named going out of bloom, and the C. Mendeli just coming in. Here also in bloom were Chysis bracteata, Trichopilia crispa, T. suavis, Oncidium luridum, O. sarcoades, Zygopetalum maxillare, Oncidium obryzatum majus, and other Oncidiums, &c.

Dendrobiums are the great specialty at the Exotic Nursery, and in growing them and in raising new hybrids, Mr. Cypher is an adept. The many forms of D. nobile get a great deal of attention, and for some time past have made a splendid show. Some of the best noted were D. nobile nobiliss, of which one was a noble specimen; D. nobile Cypheri, one of the prettiest and most perfectly shaped; D. n. elegans, one of the oldest and still one of the most beautiful; and one other variety had very pretty white flowers with light-red tips to the petals. Of the hybrids raised here, the richly-coloured and large D. × Rubens, the very fine D. × Apollo, and D. × Ainsworthii, Cypher's variety, appear to be the handsomest, though there are large numbers of seedling Dendrobiums, Cattleyae, Laëlio-Cattleyae, Epiphronitis, and other things coming on, which will have every advantage in developing their best features under the careful treatment they will receive. Of other Dendrobiums in flower were noted a fine lot of D. Wardianum and D. crassinode, and among the latter a very large form which bore evidence of being a cross between the two, though the flowers still appeared to be those of a very large D. crassinode; the yellow D. dixanthum; a very fine D. fimbriatum ocnlatum; D. superbum, D. primulinum, D. nobile Cooksoni, D. × Venus, D. crystallinum, D. Devonianum, D. × Nestor, D. × splendissimum illustre, D. × Cassiope, D. lituiflorum, D. × Aspasia, and several varieties of D. Phalaenopsis Schroderianum, which here grows luxuriantly in a warm moist house in full sun with the D. bigibbum and others of that class, which do so well with Mr. Cypher.

In the Cypripedium-house were many of the newer hybrids in bud. In flower were Cypripedium villosum and C. villosum giganteum, well named for the strength of its growth and size of flower; C. Boxallii, varieties of C. × Lathamianum and C. × Calypso. Some fine C. Rothschildianum, C. Chamberlainianum, C. × vernixium, C. × Lecanium, C. × Lancheanum, C. × Carnusianum, C. × euryandrum, C. × selligerum, and a great number of Selenipediums of the S. × Sedenii class. Suspended overhead were some fine plants of Cœlogyne tomentosa, with long racemes of salmon-coloured flowers; C. Massagœana, and the fragrant white Angreœum leonis; while in another house the Sobralias, and fine forms of Vanda tricolor and V. suavis, were coming into bloom.

In the lesser Odontoglossum-house, the varieties of Odontoglossum Pescatorei were remarkable; also there were good forms of O. cordatum and O. maculatum, both remarkably pretty when well grown; O. nebulosum, O. odoratum, O. triumphans, O. Hallii (one of which had twenty-one flowers on a spike), and a number of varieties of O. Andersonianum, as well as many Maslevallias. Suspended overhead were a number of the form of Sophronitis grandiflora usually called coccinea, one of them being of a very peculiar dark reddish-crimson hue, and also of fine form. Here the cool-house Oncidiums, such as O. encellatum, were in bloom, and one plant of Odontoglossum ramosissimum bore a fine branched inflorescence.

Other houses contained the good stock of Miltonia vexillaria, Acrides, Phalaenopsis, &c., and

#### THE EXHIBITION PLANTS

filled several large span-roofed houses, and seemed to be coming on well for the summer shows. The Crotons are becoming brilliant in colour, the large Ixoras producing fine heads of bloom, and the Bougainvilleas and other gigantic specimens promise well. Among the Bougainvilleas is a new form, stronger in growth than any of the varieties of B. glabra, and

more floriferous, while the floral bracts are much redder and darker in colour, and it is said that they are more persistent, and therefore travel better either as specimen plants or cut sprays.

Glancing at the contents of some of the principal houses, we remarked two very large houses filled with specimen Palms and Cycads, a like number of large New Holland Plants, Pimeleas, Tremandras, Boronias, Ericas, &c., a house or two of specimen Azaleas and one of smaller ones in flower, a house in which the plants (or trees, as they might be called), of Tabernaemontana coronaria, fl.-pl., covered with double white Gardenia-like blossoms, and the equally fine Gardenias, showed where a goodly supply of the cut flowers for the two dozen or so bouquets, wreaths, and crosses just ready to be sent out came from.

In this work, too, the house of Niphotos and other Roses, and the large batches of Lilium Harrisii, and the seemingly endless supplies of Stephanotis on the roofs of the warm-houses also play an important part; and corresponding quantities of Maidenhair Ferns and Asparagus plumosus, &c., are provided. Another pretty display is made in the house containing the scarlet Anthurium, of which A. Scherzerianum Cypheri is by far the largest and most richly coloured; and in that in which the greenhouse Rhododendrons, such as R. fragrantissimum, R. Veitchii, and the varieties of R. Gibsoni and R. variegatum, R. Countess of Haddington, &c., are in bloom.

Mr. Cypher holds that whatever is worth doing is worth doing well, and that good culture may often redeem a slighted subject; and in every department of his compact nursery evidence in proof of it is to be seen.

## SOCIETIES.

### ROYAL HORTICULTURAL.

#### Scientific Committee.

APRIL 21. — Present: Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Dr. Müller, Mr. J. T. Bennett-Poe, Mr. Douglas, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

*Primulas, Auricula × Alpine.*—Mr. Douglas exhibited a very interesting collection of hybrid Primulas, between the "Show" (P. Auricula) and the "Alpine" (P. pubescens, according to Mr. Baker). The former was the pod bearer. They were all raised from the fruit of one truss, and presented a considerable amount of variety in the foliage and the colours of the flowers. The mealiness was much reduced, and indeed nearly absent from the leaves. Two specimens exhibited curious abnormal conditions, upon which Dr. Masters will report. It was stated by the late Mr. Shirley Hibberd, at the Primula Conference in 1886, that in his opinion these two classes of Primula would not cross, but he observed that "no man was so competent" to experiment upon them as Mr. Douglas, who had this completely negated Mr. Hibberd's surmise.

*The Bardfield Oxlip.*—Mr. Henslow exhibited specimens of this plant received from Mr. J. French, Felstead, Essex, with a communication containing his observations on the variations of plants under the influence of their environments. With reference to the genus, Primula, he observes, "An instance of 'bog' modification is that of the Bardfield Oxlip (P. elatior). This in bog land would be unrecognisable to the ordinary observer. There are acres of boggy pastures at Great Bardfield, where every plant of this species has but one flower to each peduncle, and a small rosette of leaves resembling Celandine more than Primrose. The common Paigle (P. veris) lives in the same meadows unchanged. It is, therefore, clearly in the capacity of the Oxlip to be moulded by its environment alone." With regard to hybridisation Mr. French notices that while "Primroses stand themselves tolerably well alone, and also remain constant or very nearly so [in a garden], as they do in the wild state, when you put them in company with the Oxlips (unless I am mistaken altogether in my observations), a different arrangement will ensue. The Oxlips still remain unaltered, for the Bardfield Oxlip cannot be changed by crossing, whereas the Primrose and Paigle are both very unstable; but the seedling Primroses will gradually (that is, in the course of four or five seasons) very materially change, and that apparently without any fixed law. The petals may or may not alter their colour or become foliaceous; the corolla may put on the form known as 'hose-in-hose'; the peduncle will almost certainly be lengthened, and the typical Primrose leaf will gradually vanish and give place to a form intermediate between that of a Primrose and Oxlip; the leaf, in fact, will be the only hybrid feature, so to say, none of the other changes pointing either to that or any other particular direction. My impression is that the changes finally result in sterilisation, and that the plant, if left alone, will never recover its normal

state—but I cannot speak with certainty on this point. My experience is that the Bardfield Oxlip does not readily seed itself, but my firm belief is that its pollen readily fertilises the Primrose, and occasionally y, but not often, the Cowslip. It, in common with the others, is visited by many sorts of insects." Mr. French sent a great variety of blossoms of Primroses with white and pink corollas, as well as foliaceous and other modifications; of these he observes, "The enclosed flowers are from Primroses which have seeded in a natural way in my garden, but the changes have not been developed until the second or third year has passed. My contention is that the changes are due in part to cultivation, but very much more to disturbances initiated by the application of pollen from other plants, and more particularly from the stamens of the Bardfield Oxlip, in the company of which they have been grown. It may be of interest to say that I live on the limiting line of the two species, the Oxlip and Primrose, and can easily point out the most northerly Primroses and also the most southern Oxlips, and at one place there is not a mile between the two; but the line is absolute, and neither plant intrudes into the other's domain." Dr. Masters observed that the only change the Bardfield Oxlip undergoes in his garden is to sometimes assume a pink colour.

*Wellingtonia, ♀ Flowers.*—Dr. Masters exhibited shoots of the Sequoia gigantea with terminal young cones in the flowering state. They are scarcely quarter of an inch in length, and therefore easily overlooked, but being more globular in form, when once seen they can be readily distinguished from the leafy apices of other shoots.

*Sirex gigas in Timber.*—He also showed a specimen of the "Hornet Saw Fly" from Dropmore. It is rather larger, but somewhat closely resembles a hornet in appearance. The grub bores through timber. Mr. McLachlan observed that it was formerly much more abundant, having been introduced from North Europe.

*Niphotos Rose, Malformed.*—Dr. Masters also exhibited good examples of a foliaceous calyx in this Rose, the sepals being converted into large pinnate leaves.

*Tyloses in Beech Root.*—Dr. Masters exhibited a microscopic slide from Mr. Forbes, showing the cellular growth in the vessels known by this name. To such an extent had it occurred that the wood showed a dark brown streak, indicating the position of the vessels containing the tyloses.

*Mignonette, Origin of.*—Mr. Henslow suggested, from a comparison between Reseda odorata and R. Phytouna, a common species in South France and Algeria, that this latter was the source of the garden plant. In the original description in *Bot. Mag.*, A. D. 1790, it is said to be Egyptian, but the garden Mignonette is not in the Egyptian nor in North African Floras, and does not appear to be known wild. The differences between this and R. Phytouna, as Mr. Douglas observed, are not greater than between varieties of R. odorata. The wild species, it is true, has not the scent; still, as Mr. Henslow observed, when a bunch of the flowers are taken, there is just a faint odour suggestive of the Mignonette.

*Cutha palustris, Honey Glands of.*—Mr. Cuthbertson called attention last year to the apparent absence of these structures, described by Muller, on the sides of the carpels, in his *Fertilisation of Plants*, for that author spoke of a "fold" on the sides of the carpels, with a gland in the fold. This has not been seen in any English plant, but there is a spot where the epidermal tissue is papillary, suggestive of an abortive gland. Mr. Cuthbertson forwarded specimens received from Germany, but still nothing was present in agreement with Muller's description.

### NATIONAL AURICULA.

#### Northern Section.

APRIL 25. — The annual exhibition under the auspices of this Society, was held in the Royal Botanic Gardens, Manchester, on the above date. It was more than usually attractive show, because of the good quality of the flowers, and the show house with its wealth of plants, gave a setting and surrounding that greatly enhanced the effect of the collections of Auriculas and Polyanthus.

For six dissimilar Auriculas, Alpines included, Mr. T. Lobb, Todmorden, was 1st with George Rudd, Smiling Beauty, F. D. Horner, John Simons, George Lightbody (a variety that still holds front rank), and Mrs. A. Peris; 2nd, Rev. F. D. HORSER, Lowells, Burton-in-Lonsdale, with Shirley Hibberd, Miriam, Eyebright, Eurydice (fine deep violet with white centre), Favourite and Dreadnought; 3rd, Mr. M. MIDDLEBY, Halifax, with Rachel, George Lightbody, Trail's Beauty, F. D. Horner, Mrs. Potts, and Mrs. Dibdin; 4th, B. SIMONITE, Esq., Sheffield, with Flamingo, Richard Easton, Amy Roberts, Dinham, Cleopatra, and a good seedling. Messrs. J. W. BENTLEY, Staleyhill; J. CLEMENS and J. STOKER of Birmingham, also exhibited in this class.

For dissimilar, one at least in each of the classes, alpines excluded.—1st, Rev. F. D. HORSER, with Rainlow, Maggie, George Lightbody, and Favourite; 2nd, Mr. Lobb, with Acne, G. Lightbody, F. D. Horner, and Mrs. Potts; 3rd, Mr. MIDDLEBY, who had Mrs. Dodwell, good; 4th, M. SIMONITE; 5th, Mr. BUCKIS, Staleybridge.

For two dissimilar, there was a large competition, Miss WOODHEAD, Halifax, being 1st, with George Rudd and Mrs. Potts; Mr. R. GIBSON, Eccles, 2nd, with Heat or Bell and J. S. Hannaford; Mr. A. R. BROWN, Birmingham, was 3rd; Messrs. J. WOOD, T. BUCKLEY, and T. STRELFOR all of Staleybridge, following in the order they are named.

NEW INVENTION.

"CHELTENHAM" GARDEN AND CONSERVATORY SYRINGE.

It is a desideratum to possess a syringe which can be used without having one's clothes and shoes wetted during the operation of syringing plants. The Cheltenham syringe is one which we can recommend to amateurs, ladies, and others for cleaning plants indoors and out from aphids. It is light and handy, is made of brass, possesses an appliance in the form of a globe of brass 6 inches in diameter, which ensures a continuous stream of water to issue from the nozzle or rose, and being furnished besides with a short piece of india-rubber tubing as a suction pipe. The water or insecticide can be used direct from a cistern, tub, or bucket, without the necessity to dip and recharge, as is the case with ordinary syringes. It is apparently an adaptation of the principles of the more powerful garden-engine sometimes seen mounted on a wheel-trace, and used for washing Peach and other fruit-trees, and in leafy conservatories, Palm-houses, &c.

A NEW METHOD OF STOPPING PRESERVE-BOTTLES AND JARS.

A method of stopping preserve-bottles and jars, which shall be simple, cheap, and of easy application,

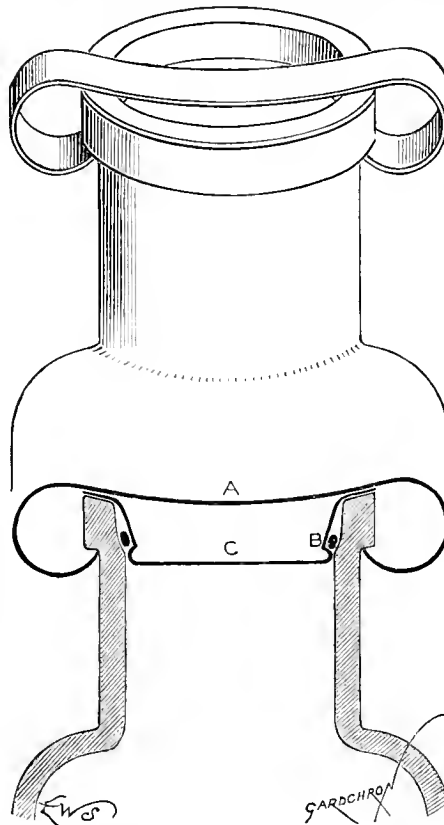


FIG. 89.—A NEW METHOD OF STOPPING PRESERVE-BOTTLES.

has long been wanted; and the French Flint-glass Bottle Company, whose premises are at 6 and 7, Long Lane, Aldersgate Street, E.C., seem to have hit upon a very secure and simple device. The upper diagram in fig. 89 shows the neck of a jar or bottle, with its tinned steel cap in position, held firmly, yet allowing for the escape of steam, by a simple clip of steel, during the process of boiling, in the case of whole fruit. The lower diagram gives a transverse section of the same; A, the clip to be removed when the contents cool; B, a thin ring of india-rubber; C, the cap of metal. During the process of cooling a vacuum is created in the bottle, consequently the pressure of the outer air suffices to close the cap and hold it tightly till an aperture be made with a fine brad-awl. The caps will serve for many years, if before making use of them the awl-holes are closed with solder. For further particulars we refer our readers to the Royal Horticultural Society's report, p. 530 in our last issue.

CONDITIONS AFFECTING THE QUANTITY OF STARCH IN POTATOS.

THE following is an abstract of a valuable paper by E. S. Goff, the Horticultural Professor at the Agricultural Station, University of Wisconsin. The chief food-value of the Potato is in its starch-content, and analyses show that this may vary under different conditions from less than 8 per cent. to more than 29 per cent. Such being the fact, a study of the conditions that affect starch-content is certainly in order. This subject has received more or less of the author's attention since the year 1889, and a summary of this investigation is here presented.

Since by far the greater part of Potato tubers consists of starch and water, and since starch is heavier than water, it is evident that a variation in starch-content will affect the specific gravity of the tuber. This gives us a convenient means of determining approximately the starch-content of Potatos, and this method has been used in this investigation.

VARIATION OF STARCH-CONTENT IN DIFFERENT VARIETIES.

Forty-six varieties were tested (of the crop of 1889), of which the average starch-content was 16.2 per cent. The variety showing the highest amount was the Zenith, which contained 22.9 per cent.; the one showing the lowest starch was the Rural Blush, which contained only 13.1 per cent. Thirty-one varieties, mostly different from the above, were tested in 1890, of which the average starch-content was 14.3 per cent. The variety showing the highest starch was the Burbank, which contained 17.7 per cent.; the one showing the lowest was a "kidney" Potato from Germany, which contained but 11.4 per cent. All of these Potatos were grown on a light clay loam, in a good state of fertility, and the cultural conditions for all the varieties grown in each season were practically identical. It thus appears that the starch-content of different varieties of the Potato, grown under as nearly as possible similar conditions, may vary as much as 9.8 per cent.

VARIATION IN STARCH-CONTENT BETWEEN DIFFERENT SPECIMENS OF THE SAME VARIETY.

If we place a number of tubers of a given variety of Potato in a vessel of water, and gradually stir in common salt, it will appear that some of the tubers will be floated by the solution before others, thereby indicating a lower specific gravity, and consequently a lower starch-content. Tubers are readily separated in this way into two or more grades; and the difference in the cooking quality of the heavier and lighter specimens is often very striking. This method of assorting Potatos is to be commended to those who desire to secure extra fine samples for the table.

The interesting question arises as to the cause or causes for this difference in starch content between tubers of the same variety in the same season. Certain apparent causes have appeared in the course of this investigation, and are here noted.

PRONGED TUBERS ARE POORER IN STARCH THAN REGULAR ONES.

This fact was brought out in several different tests. In 1889, pronged and regular tubers of four varieties were tested separately with the following results:—

Table showing the relative starch content of pronged and regular tubers.

Variety.	Starch Content.	
	Regular Tubers.	Pronged Tubers.
	Per cent.	Per cent.
Imperial Irish Cup ... ..	15.4	14.1
Rural New Yorker, No. 2 ... ..	17.9	15.1
Seneca Red Jacket ... ..	16.6	13.1
Zenith ... ..	18.2	15.1

It appears, therefore, that the development of prongs on certain tubers is one cause of the variation in

For two dissimilar ("maiden" growers only), Mr. A. R. Brown, Birmingham; Mr. R. KESHAW, Ashton-under-Lyne; and Mr. WM SHIPMAN, Altrincham, were so placed. Geo. Lightbody and F. D. Horner were the best sorts.

For single plants, green edges, Mr. HORNER was 1st with Dream; Mr. LORD 2nd with F. D. Horner; and Mr. SIMONIE was 3rd and 4th.

For single plants, grey edges, Mr. LORD took 1st position with E. Lightbody; Mr. MIDGELEY, Mr. HORNER, and Miss WOODHEAD following in the order named.

For single plants, white edges, Mr. LORD, Mr. MIDGELEY, and Mr. GIRTON, were best; and for Sells, Mr. LORD, Mr. BENTLEY, and Mr. SIMONIE.

For the premier Auricula in the show, Mr. LORD had the best on his stand of six—George Lightbody.

ALPINE VARIETIES.

For six dissimilar, Mr. JOHN BESWICK, Middleton, was 1st, with John Allen, John Ashton, Richard Girtton, Forest Queen, Dr. Knott, and F. D. Horner; Mr. R. GIRTON, Eccles, was 2nd, with a collection mostly of seedlings; Mr. J. STOKES, Birmingham, was 3rd; and Mr. CLEMENTS, Bury, 4th; Mr. T. LEES, Middleton, 5th; and Mr. J. WOOD, Staleybridge, 6th. For four dissimilar, Mr. BESWICK was again to the front; Mr. BENTLEY, Stakehill; Mr. GIRTON, Eccles; and Mr. BUCKLEY, Staleybridge, following. In Mr. BESWICK'S stand was Bright Eyes, awarded the prize as Premier alpine. It is a beautiful bronze shaded flower with yellow centre.

For two dissimilar, Mr. T. STELFON, Staleybridge, was 1st, with Dr. Knott and Forest Queen; and Mr. LORD, 2nd. For single plants, white centres, the unnamed seedlings of Messrs. GIRTON and BESWICK were best; and for yellow centres, GIRTON was 1st with Bright Eyes; STOKES, 2nd, with John Allen. Messrs. BESWICK and STELFON following, the latter exhibitor having the best Dr. Darnford shown.

POLYANTHUS.

For the three best black-grounds, Mr. BESWICK was 1st with Exile, Favourite, and Mrs. Brownhill; and Mr. THORNLEY, Middleton, was 2nd. For three dissimilar red-grounds, Mr. THORNLEY was 1st with Sydney Smith, George IV., and Middleton Favourite; and Mr. BESWICK was 2nd. For single plants, Messrs. BESWICK and THORNLEY distanced all other competitors. Misses HOPKINS, Mers Cottage, Knutsford, had a finely-grown assortment of border Polyanthuses and Primroses; they were in splendid condition, the weather recently having been favourable to these flowers. Hoop-in-Hoop, Jack in the Green Primroses make grand border flowers. A First-class Certificate was awarded to a double Primrose named Peter, a flower of a good size, and having finely-marbled segments, with bright orange centre. The plant is robust, and will be useful in the herbaceous border.

MISCELLANEOUS.

Mr. HENRY BROWNHILL, Sale, was awarded a Silver Medal for a very finely-grown, nicely-arranged collection, in which Primula Sieboldi, in various colours, was prominent; these, with lots of Clematis, dwarf-grown, with flowers of varied colours nestling in the foliage, attracted much notice. The Snowflake Pink is pure and free, and the lot of Spiraea and Mollis Azaleas, combined with fine stands of Tea Roses, made a charming coup d'œil.

DICKSONS, Chester, put up a fine stand of cut flowers of Daffodils and other border plants, including Anemone fulgens, brilliant and bright; Primula Sieboldi, and Fritillaria meleagris. Mr. RICHARD VERNON, Northwich, had well-grown fancy Pansies.

DARLINGTON HORTICULTURAL.

APRIL 27.—The Jubilee Show of this society, held in the Central Hall on the above date, was a distinct success. Never before has there been a better collection of plants or of cut flowers, and the attendance of visitors was extremely satisfactory.

Several honorary collections of beautiful Palms, Azaleas, and other plants were exhibited by Sir THEODORE FRAY, Alderman ARTHUR PEASE, Mrs. GURVEY PEASE, and Mr. E. B. MOUNSEY. These, together with the competitive exhibits, were arranged with taste by Mr. J. McINTYRE, and the visitors on entering were confronted by a pleasing display of colour.

The larger plants were disposed on and surrounding the platform, and on staging running down the centre of the room. The most imposing feature of the show were the groups of miscellaneous plants arranged for effect.

Mr. C. J. BACKHOUSE, of Wolsingham, sent a beautiful collection of forty varieties of Narcissi, including a couple of magnificent blooms of Weardale Perfection. Similar collections were exhibited by Mr. E. B. MOUNSEY, of Blackwell and Mr. T. S. WARE, Tottenham, London.

Of the plants in pots, Hyacinths were the best, and generally they were much superior to those shown in previous years. Narcissi, too, made a very fine show.

The table decorations on the whole showed a marked advance, but individually none were so effective as the 1st prize exhibit of Mrs. BECKWITH at last year's exhibition.

In the amateurs' and cottagers' classes the exhibits were very meritorious, and in every department the judges had unusual difficulty in making the awards.

starch content, and that this pronging considerably lessens the amount of starch, and, consequently, deteriorates the cooking qualities.

**INFLUENCE OF THE DEPTH AT WHICH THE TUBERS GROW IN THE SOIL UPON THE STARCH CONTENT.**

The question arose, if a cause for the variation in starch content in tubers of the same variety may not be found in the different depth at which the tubers grow in the soil? An investigation in this line was commenced in the autumn of 1892, which has yielded some interesting results. In six different varieties of Potato, the surface-soil was carefully removed from several plants, and the tubers first found were placed in one sack, after which those lying deeper in the soil were placed in another. In one of the six varieties three classes were made with reference to depth. The result showed that in every case the specific gravity was the highest from the deeper-growing tubers, and where three grades were made, the specific gravity of the intermediate grade ranged between the other two. When we consider the slight variation in depth at which the tubers grow in the soil, these facts are significant.

The trial was repeated in 1893, and the results lie in the same direction, which facts suggest a possible explanation of the depth influence, viz., that it acts through the temperature of the soil. The deeper tubers are in a cooler medium than the shallower ones, and soil that is killed is warmer in hot, dry weather than that which is not killed.

**SUMMARY OF THE RESULTS.**

A summary of the whole investigation shows that:—1. Different varieties of the Potato, grown under the same cultural conditions, may vary in their food value to the extent of one-half or more. 2. The starch content of the same variety, and on the same soil, may vary considerably in different seasons. 3. Different tubers of the same variety, grown under similar cultural conditions, may vary in their starch content to the extent of one-third or more. 4. This difference does not appear to be a result of heredity. 5. Pronged tubers are inferior in their starch content to regular ones. 6. The tubers that grow deepest in the soil are richest in starch. 7. In one trial, the hilling of Potatoes apparently caused a reduction in their starch content. 8. Potatoes grown rather closely in drills were richer in starch than those grown in rows both ways. 9. Potatoes greened by exposure to sunlight, and those that are very scabby, are not necessarily poorer in starch than others. 10. The higher the starch content, the sooner a Potato cooks, and the more it swells in cooking. 11. The flavour of the Potato is not necessarily dependent upon its starch content. The market value of Potatoes should, in equity, be based upon their starch content, rather than upon their bulk, and this subject is commended to the attention of Potato dealers. There is no good reason why a lot of Potatoes that average but 12 per cent. of starch, should sell for as much per bushel as another lot that average 20 per cent., for the latter are worth much more for food than the former, while being more desirable in every way. *J. J. Willis, Harpenden, Herts.*

because it is only in well-sheltered positions that it does not get injured by frost. The following species is, however, quite hardy in Germany, and therefore it is this species that is chiefly planted.

*Forsythia suspensa* is a more variable shrub, and for that reason it is known under different names at several times; firstly under the name *F. suspensa* it was brought by Verkerk Pistorius, from Japan to Holland; then it was brought from China by R. Fortune, and named by Lindley *F. Fortunei*; and lastly, it was brought from Japan as *F. Sieboldi*. The first and the last named of these *Forsythias* are exactly the same, but *F. Fortunei* differs by its more robust growth, and some other little characters. The correct nomenclature and the differences are the following:—

*Forsythia suspensa*, Vahl. (Sieb. and Zucc.)  
*a. Fortunei*, Rehder, *Gartenfl.*, 1891, p. 398; *F. Fortunei*, Lindl., *Gard. Chron.*, 1867, p. 412.—Shrub of robust growth, with almost erect branches, only on older plants pendulous. Leaves undivided, trifid or trifoliate, ovate or oblong-ovate, rounded or somewhat attenuate at the base, acute-serrulate. Flowers on short peduncles, 1–3 in an axil. Calyx as long or longer than the tube of the corolla.

*b. Sieboldi*, Zabel, *Gartenfl.*, 1885, p. 36 (*Syringa suspensa*, Thbg.; *F. suspensa*, Vahl.; *F. Sieboldi*, Dippel, *Handb. d. Laubholz.*, i., p. 109). Shrub, with slender pendulous branches. Leaves mostly undivided, roundish-ovate or ovate, rounded at the base, serrulate, or crenate-serrulate. Flowers generally single in an axil, pendulous on  $\frac{1}{2}$ – $\frac{3}{4}$ -inch long peduncles. Calyx mostly shorter than the tube of the corolla. Corolla generally darker yellow, with more striking orange stripes inside, and the segments larger and shorter than in the preceding variety.

The above-named differences, however, are not perfectly constant, as there are transitions between the two varieties. Of the variety *Sieboldi*, I have seen dried specimens of cultivated plants only, which were collected in Japanese gardens; those in China in the wild state, collected plants, I have seen, belonged to the variety *Fortunei*; therefore, and for some other reasons, I believe that *F. suspensa*, Fortune is the typical form; *F. suspensa* Sieboldi, however, is a form produced in Japanese gardens by selecting the cuttings from pendulous branches of the typical form.

The difference in the length of the style was taken as a distinguishing feature in *Forsythia*, by Prof. Dippel. This is, however, only an individual difference, because the genus is a hetero-styled one like *Primula*, *Lytbrum*, and others. So far, I know only the macro-styled form of *F. viridissima*, having the style longer than the stamens, is cultivated; and as dried specimens only collected in China, I saw the micro-styled variety, having the style shorter than the stamens. The generally cultivated form of *F. suspensa* is micro-style, but the macro-styled form exists in the gardens at Kew. Of *F. intermedia*, both forms are cultivated. More detailed information can be found in my paper, "Ueber Dimorphismus bei *Forsythia*," in *Gartenflora*, 1891, pp. 395–400. *A. Rehder, Erfurt.*

**ENQUIRIES.**

"He that questioneth much shall learn much."—BACON.

CAN you inform me if there exists a society in London which enrolls members with or without a fee for the purpose of prosecuting practical botanical investigations in or about London? I mean, one that undertakes excursions with a view to receive lessons from a lecturer on any specimens, &c., which are found in the wayside. *An Enquirer.*

Is the plant commonly known as "Skirret" producing small, fleshy tubers still cultivated in this country? It is said to have been introduced from China as long ago as 1548. The eatable roots are described by an old writer as "the sweetest, whitest and most pleasing of roots." *D. M.*

**MARKETS.**

**COVENT GARDEN, APRIL 30.**

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply to the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. En.]

**PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Arum lilies, pr. dz.	6 0-9 0	Foliage plants, doz.	12 0-24 0
Aspidistra, per doz.	12 0-30 0	Geiatus, per doz.	6 0-9 0
— specimen, each	5 0-15 0	Hyacinths, per doz.	6 0-9 0
Azalea, per plant	2 0-3 6	Hydrangeas, various	per doz. ...
— mollis, per doz.	12 0-24 0	per doz. ...	9 0-24 0
Cineraria, per doz.	6 0-9 0	Lilium Harrisii, pr.	dozen pots ...
Cyclamen, per doz.	9 0-15 0	dozen pots ...	15 0-24 0
Dielysia, per doz.	9 0-12 0	Marguerites, pr. doz.	6 0-10 0
Dracena, each ...	1 0-7 6	Mignonette, pr. doz.	6 0-9 0
— various, pr. doz.	12 0-24 0	Palms, various, ea.	2 0-10 0
Ericas, various, doz.	9 0-24 0	— specimens, ea.	10 6-54 0
Evergreen Shrubs,		Primula sinensis,	
in variety, doz ...	6 0-24 0	per dozen ...	3 0-4 0
Ferns, small, doz ...	1 0-3 0	Spiraeas, per doz. ...	8 0-12 0
Ferns, various, doz.	5 0-12 0		

**Roots and Bedding Plants in variety.**

**CUT FLOWERS.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Narcissus, White,	
Azalea, 12 sprays ...	0 4-0 6	12 bun. ...	2 6-4 0
Bluebells, doz. bun.	1 0-1 6	Narcissus, Various,	
Bouvardias, per bu.	0 6-1 0	per 12 bunches ...	0 9-1 6
Carnations, 12 buns.	1 0-3 0	Orchids:—	
Cowslips, per doz.		Cattleya, 12 blms.	6 0-12 0
bunches ...	1 0 2 0	0'd on to glossum	
Daffodils, double,		crispum, 12 bu.	3 0-6 0
doz. bunches ...	1 0-2 0	Pelargoniums, scar-	
— single, 12 bun	3 0-6 0	let, per 12 bun.	4 0-6 0
Deutzia, per doz.		— per 12 sprays ...	0 6-9 0
bunches ...	3 0-4 0	Polyanthus, 12 bun.	2 0-4 0
Eucharis, per dozen	2 0-4 0	Pyrethrums, 12 bu.	2 0-4 0
Gardenias, per doz.	2 0-4 0	Roses, Tea, per doz.	0 9-2 6
Hyacinths, per doz.		— coloured, p. doz.	2 0-4 0
spikes ...	1 0-2 0	— yellow (Mare-	
Lapageria, per doz.		chal), per doz.	3 0-6 0
bunches ...	0 6-1 6	— red, per dozen	2 0-4 0
Lilac, French, p. b.	3 0-5 0	— Safrano, p. doz.	1 6-2 0
Lilium Harrisii, bu.	3 0-5 0	Spiraea, doz. bun.	2 6-5 0
Lily of the Valley,		Stephanotis, 12 sps.	6 0-9 0
per doz. sprays ...	0 6-1 0	Tuberoses, 12 blms.	0 9-1 6
Maidenhair Fern,		Tulips, various, dz.	0 3-0 6
per 12 bunches ...	4 0-8 0	Violets, 12 bunches	1 0-1 6
Marguerites, per 12		— Parme, French,	
bunches ...	3 0-6 0	per bunch ...	2 0-3 0
Mignonette, 12 bu.	4 0-6 0	— Czar, do. ...	2 0-2 6

**ORCHID-BLOOM in variety.**

**FRUIT.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Apples, Tasmanian,		Grapes, Hamburg,	
1st quality, p.		per lb. ...	2 6-3 0
bushel case	14 0-16 0	Melons, each	2 6-3 0
— do., 2nd do. ...	0 10-10 0	Peaches, per doz.	15 0-18 0
— do., inferior do.	6 0-8 0	Pine-apples, St. a-	
Figs, per doz ...	4 0-6 0	ched, each ...	2 0-5 0
Gooseberries, per		Strawberries,	
gallon	1 6-—	morninggathered,	
Grapes, Belgian, lb.	1 9-2 0	per lb. ...	5 0-6 0
— Gros Maroc, lb.	5 0-—	— packed in bxs.	
Muscats, p. lb.	12 0-—	per lb. ...	3 0-4 0
— Foster's Seed-		— seconds, per lb.	2 0-2 6
ling, p. lb. ...	4 0-—		

**ARMANIAN APPLES.**

Apples ex *ss. Cuzco* landed in perfect good condition, and met with a brisk demand at prices from 10s. to 15s. per case for best kinds; ordinary, 7s. to 9s. Next ship, *ss. Rome* due on Monday.

**AUSTRALIAN GRAPES, ex Cuzco.**

Some which arrived by this steamer realised up to 22s. per box, prospects for extension of this trade being very good. *J. R. Thomas.*

**VEGETABLES.—AVERAGE WHOLESALE PRICES.**

	s. d. s. d.		s. d. s. d.
Asparagus, Worces-		Peas, Channel Is-	
ter, p. bundle,		lands, per lb. ...	0 10-1 0
100 beads ...	1 2-1 6	Potatoes, Channel	
— Colchester, p.		Islands, per lb. ...	0 3-0 4
bundle, do.	2 6-3 0	Seakale, per punnet	0 9-1 0
Beans, per lb. ...	0 10-1 0	Tomatos, English,	
— Madeira, p. bas.		per lb. ...	1 0-1 3
Cucumbers, per dz.	2 0-3 0	— Canary Is-	
Mint, per bunch ...	0 2-—	lands, per case,	
Mushrooms, per lb.	0 6-0 8	12 to 14 lb. ...	5 0-6 0
Onions, English, p.		— Canary, boxes,	
cwt. ...	3 0-4 0	4 to 4½ lb. ...	1 6-2 0

**NEW POTATOS.**

The heavy arrivals have caused prices to drop. Malta Kidneys, best, 10s. to 12s.; do., ordinary, 8s. to 9s.; do rounds, 8s. to 10s.; Canary Kidneys, best, 8s. to 11s.; do ordinary, 6s. to 8s. per cwt. *J. B. Thomas.*

**FORSYTHIA SUSPENSIA.**

*FORSYTHIA suspensa*, one of our most beautiful early-flowering shrubs, is found in the garden under different names, being considered by some people as synonymous, by others as distinct species, but there are really two species of *Forsythia*, viz., *F. viridissima* and *F. suspensa*, and besides, a cross between both, *F. intermedia*, raised from seeds of *F. suspensa*, by Mr. Zabel, in Munden (Hanover), and described in the *Gartenflora*, 1885, p. 36. *Forsythia viridissima*, Lindl., is a shrub of nearly the same beauty as *F. suspensa*, but of erect growth, of which no varieties are known, except a form with variegated leaves; *F. viridissima* is not so hardy as *F. suspensa*, and in Germany it is seldom to be seen freely flowering,

SEEDS.

LONDON: April 29.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, although as might be expected, the sowing demand for field seeds is now beginning to fall off, the interesting speculative inquiry for holding over, which recently set in, is daily gaining both in strength and volume. Notwithstanding, however, this welcome rally in values all along the line, excellent French red Clover-seed is to-day obtainable at 3s. per cwt. White Trefoil and Alsiko, and also Perennial and Italian Rye-grasses are winding up the season at exceedingly low rates. For Tares the sale is slow. Canary-seed and Hemp seed meet with more attention, and the tendency of values is upwards. Rape-seed keeps strong, mustard is neglected. Peas and Haricots are featureless.

FRUIT AND VEGETABLES.

BOSCHON: April 28.—Quotations:—Onions, 4s. to 5s. per bag; new Carrots, 9d. to 1s., and Turnips, 8d. to 9d. per bunch; Cabbages, 2s. to 2s. 9d. per tally; Horseradish, 8s. to 12s. per dozen rolls; Apples, 4s. to 6s. per bushel.

SPITALFIELDS: April 28.—Quotations:—Cauliflowers, 4s. to 6s. per tally; Cabbage, tied, 2s. to 3s. per tally; do, open, 4s. to 6s. do.; Broccoli, 9d. to 1s. per bag; Greens, bag, 1s. 6d. to 2s. 3d.; Rhubarb, forced, 9d. to 1s. 3d. per dozen bundles; natural, do., 2s. to 2s. do.; Turnips, bunch, 3s. 6d. to 4s. per dozen; do., bag, 1s. 3d. to 2s. 3d. per bag; Onions, Egyptian, 6s. to 7s. do.; do., Spring, 1s. to 1s. 3d. per dozen bunches; Mint, 2s. to 3s. do.; Parsley, 1s. to 1s. 3d. do.

STRATFORD: April 29.—Quotations:—Cabbages, 2s. to 3s. 6d. per tally; Greens, 1s. 9d. to 2s. per dozen; Cauliflowers, 1s. 3s. to 1s. 6d. per dozen; do., s. to 7s. per tally; Broccoli, 3d. to 4d. per dozen; Horseradish, 1s. to 1s. 3d. per bundle; Parsley, 1s. per dozen bundles; Rhubarb, forced, 1s. to 1s. 3d. do.; do., field, 1s. 6d. to 2s. do.; White Turnips, 2s. to 2s. 6d. do.; Leeks, 1s. 4d. to 2s. do.; spring Onions, 1s. to 1s. 6d. do.; Salad, 1s. 6d. per dozen punnets; frame Cucumbers, 2s. to 3s. 3d. per dozen; Carrots, household, 2s. to 2s. 6d. per ton; cattle feeding, 22s. to 24s. do.; Parsnips, 20s. to 25s. per ton; Mangels, 12s. to 18s. per ton; Onions, Egyptian, 6s. to 6s. 6d. per cwt.; Apples, Tasmanian, 9s. 6d. to 10s. 6d. per case; do., Nova Scotian, 18s. to 20s. per barrel.

FARRINGTON: April 30.—Quotations:—Cauliflowers, 1s. 3d. to 1s. 6d. per dozen; Cabbages, 9d. per bunch; Leeks, 1s. per dozen; Beet, 9d. per dozen; Carrots, 2s. per ton; Turnips 2s. per dozen bunches; Parsnips, 1s. 6d. per bag; Rhubarb, outdoor, 2s. per dozen bundles; Seakale, 1s. 6d. per punnet; Broccoli, 6d. per bushel; Tomatos, 1s. 3d. per tray; Mushrooms, 5s. per 10 lb.; Apples, Tasmanian, 10s. to 14s. per box.

POTATOS.

BOROUGH: April 28.—Quotations, Old Potatos ranged from 30s. to 8s. per ton; and New sold at from 12s. to 20s. per cwt.

SPITALFIELDS: April 28.—Quotations:—Magnums, 30s. to 50s.; Sutton's Abundance, 45s. to 65s.; Reading Giants, 50s. to 65s.; Scotch Magnums, 50s. to 60s.; Dunbar do., 60s. to 70s.; do. Regents, 50s. to 60s. per ton.

STRATFORD: April 28.—Quotations:—Dark soil, Bruces, 20s. to 25s.; light do., 28s. to 50s.; Reading Giants, 25s. to 40s.; Sutton's Abundance, 40s. to 50s.; Scotch Main Crop, 40s. to 50s.; Dunbar, 40s. to 50s.; Scotch Main Dunbars, 40s. to 50s. per ton.

FARRINGTON: April 30.—Quotations:—Best Main Crop, 70s. to 80s.; Druids, 55s. to 65s.; Bruces, 40s. to 45s.; Magnums, 30s. to 40s.; Imperators, 20s. to 30s. per ton; New Jersey, 22s. 6d.; Canary, 12s.; Egyptian, 10s. per cwt.

LONDON MARKET AVERAGES: April 29.—New: Jersey, £22 to £25, and Guernsey, £22 to £25; Lisbon, £10 to £11; Maltese, £10 to £12 per ton. Old: Dunbar Main Crop, 60s. to 90s.; do. Bruce, 50s. to 70s.; Sutton's Abundance, 45s. to 55s.; Main Crop, 40s. to 50s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr) for the week ending April 25, and for the corresponding period last year:—1896: Wheat, 25s. 6d.; Barley, 21s.; Oats, 13s. 11d. 1895: Wheat, 20s. 9d.; Barley, 20s. 8d.; and Oats, 14s. 2d.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Hay, best, 65s. to 87s. 6d.; inferior, 88s. to 60s.; Clover, prime, 60s. to 85s.; inferior, 30s. to 35s.; mixture, 60s. to 84s.; and straw, 24s. to 40s. per load.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.					
	ACCUMULATED.										
	Above 42° or below 42° the Mean for the week ending April 25.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.							
0	4	46	0	+ 91	- 289	4	- 89	21	22	18	
1	6	61	2	+ 112	- 219	3	- 63	6	0	38	28
2	4	52	1	+ 115	- 205	3	- 51	4	6	35	26
3	1	56	12	+ 77	- 218	3	- 61	6	1	50	27
4	3	64	3	+ 105	- 240	4	- 57	5	3	40	25
5	1	53	8	+ 97	- 233	4	- 53	5	0	43	25
6	4	57	0	+ 120	- 213	6	- 72	14	9	33	24
7	3	57	0	+ 139	- 242	3	- 65	9	5	41	25
8	2	57	0	+ 136	- 199	4	- 60	7	8	52	28
9	4	62	0	+ 151	- 235	3	- 71	10	9	39	21
10	2	61	1	+ 182	- 203	5	- 68	9	8	48	24
*	2	66	0	+ 223	- 109	4	- 63	5	3	58	33

The districts indicated by number in the first column are the following:—

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.
- Principal Grassing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

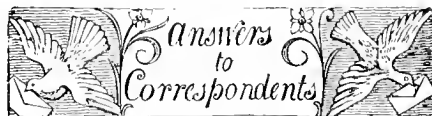
The following summary record of the weather throughout the British Islands for the week ending April 25, is furnished from the Meteorological Office:—

"The weather was fair and dry during the greater part of the week, the only rain experienced being some showers over our eastern districts on the 22nd or 23rd, and slight falls in most parts of the kingdom towards the end of the period.

"The temperature was above the mean in all districts, the excess ranging from 1° in 'England, E. and S.' to 4° in 'Scotland, N. and W.', 'Ireland, N.', and 'England, N.E.' and to 6° in 'Scotland, E.' The highest of the maxima were recorded during the earlier or middle part of the week, and varied from 60° in 'Scotland, E.', the 'Midland Counties,' and 'Ireland, N.' to 63° in 'Scotland, W.' and 62° in the 'Channel Islands.' The absolute minima were rather low for the time of year, ranging from 28° in 'Scotland, E.', 'England, E.' and the 'Midland Counties,' to 36° in 'England, N.E.' and 38° in the 'Channel Islands.' The diurnal range of temperature was large over all the more inland parts of the kingdom.

"The rainfall was extremely slight, and much less than the mean in all districts.

"The bright sunshine was deficient in 'Scotland, N. and W.', but was fairly abundant, and exceeded the mean, in all other districts. The percentage of the possible duration ranged from 58 in the 'Channel Islands,' 52 in 'England, S.W.', and 50 in 'England, E.', to 33 in 'Scotland, W.', and to 22 in 'Scotland, N.'"



ADDRESS: Barbier Frères et Fils, successors to Trauson Frères, 16, Route d'Olivet, Orleans, France.

ADLUMIA CIRROSA: H. H. This is generally considered a biennial. Doubtless it might under certain circumstances flower the first year.

ASTERS: *Oxonium*. See p. 556.

BOOKS: A. R. S. Enquire at the Bazaar Office, 170, Strand, W.C.

ERRATA.—P. 463, col. c, line 12, for "Yews" read "first." In p. 520, col. a and c, for "Ashcroft" read "Ashworth," as at p. 518, col. b.

FREESIA: Messrs. Dammann & Co. send a complex flower of a Freesia, the abnormality arising merely from the union of two or three flowers into one.

MUSHROOMS: A. Z. It is a specimen of the ordinary Mushroom, but very large and rather coarse. We cannot account for the great elongation of the stem. Can you furnish particulars of culture, depth of covering on the bed, degree of warmth of the bed, and of the house.—F. H. They are attacked by a parasitic fungus. It will be prudent not to eat them.

NAMES OF PLANTS: Y. H. M. The common Almond.—C. Webb. *Pulmonaria officinalis*.—P. F. Kerra japonica.—F. P. *Ceanothus azureus*.—H. H. 1, *Euphrasia officinalis*; 2, *Polygonum persicaria*; 3, *Geraonium Robertianum*; 4, *Prunus insititia*, probably; 5, *Prunus spinosa*; 6, *Equisetum arvense*.—A. C. 1, *Kerria japonica*; 2, *Galium Aparine*; 3, *Anthriscus vulgaris*; 4, *Erysimum Alliaria*; 5, *Stellaria Holostea*; 6, *Ranunculus Ficaria*; 7, *Glechoma hederacea*.—H. H. C. *Staphylea pinnata*.—A. B. S. *Acidium Viola*.—R. C. *Prunus Padus*, Bird Cherry.—C. P. *Orehis maculata*.—W. & S. *Anemone fulgens*.—H. T. *Amygdalus nana*.—*Alpaca*. 1, 2, *Saxifraga*, next week; 3, *Berberis empetrifolia*; 4, *Iberis coriifolia*; 5, *Saxifraga (Megasen) cordifolia*; 6, *Juniperus communis*.—Miss C. *Ribes aureum*.—T. F. 1, *Linum trigynum*; 2, *Anthericum lineare variegatum*; 3, *Kerria japonica*; 4, *Franseria calycina*; 5, *Agathia celestis*.—G. M. A. 1, *Goldfussia isophylla*; 4, *Melianthus major*.—Blackmore. *Dendrobium superbum*, often called *D. macrophyllum*; D. albo-sanguineum, the buff-coloured flower; *T. Coomber*. The finest variety of *Cypripedium Lawrenceanum* we have seen.—R. H. The true *Cypripedium villosum aureum*; superior to what is usually seen in gardens under that name. G. W. C. 1, *Bletia hyacinthina*; 2, B. h. *Gebina*; both are natives of China and Japan, and are excellent greenhouse plants, and even hardy in certain situations. B. Shepherdi is even a finer thing, with larger violet-purple flowers, but being a native of the West Indies, it is not so hardy. The other is a very fine form of *Odontoglossum luteo-purpureum*.—M. H. H. 1, *Celsia cretica*; 2, *Trachelospermum jasminoides*; 3, *Amelanchier canadensis*.—F. E. B. 1, one of the varieties of *Acer platanoides*; 2, one of the varieties of *Acer pseudoplatanus*; 3, *Pyrus Aria*; 4, *Berberis empetrifolia*; 5, *Pyrus japonica*.—H. S. *Physalis Alkekengi*, Bladder Cherry.—*East Lothian Gardener*. 1, *Bryonia dioica*; 2, *Polygonatum officinale*; 4, *Gentiana acaulis*; 5, *Sparmannia africana*; 6, *Polygonum arvense*.—G. C. *Ochertype*. *Scilla verna*. Is it wild in your neighbourhood?—J. B. *Morrea fimbriata*, an Iris.—N. C. *Kerria japonica*.—R. S. *Rhododendron formosum*, alias Gibsonia.

NETS FOR SUPPORTING MELONS: A. D. B. The materials for making the nets, if not the nets themselves, could be obtained of the horticultural sundriesmen.

NITRATE OF SODA FOR TOMATOS: A. D. B. Nitrogenous manures, such as guano, nitrate of soda, or sulphate of ammonia, if added to mineral manures, especially potash and phosphoric acid, greatly add to the produce. See *Gardeners' Chronicle*, March 9, 1895, p. 306.

ODONTOGLOSSUM PISCATORUM: J. B. We are not able to inform you why the flowers have all come deformed. It looks as if some sudden check to growth had occurred.

ORCHID DISEASE: A Constant Reader. The Orchid disease is *Uredo Lynchii*. As you observe, it is useless to clean off the leaves, because the disease is endophytal. Cutting off the diseased leaves at once when the "rust" appears might prevent its spreading, but a radical cure is doubtful. Syringing with Condy's Fluid has been recommended, and has been of service in parallel cases. The diseased plants should be isolated from all other Orchids, or the disease will spread. M. C. C.

PANSIES: C. H. We do not see anything special in your seedlings. There are many better.

PEAR LEAVES: H. M. The Pear-leaves are affected with the old trouble, which attacks them all the



world over, wherever the Pear and Apple are cultivated. It is the same fungus (*Fusicladium dendriticum*) which causes the Apple and Pear-scab on the fruits (see *Gardeners' Chronicle*, November 28, 1885). Tho only check yet known is to syringe with one of the copper solutions—either Bordeaux Mixture or Eau Celeste. *M. C. C.*

**POPPY MOULD:** *Rev. G. Holley Dod.* Your mould on *Meconopsis* is the same as that which attacks the Opium Poppy and other Poppies, and is called *Peronospora arborescens*. It has a close relationship to the Potato disease and American Vine disease. It is an endophytl parasite, so that external spraying can do little good. To prevent its spreading, the only chance is to root up and burn all affected plants. See Berkeley in *Journal of the Horticultural Society*, vol. i., p. 31, pl. 4, fig. 24. *M. C. C.*

**PRIMULA AND POLYANTHUS:** *Primrose.* The Primula has one flower on each stalk which comes direct from the root, and the latter blooms in trusses of many flowers. There are numerous crosses between the two, which combine the characteristics of each, more floriferous, perhaps, than either, with great variety of colours, and less prim or stiff in habit than the Polyanthus proper.

**RICHARDIA:** *C. B.* It is not at all uncommon to see a double spathe; the pity is our gardeners do not try to "fix" so desirable a sport.

**STOPPING HERBACEOUS CALCEOLARIAS:** *Curious.* Stopping is sometimes practised in so far as to nip out the central or main flower-stem, which has the result of causing many more stems to shoot up than would otherwise do so. The proceeding causes also a somewhat late blooming, rather smaller because more numerous flowers, and dwarfs the plants.

**SWORD BEAN:** *W. A. M.* Probably the seed of *Canavalia glabrata*, climbing Bean, greenhouse culture.

**VINE LEAVES:** *R. Walker.* The Vine leaves and shoots furnish no evidence of fungus disease. The appearance suggests root troubles, or at any rate something culturally wrong, which cannot be determined from the material sent. The cause and remedy must be sought externally. *M. C. C.*

**VINERY TEMPERATURES:** *F. Perry.* The temperatures of the earlier house are sufficiently high by day, but 5° too high by night, unless the varieties are Mscats, black or white. You should moderate the use of artificial heat by day whenever it is safe to do so; and aim at slightly increasing the day warmth week by week to the ripening point of the fruit, but it should be chiefly by sun heat. The late vinery should now be started, or the fruit will not ripen. Observe our weekly Calendar.

**VIOLA:** *A. B. S.* The fungus on Viola is *Æcidium Viola*.

**WATER MELONS:** *A. D. B.* There is no reason why Water Melons should not be grown under glass in this country. They require rather less heat than ordinary Melons. To make sure of a crop, the flowers, as you suggest, might be fertilised artificially.

**COMMUNICATIONS RECEIVED.**—H. B.—J. R.—F. S. & Co.—H. de V.—A. F. M.—C. S. S.—J. F. (next week)—G. C.—H. H. D.—E. G.—M. C. C.—Flowers (next week)—J. M.—Cocker & Son.—D. S.—Scotland—Black Country (next week)—W. D.—J. A.—O. R.—W. J.—T. B.—W. Taylor.—E. C.—H. H.—F. B.—K. G. S.—Dr. Swallow.—Mrs. Maryat.—J. A.—Otto B., St. Louis.—W. Innes & Co.—R. A.—R. D.—W. H.—J. J.—W.—H. W. W.—G. B.—J. Munday.—C. B. G.

**PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.**—H. B.—J. R.—F. S.—The Earl of A.—W. de V.

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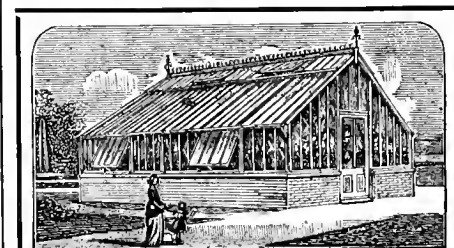
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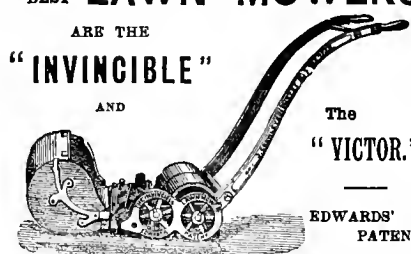
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Mr. W. STEVENS, Foreman to Mr. GILMAN, Ingestre, has been appointed Gardener to Mrs. STOFFORD SACKVILLE, Drayton House, Thrapstone.

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WANTED, an experienced and capable MANAGER for a very large Market Garden. Must understand Fruit and Vegetable Growing in every branch, be able to command a large number of workmen, and be up to date in producing economically and profitably the best crops for the market.—Address, stating age, salary required, with references, &c., to O. P. Q., 41, Wellington St., Strand, W.C.

WANTED, a GARDENER, for a Convalescent Home at Broadstairs.—Wife capable of taking charge of Laundry. Good character indispensable.—Apply by letter to SECRETARY, Yarrow Home, 73A, Queen Victoria Street, London, E.C.

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WANTED, as WORKING FOREMAN, for small family Nursery in Hampshire, an energetic single MAN.—None without special knowledge of Hardies need apply. State age and wages, and give references.—BAT., 41, Wellington Street, Strand, W.C.

WANTED, IMMEDIATELY, MEN for Grape Thinning. Wages, 24s. per week.—Apply to PARTRIDGE, Hampton.

WANTED, IMMEDIATELY, good GRAPE THINNER.—State wages required, to The Firs, Bunnay, at Cardiff.

WANTED, THREE YOUNG MEN, one for Inside, TWO for Outside-work, in a Public Garden. State age, wages, and experience.—GARDENER, Kew Gardens Southport.

WANTED, a middle-aged MAN, accustomed to Cucumbers, Tomatos, &c. Growing for Market.—Apply by letter, to J. GARDENER, Woodlands, Isleworth.

WANTED, TWO young MEN, well up in Potting and Watering, 18s. per week, in a Nursery.—Apply, WM. CRISP, Z'nnor Boas', Balham, London, S.W.

WANTED, a young MAN, for Potting, Watering, Tying, and willing to make himself generally useful. Must be quick at Potting, and well up in Fern Growing and all Soft-wooded Stuff. Good reference required. £1 per week to commence with.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

WANTED, AT ONCE, smart young MAN, for Greenhouse and Nursery work.—Apply to WM. ANDERSON, Nurseryman, Berwick-on-Tweed.

WANTED, JOURNEYMAN, Inside and Out, with not less than five years' experience.—Apply to HEAD GARDENER, North Cray Place, Foot's Cray, Kent.

WANTED, a JOURNEYMAN, accustomed to Fruit-growing. Good Grape-thinner; Tie and Train Peaches, &c.; 16s. per week. Bothy and Vegetables.—Apply by letter only, with copies of testimonials, to J. H. GOODACRE, Elvaston Castle Gardens, Derby.

**WANTED, TWO energetic young MEN;** one with a good knowledge of Orchids, the other to take charge of Conservatory and Flower Garden. Wages, 18s. per week, with botany, milk, &c.—Apply, enclosing copies of testimonials, to W. SAYER, Rockingham, Boyle, co. Roscommon, Ireland.

**WANTED, a YOUTH, age 17 to 18, as IMPROVER, under Head Gardener.** Clean shoes, &c. Good character. Abstainer required. State wages.—J. WILSON, The Gardens, Pavham, Bedford.

**WANTED, a YOUTH, about 17, for Outdoors and Ic, where everything is grown for Market.** To live in bothy. State wages excocted and particulars, to G. C. MAYNARD, Florist, Cole Orton Gardens, Ashby-de-la-Zouch.

**WANTED, a sharp, active BOY, for the Alpine Department.** Must have some knowledge of plants.—Apply, in own hand-writing, to STANSFIELD BROTHERS, 97, St. Luke's Road, Southport.

**WANTED, as FERN-RAISER, a young MAN, thoroughly acquainted with Raising Ferns from Spores in large quantities for Market.** State age, experience, and wages required.—W. COOPER, Limited, Feltham, Middlesex.

**WANTED, a SHOPMAN, for a Seed and Florist Shop in a Provincial Town, one of good address, and used to Counter-work.** Preference given to a married man.—State full experience, with age and wages expected (communications strictly confidential), to H. H. Messrs, Nutting & Sons, 106, Southwark Street, London, S.E.

**WANTED, TWO young MEN (from a Market Nursery preferred), well up in the general routine of Inside Work.**—State age and experience, with copy of testimonials, and wages expected, to TURNER BROS., Nurserymen, Garston, Liverpool.

**WANTED, AT ONCE, a young MAN for the Houses, must be used to Fern-growing, &c., for Market.** Constant place. Wages to commence with, 18s. per week.—Apply to JAMES WINGFIELD, Widmore Hill Nursery, Bromley, Kent.

**WANTED, young MAN, as IMPROVER.**—Must have had some experience in the Houses. No botany. State age, wages required, &c., to W. POTTLE, Barrill's Park, Henley-in-Arden.

**WANTED, a SHOPMAN, age about 25, for Seed, Fruit, and Florist Trade.** State wages, also experience, with references, to W. RIDLEY THOMAS, Florist, Gawestry.

**WANTED, a TRAVELLER, well acquainted with the district of London.** Good salary to a qualified man. Must be well up in the Seed, Bulb, and General Nursery Business. Write, giving full particulars.—A. Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Florist.

**WANTED, a young LADY, of good appearance and address.** Must be a first-class artist.—Apply, stating age, salary required, with references, to J. HENDERSON AND SONS, Florists, 3, Lincoln Place, Dublin.

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**TO GARDENERS AND OTHERS SEEKING SITUATIONS.**

*The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.*

*Advertisers are cautioned against having letters addressed to initials at Post-offices, as all letters so addressed are opened by the authorities and returned to the sender.*

**B. S. WILLIAMS AND SON** beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of **HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN.** Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries Upper Holloway, N.

**F. SANDER AND CO.** can recommend several highly qualified and energetic **HEAD and UNDER GARDENERS**, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to F. SANDER AND CO., St. Albans.

**Gardeners, Farm-Bailiffs, Foresters, &c. DICKSONS, Royal Nurseries, Chester,** are always in a position to **RECOMMEND MEN** of the highest respectability, and *thoroughly practical* at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

**SOUTH AMERICAN ORCHIDS!** *Odontoglossum crispum*, purest Pacho type, a speciality!—Experienced COLLECTOR is open to engage with a well-established firm, and commence work without delay. Small salary only. Write at once to—CARLOS H. WALTER, Botanico Honda, Republic Colombia, South America.

**GARDENER (HEAD).**—Age 32, married; thoroughly acquainted with his duties, including Orchids. Excellent testimonials as to character and ability from noted places.—GARDENER, Farnaure, Ravensworth, Gateshead.

**GARDENER (HEAD), where five or more are kept.**—Age 29; well up in Vines, Peaches, Stove Plants, Chrysanthemums, Kitchen Garden, &c. Churchman; abstainer. Highly recommended.—ODONTU, 12, Girdlestone Road, Upper Holloway, London, N.

**GARDENER (HEAD), or ORCHID GROWER.**—Thoroughly experienced in all branches, especially Orchids. Eight years in last situation. Disengaged owing to employer going abroad. Excellent testimonials as to character and ability.—J. MALCOLM, 114, School Road, Crookes, Sheffield.

**GARDENER (HEAD), or ORCHID GROWER.**—Age 30; confidently recommended by the Head Gardeners at Sandringham, Tring Park, Carroo House, and other good Gardening Establishments. Sixteen years' good practical experience in all branches of the profession.—H. BOULTON, Cowper Villa, Cavendish Road, St. Albans.

**GARDENER (HEAD).**—Age 37, married, one girl. The Advertiser desires a re-engagement with any Lady or Gentleman requiring an experienced grower of Orchids, Stove and Greenhouse Plants, Chrysanthemums, Early and Late Forcing of Fruits and Vegetables, and the routine of work connected with well-kept establishments. Highest references. Three and a half years in present place.—GEORGE BLOOMFIELD, Barra Hall Gardens, Bayes, Middlesex.

**GARDENER (HEAD).**—Age 28; thoroughly practical in all branches. Leaving through place being sold. Five years' excellent character; ten previous; abstainer.—LAMPARD, 5, Park Road, Guildford.

**GARDENER (HEAD).**—R. H. EDGE, Gardener to the Countess of Iddeleigh, wishes to recommend a strictly honest, sober, hard-working young man, capable of managing two or three men.—The Hyde, Luton.

**GARDENER (HEAD).**—Married; thoroughly practical in the management of all its branches; good character from present employer.—W. MUMFORD, The Gardens, Nazareth House, Isleworth, Middlesex.

**GARDENER (HEAD).**—Good experience both at Home and abroad. Married, no family. Well recommended.—STEPHEN CASTLE, F.R.H.S., Bottesford Vineries, Notts.

**GARDENER (HEAD).**—Age 32; thoroughly experienced in all branches. Leaving through Estate being sold. Good references.—F. WELLS, 1, Elm Cottages, Sandford Road, Bexley Heath, Kent.

**GARDENER (HEAD).**—Mr. WEMYSS, of Wemyss, wishes to recommend a thoroughly competent Head Gardener.—Apply to R. THOMSON, Secretary, Wemyss Castle, Fife.

**GARDENER (HEAD WORKING), where one or two under are kept, or good SINGLE-HANDED.**—Age 28, married, no family. Thoroughly experienced in all branches, Indoors and Out. Good characters.—J. VICKER, 57, Bruce Road, Barnet.

**GARDENER (HEAD WORKING).**—Age 36, married. Twenty years' practical experience in all branches. Good references.—GARDENER, Willow Wood, Riding Mill, Northumberland.

**GARDENER (HEAD WORKING).**—Age 29, unmarried; thoroughly experienced in all branches. Can be well recommended.—GARDENER, Mrs. Salter, Nether Wallop, Stockbridge.

**GARDENER (HEAD WORKING), where three or four are kept.**—Fifteen years' experience in the cultivation of Flowers, Fruit, and Vegetables. Five years' good character from last place.—J. PRICE, 62, Hammersmith Road, Kensington, W.

**GARDENER (HEAD WORKING), and ORCHID GROWER.**—Age 33, married, no family; thorough practical experience in all branches. Excellent testimonials. Further particulars on application.—B. SWAIN, 85, Malvern Road, Leytonstone, Essex.

**GARDENER (HEAD WORKING), where three or more are kept.**—Age 32; thoroughly experienced in all branches. First-class references from present and previous employers.—EDWARDS, Institute, Ockham, Ripley, Surrey.

**GARDENER (HEAD WORKING).**—Age 30; fifteen years' practical experience, Inside and Out. Well recommended from good establishments.—G. STRICKLAND, 3, Heathside Cottages, Eoehampton, Surrey.

**GARDENER (HEAD WORKING).**—Age 35, married, no family; thoroughly practical knowledge in all branches. Highly recommended. Leaving through giving up.—W. PAYNE, The Lodge, Bournhurst, Horley, Surrey.

**GARDENER (HEAD WORKING).**—Age 30, married, one child; can be well recommended; experienced in all branches.—J. C., John Downie, 144, Prince's Street, Edinburgh.

**GARDENER (HEAD WORKING), where two or more are kept.**—Age 26, married when suited; abstainer. Thirteen years' experience in all branches, both Inside and Out. Excellent references. No circulars.—W. H., 77, Marlborough Road, Chelsea, S.W.

**GARDENER (HEAD WORKING); age 29.**—Mr. WHILLANS will be pleased to recommend WILLIAM HUGHAN, as above. First-class references from Brampton Bryan, Galloway House, Eaton Hall, and Blenheim Palace.—W. HUGHAN, Blenheim Gardens, Woodstock.

**GARDENER (HEAD WORKING).**—Age 34; thoroughly experienced in all branches. Trustworthy and Industrious. Wife understands Dairy. Good references.—GARDENER, 83, Ashbrook Road, Upper Holloway, N.

**GARDENER (HEAD, or good SINGLE-HANDED).**—Age 32, married, one child.—A LADY wishes to recommend her Gardener. Experienced in all branches, and thoroughly understands his work. Industrious, honest, steady, respectable. Leaving through giving up of Garden.—J. WALKER, Gardener, Shorncliffe Lodge, Sandgate.

**GARDENER (SINGLE-HANDED, or with help).**—Age 26, single. Vines, Cucumbers, Peaches, Flower, Fruit, and Kitchen Garden; Inside and Out. Life experience; good character.—SPURGEON, near Attwood's, Halstead, Essex.

**GARDENER (SINGLE-HANDED).**—Age 26, married; well up in Vines, Stove and Greenhouse Plants; also a knowledge of Orchids. Three years' character. Ten years' experience, Inside and Out.—J. TULLETT, Gardens, Ote Hall, Burgess Hill, Sussex.

**GARDENER (SINGLE-HANDED, or where help is given).**—Age 35, married, no family; six years' good character from present employer.—G. CHAPMAN, Green Man Street, Ewell, Surrey.

**GARDENER (SINGLE-HANDED, or otherwise).**—A Gentleman wishes to recommend his Gardener as above. Five years' excellent character. Leaving through no fault.—W. STROUD, Hook, near Winchfield, Hants.

**GARDENER (SINGLE-HANDED, or UNDER).**—Age 23, married; no encumbrance; understands all kinds of Garden work, Inside and Out.—WALTER EVANS, Webbheath, Redditch, Worcestershire.

**GARDENER (SINGLE-HANDED, or SECOND), where three or four are kept.**—Age 27, single; good experience Inside and Out; seven years' good references.—GRAVETT, Earls Barton, Northampton.

**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 25, single at present; good character. Inside and Out.—T. J. W., Larch House, Balham, S.W.

**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 24; eight years in last situation. Well experienced, Inside and Out. Can be well recommended.—F. W., 7, Firwood Avenue, Urmoston, near Manchester.

**GARDENER (SINGLE-HANDED, or otherwise).**—Age 25, single; life abstainer. Experienced in all branches, Inside and Out. Six years' excellent references. Well recommended.—G. BARFORD, Grove Gardens, Harefield Middlesex. No circulars.

**GARDENER.**—Age 29, married, no family; nearly three years' character, nine previous. Experienced in all branches. Well recommended. Church of England.—OSMOND, Green Lane, Eltham, Kent.

**GARDENER, where two or three are kept.**—Knowledge of Fruit, Flowers, and Vegetables; or a situation in Fruit. Highly recommended.—A. GHACR, Tring Park Gardens, Tring, Herts.

**GARDENER (where Help is given, or SINGLE-HANDED).**—Age 33, single; good experience in all-round work, Fruit, Flowers, and Kitchen Garden. Two years' good character, five previous.—A. MEERE THORP, Ruscombe, Reading, Berks.

**GARDENER.**—Age 29, married, two children. A Gentleman, leaving country house, strongly recommends his Gardener; excellent all-round worker; Lawns, Flower and Kitchen Garden, Greenhouse, Frames, &c. Honest, trustworthy, steady, sober, and useful. Three years' personal character. Free June 1, Surrey preferred.—J. BARCLAY, M.D., The Old House, Esher, Surrey.

**GARDENER (SECOND), in a good establishment.**—Age 23; can be thoroughly recommended; four and a half years in present situation.—HEAD GARDENER, Brookby Hall, Leicester.

**GARDENER (SECOND), or otherwise, Inside and Out.**—Age 23, single; excellent references as to character and ability.—D. BILL, Underhill Park, Sandgate, Kent.

**GARDENER (SECOND), where five or more are kept.**—Age 28; abstainer; six years good references; bothy.—CHAS. CARTER, The Gardens, Maple Hayes, Lichfield, Staffs.

**GARDENER (SECOND).**—Age 26, single; eleven years' experience. Good reference.—W. B., 44, Trafalgar Road, Hareham, Sussex.

**GARDENER (SECOND), or JOURNEYMAN (FIRST).**—Age 25; ten years' good experience. Good character.—H. FLANCE, 26, Tenor Road, Balham, S.W.

**GARDENER (SECOND)**, where three or more are kept, Inside and Out.—Age 22, married, abstainer; 18 months' good character, 2½ years' previous.—OSMOND, Farmcombe, Godalming.

**GARDENER (SECOND)**, Inside and Out.—Age 24; life experience; good references; disengaged.—A. H., Mr. Sparks, 6, Rollo Terrace, Hextable, Swanley, Kent.

**GARDENER (SECOND)**, or good **SINGLE-HANDED**.—Age 24; two years in last place as **SECOND**. Can be well recommended.—J. W. BARKER, Roselands, Waltham Cross, Herts.

**GARDENER (UNDER)**, or **GROOM-GARDENER**.—Age 23, single; five years' experience in good Gardens. Highly recommended.—J. FLINT, Mr. Bird, Borow Street, Quorn, Loughborough.

**GARDENER (UNDER)**.—Age 20, with some knowledge of Inside and Outside work. Can be highly recommended.—H. WINGROVE, Head Gardener, Laverstock House, Salisbury.

**GARDENER (UNDER)**.—Young man, age 20; thoroughly experienced Indoors and Out. Five years' reference from Brussels. Growing Ferns, Palms, Chrysanthemums, Tomatos, Grapes, Peaches, &c.; Forcing Strawberries, Beans, Lilacs, Roses, and Lily of the Valley.—EDWARD VAN WAYENBERG, 48, Fitzroy Street, Fitzroy Square, W.

**GARDENER (UNDER)**, Inside and Out.—Mr. GARNETT, Mount Harry, Withdean, Brighton, wishes to recommend a deserving young Man, age 25, as above. Four years' character.

**GARDENER (UNDER)**, wants situation to work in Kitchen Garden and Pleasure Grounds.—Age 26, married, no family. Good references.—G. CURTIS, The Gardens, Goodrest, Shinfield, near Reading.

**GARDENER (UNDER)**, or **JOURNEYMAN**.—Age 25; good experience, Inside; good references. Abstainer.—W. SOFFE, 8, Upper Stockbridge Road, Winchester, Hants.

**GARDENER (UNDER)**, Inside, in private Establishment.—F. G. ARBUTHNOT can highly recommend a Youth, age 19, as above. Four years' experience; excellent character. Apply as above.—Bexley, Kent.

**GARDENER (ASSISTANT)** in Kitchen Garden.—Age 22. Good references.—C. NASH, Great Misenden.

**£2 BONUS** given by young man (age 21).—Four and a half years' experience with Plants and Orchids. Over three years in present place as **UNDER**, as **SECOND** or **THIRD** in good place. Inside and Out. Good testimonials. Bothy preferred.—ERNEST DEXTER, Alva Terrace, Shipley, Yorks.

**GROOM-GARDENER** seeks situation.—Age 23; life experience. Excellent character.—S. TAYLOR, Station Road, Cullompton, Devonshire.

**MANAGER**, or **FOREMAN** in Market Nursery.—Married. Thoroughly understands Grapes, Peaches, Strawberries, Tomatos, Cucumbers, Ferns, Flowers, &c. Sixteen years' experience. Five years in last situation; 1½ acres of Glass. Good references.—J. YEATMAN, Wrotham.

**MANAGER**.—Age 32; producer of first-quality Cut Flowers, Cucumbers, Tomatos, Strawberries, Fern, Foliage, Chrysanthemums, Forcing Bulbs, Valley; also growing and forcing hardy flowering Shrubs, Roots, Bulbs; and small Farm. Present charge, over 18 acres, with glass. Will bear inspection.—HORTON, Hale, near Liverpool.

**MANAGER (WORKING)**.—Thorough experience in Cucumbers, Tomatos, Grapes, Chrysanthemums, and general Nursery-stuff. Good character. Abstainer.—J. L., Redland's Nursery, Emsworth.

**GROWER** of Ferns, Palms, and Soft-wooded Plants. Good references.—M., 4, Ethelbert Cottages, High Street, Cheshunt, Herts.

**GROWER**, under Foreman.—Young man (single), several years' experience. London and Provincial. Well up with Tomatos, Cucumbers, general Fat and Cut Stuff. Five years with Cyclamen, for Market Exhibition and Seed. Excellent references. Total abstainer.—CHARLES WHITE, 10, Knighton Road, St. Jude's, Plymouth.

**GROWER** and **PROPAGATOR**, or **Manager** of small Nursery.—Age 37; well up in Ferns, Stove Plants, &c. Life experience. Good reference.—W. M., 6, High Street, Alorton, near Harrow.

**PROPAGATOR (GENERAL)**, and **WORKING FOREMAN**; **SALESMAN** if required.—Age 43; life experience in Rhododendrons, Conifers, Clematis, Roses, and all kinds of Shrubs, &c. Twenty years in present situation.—T. CRANHAM, Ottershaw Nurseries, Chertsey, Surrey.

**PROPAGATOR** and **GROWER**.—Age 28; Carnations, Ferns, Stove, Softwood, and General Stuff for Market purposes; Tomatos, &c. Good testimonials.—O. C., 3, Edward Road, Hampton Hill, Middlesex.

**IMPORTANT** to **ROSE GROWERS**.—Situation wanted by a person of thirty years' practical experience, as **FOREMAN PROPAGATOR** and **GROWER**, where large quantities are annually required to be produced (especially Teas) on their own roots, under Glass, and Outdoors, by a method of propagation attended with the greatest success. Special terms.—O. G., 25, Portland Place, W.

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**FOREMAN** or **GROWER** in Roses, &c.—Age 26; eighteen years' experience in leading nurseries; ten years in present situation.—W., 78, Christleton Road, Chester.

**FOREMAN**.—Age 24; well up in Fruit and Plant culture. Two and a half years in last place as Foreman. Highly recommended.—E. HEWER, Lower Stratton, Swindon, Wilts.

**FOREMAN**, or **JOURNEYMAN (FIRST)**.—An energetic young Man, age 25, can be well recommended for ability and general knowledge of his duties; thoroughly trustworthy.—A., Hillingbear, Wokingham.

**FOREMAN**, or **JOURNEYMAN (FIRST)**.—Age 25; twelve years' experience in all branches; good references.—F. WOOD, South Cross, Mustury, Axminster, Devon.

**FOREMAN**, or **GARDENER (SECOND)**.—Age 24; ten years' experience in all branches, Inside and Out. Three years as **SECOND** in present situation. Good references.—G. HOOKEY, Gardens, Rihden, Updown Hill, Bagshot, Surrey.

**FOREMAN**, in the Houses.—Age 28; life experience in the general routine, including House Decorations. Last two years Foreman at Sidbury Manor, Sidmouth, Devon. Good references from previous places.—J. CLARKE, Wallingtons, Hungerford, Berks.

**FOREMAN**; age 28.—Mr. TISSINGTON, Barboro' Hall Gardens, Chertseyfield, can with confidence recommend F. DRABBLE. Fourteen years' good practical experience; nearly five as Foreman in present place.

**FOREMAN (Inside)**, or **JOURNEYMAN (FIRST)**.—Age 23. Good experience in Fruit and Plant culture, also Table Decorations; well recommended.—F. SAUNDERS, Worton House, Steeple Aston, Oxon.

**FOREMAN (GENERAL)**, in really good gardens.—Age 28; thoroughly efficient in all branches. Excellent testimonials, and highly recommended. Abstainer.—CHURCH, Itchen Stoke, Alresford, Hants.

**JOURNEYMAN (FIRST)** in the Houses.—Age 25; good knowledge of work. Well recommended from present and previous employers; disengaged.—A. N., The Gardens, Nevill Court, Tunbridge Wells.

**JOURNEYMAN (FIRST)**.—G. INGLEFIELD, Tedworth Gardens, Marlborough, can highly recommend a young Man as above. Eight and a half years' experience; two years' character here, and other good references.

**JOURNEYMAN**.—Age 22; six years' experience in Stove, Greenhouse, Fruit, and General Work.—J. HAYES, The Gardens, Lockerley Hall, near Romey, Hants.

**JOURNEYMAN**, Inside; age 23.—G. KIMMINS, Albury Hall, Hadham, Herts, would be pleased to recommend F. OVERILL, having been with him three years. Leaving for a change. Bothy preferred.

**JOURNEYMAN**, Inside.—Age 20; with a good knowledge of Fruit and Plant Growing; excellent references; strong and active.—W. REDDEN, 70, Byrom Street, Bowdoin, Altrincham.

**JOURNEYMAN**, Inside, or Inside and Out, in Private Establishment.—Age 23; good character. Four years in last place. Disengaged.—F. SHARP, New Cottages, Snailwell, Newmarket, Cambs.

**JOURNEYMAN**.—Advertiser can thoroughly recommend strong, active youth, age 17; four years' good practical experience both inside and out.—A. J. SANDERS, gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey.

**JOURNEYMAN**, in the Houses.—Age 19; good character; four years' experience.—E. SALMON, Shrubshill, Sunningdale, Berks.

**JOURNEYMAN**, Inside, in good establishment.—Age 24; two years in present place; good reference.—E. COOK, Ewhurst Park, Basingstoke, Hants.

**JOURNEYMAN**, Inside; age 19.—GEORGE HARDING, Itton Court Gardens, Chestport, can with confidence recommend RICHARD SCOTT. Has been here four years. Bothy preferred.

**JOURNEYMAN**, next to good Foreman, Inside.—Age 21; two years in present place; leaving when suited. Bothy preferred.—F. SMITH, Comberford Hall, Tamworth.

**JOURNEYMAN**.—Age 22; life experience. Good references. Disengaged.—F., 2, Olive Villas, Swanley, Kent.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 20; four years' excellent character from last situation; abstainer.—F. WATSON, Pangbourne, Berks.

**JOURNEYMAN**, or **GARDENER (UNDER)**, Inside, or Inside and Out.—Age 22; good characters.—E. ROGERS, The Gardens, Mornington Lodge, Mornington Avenue, West Kensington.

**JOURNEYMAN (FIRST)**, in good Establishment.—Age 22. Abstainer. Seven years' experience.—W. MARKS, Lower Street, Shere, Guildford, Surrey.

**JOURNEYMAN**, Inside.—Age 21; seven years' experience, good character. Bothy preferred.—FRANK HILL, Ketton Cottage, Stamford.

To **Nurserymen** and **Others**. **JOURNEYMAN (SECOND** or **THIRD)**, in the Houses.—Age 19; experienced in Cucumbers, Tomatos, &c. Abstainer. Excellent reference. Three years present place.—F. LAVENDER, The Firs, Herefield.

**JOURNEYMAN (FIRST)**, Inside.—Mr. OSMAN can with confidence recommend W. HAMMONDS, age 22, as above, who has been in present situation two years; life abstainer.—The Gardens, Ottershaw Park, Chertsey, Surrey.

**JOURNEYMAN**, Inside, or Inside and Out.—Age 24; six years' good character from last situation.—F. JONES, Langley Wood, Downton, Salisbury, Wilts.

**JOURNEYMAN**, Inside, age 20.—J. WADLAM, Gardener, Rimbury, Dorling, would be pleased to recommend E. NASH to any Gardener requiring a trustworthy young Man, leaving to better himself. Two and a half years in present situation.

**IMPROVER**, in good Private Gardens.—Age 19; Inside preferred. Strong and willing; used to Fires and taking Duty. Recommended by Mr. GEO. PRITCHARD, Shobdon Court Gardens, Shobdon, Herefordshire.

**IMPROVER**, Inside and Out.—Age 19; over four years in present situation. Can be well recommended. H. W. SHOEBRIDGE, Gardens, The Limes, Carshalton, Surrey.

**IMPROVER (Inside)**.—Situation wanted as above by Youth, age 19; four years in gardens; bothy preferred.—K. MANSELL, Leonardlee Gardens, Lower Beeding, Horsham, Sussex.

To **GARDENERS**.—Wanted to **APPRENTICE** a strong Lad (age 15), tall. State premium required. Has been one year in Gardens here.—W. C. SMYCHE, Upwell House Gardens, Wisbech.

To **GARDENERS**.—O. GODDARD, Gardener to Lord MARCUS BERESFORD, Rishogepate, Englefield Green, will be pleased to recommend his son, age 22, in a good Garden. Very steady. Eight years' experience.—Address as above.

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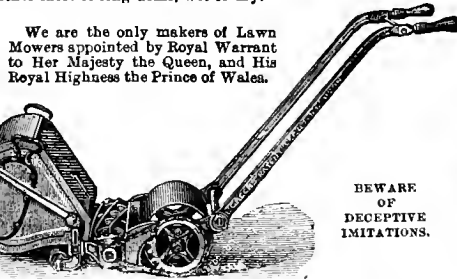
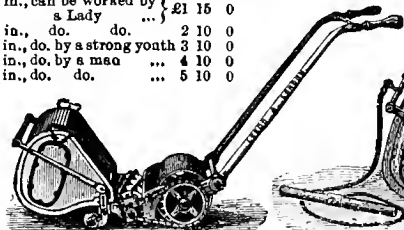
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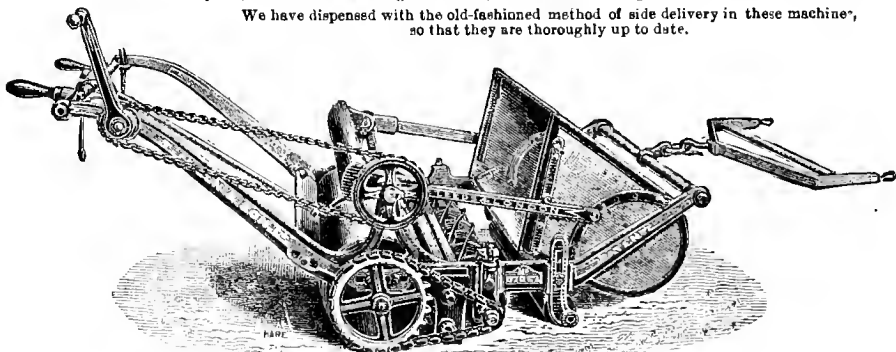
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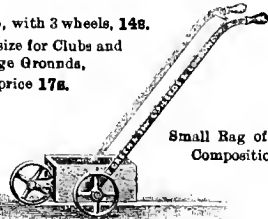
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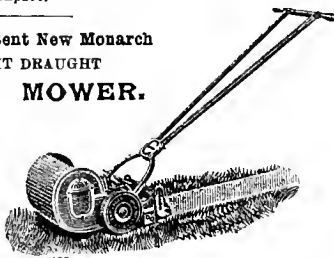
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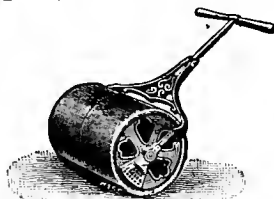
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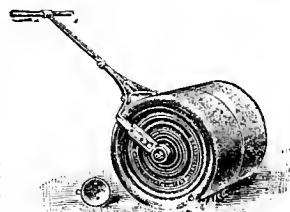
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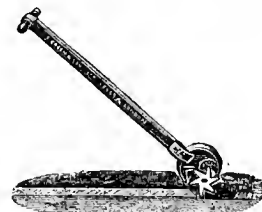
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	3 1 0	20 in.	22 in.	4 0 0
FUNNEL.	5 2 0	24 in.	26 in.	5 5 0
	8 2 0	28 in.	28 in.	7 0 0
	8 2 0	30 in.	33 in.	9 5 0

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ESTABLISHED 1841. No. 2889.

No. 489.—VOL. XIX. { THIRD }  
SERIES. }

SATURDAY, MAY 9, 1896.

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## CONTENTS.

Apple blossom, the show of ... .. 590	Madresfield Court Gardens and Gardeners' Royal Benevolent Institution ... .. 586
Apples, late-blooming ... 590	Nectarines on carplets of <i>Caltha palustris</i> ... 590
Arle Court, Cheltenham ... 582	Nursery Notes—James, Mr., Farnham Royal ... .. 583
Asparagus, feeding of ... 591	Vaitch & Sons, Jas. ... 583
Athyrium filix-femina plumosum var. Drumeryi ... .. 582	Orchid notes and gleanings ... .. 580
Bitter Oranges ... .. 591	Posoqueria macropus ... 586
Book notice—The Bamboo Garden ... 588	Propagation, methods of Rose show fixtures ... 586
Cabbages, the "boiling" of ... .. 590	Royal Botanic Society and their prize-money ... 588
Caladiums at Chelsea ... 583	Salernian school of medicine, the ... .. 579
Cardiff exhibition, the ... 588	Society—Royal Horticultural ... 591
Carnation and its culture, the ... .. 581	Spring at Glasnevin ... 584
Comber testimonial, the presentation of the ... 586	Spring bedding at the Queen's Park, Longford ... .. 587
Cultural memoranda ... 584	Tunisia Marshallia ... 584
Current events ... .. 586	Trees and shrubs ... 580
Dendrobium cymbidioides ... .. 581	Piaus Massoniana ... 580
Flora's flowers—Gold-laced Polyanthus, the ... .. 582	Rhododendron rhombicum ... .. 580
Tulip, the ... .. 582	Week's work, the—Flower garden, the ... 584
Grafting on fruit trees, the destruction of ... 589	Fruits under glass ... 585
Judging, the Royal Horticultural Society's code of ... .. 590	Hardy fruit garden ... 585
Larch disease, the, in Ireland ... .. 584	Kitchen garden, the ... 585
Mulching and watering wall trees ... .. 590	Orchid houses, the ... 585
	Plants under glass ... 581

## ILLUSTRATIONS.

Dendrobium cymbidioides ... .. 581	Moth on Raspberries ... .. 595
Moth, the Wood Leopard ... .. 595	Posoqueria macropus, showing habit ... .. 583
Tulip <i>Kolkakowskyana</i> , as imported ... .. 589	"flowers of" ... .. 587
"after three years' cultivation ... .. 591	

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Cypripedium Lantziaenum
Laelia Gouldiana
Cattleya Burberrya
Cypripedium Kolfiae
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The plants are in splendid order, fully described in the Catalogue, and the Sale affords a most exceptional opportunity for investment in good things.

Perry Vale, Forest Hill, S.E.

IMPORTANT UNRESERVED CLEARANCE SALE of a grand collection of TUBEROUS-ROOTED BEGONIAS, by order of G. A. Farini, Esq., who is leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS have received instructions from G. A. Farini, Esq., to SELL by AUCTION, on the Premises, Dartmouth Lodge, Perry Vale, Forest Hill, S.E., on FRIDAY, May 22, at half-past 12 o'clock, the whole of his far-famed collection of— 30,000 TUBEROUS-ROOTED BEGONIAS,

probably the most complete collection in the world, every named sort of any value being included. Two Silver Medals have been awarded by the Royal Horticultural Society at the great Temple Show for successful exhibits. Also many unflowered Seedlings, amongst which many startling novelties may be anticipated.

EXOTIC FERNS, AZALEAS, CALLAS, IMANTOPHYLLUMS, POT ROSES, 1000 ECHEVERIAS, 1000 GERANIUMS, and 400 choice CHRYSANTHEMUMS, GARDEN FRAMES, Portable LOUGHBOROUGH BOILER, and GARDEN UTENSILS.

May be viewed day prior and morning of Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.]

Balham, S.W.—First Annual Sale.

By order of Messrs. Harwood Brothers.—Without Reserve. MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, The Nurseries, 176, High Road, Balham, S.W., on WEDNESDAY NEXT, May 13, at 12 o'clock, several thousands of WELL-GROWN PLANTS, in lots to suit all purchasers, including 500 Palms in variety, well-established Orchids, choice Stove and Greenhouse Plants, a grand lot of Eucharis amazoica, 3000 Geraniums, 20,000 Bedding Plants fit for immediate planting, Hardy Bamboos, established in pots; Rhododendron Cunninghamii, named Chrysanthemums, &c.

May now be viewed. Catalogues on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Normandy, near Guildford, Surrey.

By order of the Trustees. IMPORTANT SALE of a HIGH-CLASS FRUIT GARDEN and NURSERY, with Possession.

MESSRS. PROTHEROE AND MORRIS in conjunction with Messrs. MUMFORD AND BOND, will SELL by AUCTION at The Mart, Tukehouse Yard, London, E.C., on WEDNESDAY, May 27, at 2 o'clock, at a low reserve, to balance an Estate by order of the Trustees of J. P. Parrott, deceased, and Mr. Wm. Parrott, the productive MODEL FRUIT GARDEN and NURSERY, of 41 a. 3 r. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade, and in splendid condition; 16 modern Greenhouses, heated and fitted upon the best hot-water principles; ranges of newly built Stables, Coach houses, Van, Cart, and Store Sheds, Pigeries, &c. The soil is of the best quality, and there are 1500 feet of frontage to existing roads.

Particulars, Plan, and Conditions of the above, also the Farm and of the remainder of this Estate may be had on the Premises; at the principal hotels in the neighbourhood; at the Mart; of Messrs. J. & T. RABOT, Solicitors, Aylebury; of Messrs. MUMFORD AND BOND, Auctioneers, Brill, Bucks; and of Messrs. PROTHEROE AND MORRIS, Auctioneers, Valence, and Estate Agents, 67 & 68, Cheapside, London, E.C.

Preliminary Notice.

HIGHLY IMPORTANT SALE OF THE ARDDARROCH COLLECTION OF ESTABLISHED CATTLEYS.

By order of R. Brooman White, Esq., who is giving up the Cultivation of Hothouse Orchids.

MESSRS. PROTHEROE AND MORRIS have been favoured with instructions to SELL by AUCTION, on the Premises, Ardarrach, Garelochhead, Dumbartonshire, on TUESDAY and WEDNESDAY, June 9 and 10, at half-past 12 o'clock each day, the whole of the well-grown CATTLEYS and LELLAS, and a few ODONTOGLOSSUMS in Flower. Fuller particulars will be given in future announcements.

Wednesday Next.

A Collection of STOVE and GREENHOUSE PLANTS, including well-grown FERNS, &c.; choice CARNATION, IMANOPHYLLUMS in bud, &c., from a Continental Nursery; HOLLYHOCKS, PYRETHRUMS, and other BORDER PLANTS; AMPELOPSIS VEITCHII, A. SEMPERVIRENS, PASSION FLOWERS, IVIES, and other CLIMBERS; an importation of CATTLEYS, ESTABLISHED ORCHIDS, AMARYLLIS; a variety of JAPANESE LILIES, GLADIOLI, 2000 PEARL TUBEROSES, ANEMONES, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 13, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thames Valley Nursery, High Street, Hampton Hill.

IMPORTANT SALE of thriving young NURSERY STOCK.

MR. J. EMBLETON has been favoured with instructions from Mr. J. Chipperfield, to SELL by AUCTION, on his Premises, as above, being the first Annual Sale, on TUESDAY, May 19 1896, at 2 o'clock in the afternoon precisely, an extensive assortment of well-grown NURSERY STOCK, including 1100 Roses in Pots (named), 3000 Geraniums, 1500 Marguerites, 2000 Chrysanthemums (named), 1000 Mignonette, Cucumber, and Marrow Plants, and a large assortment of Bordering, Bedding-out, and other plants.

May be viewed day previous to Sale, and Catalogues obtained on the Premises, and at the offices of the Auctioneer, Suffolk House, Hampton Hill, and Town Hall, Teddington.

SOUTH COAST.—TO BE SOLD, at an enormous sacrifice, a NURSERY of 6 acres, with 6 well-built Greenhouses, 650 fr. run, of modern construction and efficiently heated. Has cost present owner over £1000. Stock of Orchids, &c., in good condition. Held on lease for 21 years from 1894 at £18 per annum, with option to acquire freehold at £250 an acre. Small walled-in Garden adjoining held at £4 per annum, can be taken if desired. Price, including stock, £1700, or near offer.

Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 6514.)

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

TO FRUITERERS and FLORISTS.—An exceptional offer of a GENUINE BUSINESS. Been under Female Management. Health giving way cause of selling.—Apply, 58, Willesden Lane, Brondesbury, N.W.

NORTH-WEST OF ENGLAND.—Old established SEED BUSINESS with good connection, present proprietor retiring; would suit energetic young man. Will be disposed of upon most moderate terms. H. E. H., 41, Wellington Street, Strand, W.C.

TO FLORISTS.—TO BE LET, a magnificent SHOP, with commodious residential accommodation; highly adapted for a Florist's business, having land at side. The premises, which are exceptionally well-placed, front the High Road, and are opposite Streatham Hill Railway Station. For further particulars, apply on the premises, or to GEORGE WHICHELO, Esq., 16, Great George Street, Westminster.

TO GROWERS.—BED-ROOM and SITTING-ROOM combined, TO LET; suitable for two friends. Opposite Great Queen Street.—Apply to MRS. BROWN, Central Avenue, Covent Garden, W.C.

ENGLISH YEWS, 10 to 12 feet, good heads, but thin at bottom. Suitable for blind. Price on application. JOSEPH SPOONER, Goldsworth, Woking.

PARKOT TULIPS.—Specimen flowers, correctly named, will be sent free of charge to anyone interested in these gorgeous, artistic Tulips. Apply to C. G. VAN TUBERGEN, Jr., Zwaneburg Nurseries, Haarlem, Holland.

LOBELIA Emperor William, 100 Boxes, Pyrethrum, 50 (dozen in box), good strong stuff, seen any time. What offers? to—S. ARGENT, Lungehurst Nursery, Caterham Valley, Surrey.

PANSIES & VIOLAS.—Finest named SHOW and FANCY PANSIES, 3s. 6d. per dozen; 25s. per 100. Fine named VIOLAS, 2s. 6d. per doz.; 12s. 6d. per 100. Carriage paid. Catalogue on application.—JOHN FORBES, Hawick, N.B.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1879.

CATTLEYA INTERMEDIA, extra fine, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.; specimens, well-leaved, 10s. 6d., 15s., and 25s. ONCIDIUM CRISPUM, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. PRICE LIST free. W. L. LEWIS AND CO., Southgate, London, N.

CALCEOLARIA, GOLDEN GEM.—Extra strong, autumn-struck, well-rooted and hardened, 1s. 3d. per doz., or 8s. per 100. YERONICA TRAVERSII, neat for Edging, well-rooted, 5s. per 100, lib-rail packing free for cash.—T. L. MAYOS, The Nurseries, Langarou, Ross.

Lobelias, Heliotropes, Coleus, Fuchsias, Calceolarias, Marguerites, Musk, &c.

JOHN SOLOMON offers, as in former years, in thorough good stuff, LOBELIAS, Emperor William and Pumila magnifica, best blues, at 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000; all warranted true from cuttings. HELIOTROPES, COLEUS, and FUCHSIAS, best Market sorts, 5s. per 100. CALCEOLARIAS, Golden Gem, 5s. per 100; 40s. per 1000. MARGUERITES, best white, and Feu d'Or, yellow, 5s. per 100. Harrison's MUSK, 5s. per 100. Package included for Cash with order.—Oak Nursery, Forest Side, Chingford, E.

Lowest

MARKET PRICES.

Violas, Pansies, Herbaceous and Hardy Plants, Cannas, Dahlias, Delphiniums, Hollyhocks, Iris, Peonies, Violets, &c.; Fuchsias, Bouvardias, Calceolaria, Heliotrope, Lobelia, Musk, Ferns, Palms; Pelargoniums: Show, Regal, Ivy, Zonal, Bedding, stores, small pots, 5-inch pots; Strawberries, in small pots; Ivy: Gold, Silver, Green, in variety.

SHUTTLEWORTH, Limited, Fleet, Hants.

Seed Potatoes.

H. AND F. SHARPE are now offering their selected Stocks of all the best varieties of SEED POTATOS, at greatly REDUCED PRICES, to clear out. Special quotations on application. SEED GROWING ESTABLISHMENT, WISBECH.

FERNS!—FERNS!!

A large quantity of Small FERNS in 2 1/2-in. pots.—PTERIS CRISTATA, SERRULATA CRISTATA, ditto COMPACTA, ADIANTUM FILIVUM, PUBESCENS, and ELEGANS (small thumbs), at 9s. per 100; 500 and upwards, at 8s. 6d. Large 60's Pteris tremula, at 20s. per 100; 45's Pteris cristata, nobilis, major, tremula, Adiantum elegans, and also ARIALIS, at 4s. 6d. per dozen. ADIANTUM CUNEATUM (small thumbs), 10s. per 100. Above prices are for cash with order only. Packing Free. An Inspection at the Nurseries is Invited.

B. PRIMROSE, BLACKHEATH NURSERIES, ST. JOHN'S PARK, BLACKHEATH, S.E.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

POTATOS FOR SEED.

Myatt's Early Ashleaf, Kidney or Colossal, 1s. peck (14 lb.), 6s. 6d. cwt.; Early Puritan, 1s. peck, 7s. cwt.; Up-to-Date Saxonia or Snowdrops, 1s. 3d. peck, 8s. cwt.; Reading Giants, or Sutton's Abundance, 10d. peck, 5s. cwt.; Imperator, 10d. peck, 5s. 6d. cwt.; Bruces, 7d. peck, 4s. cwt.; Magnum Bonum, 6d. peck, 3s. cwt. Sent by rail on receipt of cash.

KENNELLY, Smithfield Market, Birmingham. Special Terms, Farmers and Seedsmen.

GRAPE VINES.—Black Hamburg, Gros Guillaume, Madresfield Court, Gros Colmar, Lady Downes, Foster's Seedling, Buckland Sweetwater, Royal Muscadine, Mrs. Pince, Golden Hamburg, Duke of Buccleuch, Canoe Hall Muscat, Low Price to clear.

WILL TAYLER, Hampton, Middlesex.

Hollyhocks.

NOW IS THE TIME TO PLANT.

JOHN FRASER, The Nurseries, South Woodford, Essex, offers a fine lot of HOLLYHOCKS, established in 45's. These are seedlings from named sorts, and are all named. If the seed is carefully saved they generally come true to name.

A List of the sorts, with price, may be had on application.

CARNATIONS.—For full particulars of the oft-certificated Grand New CARNATIONS Buccleuch Clove and Yuletide, and every other variety of merit, see FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 148 pages. Free on application.

JOHN FORBES, Hawick, Scotland.

GRAND NEW GERANIUM.

"KING OF DENMARK."

Received an "Award of Merit," R.H.S., May 5 (see Press reports). Flowers semi-double, measuring from 2 to 2 1/2 inches in diameter; colour rich rosy-salmon. Habit of plant, dwarf and sturdy. An acquisition either as a pot plant or for cut flowers. Strong plants in 48 pots, 3s. 6d. each. Trade price on application.

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JAPAN LILIES, PLANTS, SEEDS, &c.

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CANNAS.

Strong plants in pots, of all the best varieties, now ready for sending out.

LIST FREE ON APPLICATION.

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EXHIBITIONS.

ROYAL BOTANIC SOCIETY OF LONDON, GARDENS, REGENT'S PARK.

GREAT SUMMER EXHIBITION OF PLANTS and FLOWERS, WEDNESDAY NEXT, May 13, from 2 o'Clock to sunset.

A Band will play during the afternoon. Tickets to be obtained at the Gardens, or of the principal agents, price 5s., or on the day of Exhibition, 7s. 6d. each.

The Gardens are open to the Public on Mondays and Saturdays. Admission, 1s.

TEMPLE SHOW, May 19, 20, and 21, 1896.

The R.H.S. COMMITTEES will MEET in the TEMPLE GARDENS, on MAY 19, at 11 A.M. Plants, &c., for Certificate and Exhibition, must be entered by May 15. Schedules of the Show may be obtained from the ROYAL HORTICULTURAL SOCIETY, 117, Victoria Street, Westminster, S.W.

OLYMPIA.—OLYMPIA.—OLYMPIA.—

GRAND SUMMER FLOWER SHOW will be held in the beautiful Palmarium, at this Great Pleasure Resort, on MAY 27, 28, and 29

SPECIAL MEDALS and CASH PRIZES will be awarded to successful competitors. Schedules are now ready, and may be had by intending Exhibitors, together with particulars of space, from Mr. J. BICK, Garden Superintendent, at Olympia. General Manager: Sir AUGUSTUS HARRIS.

GRAND YORKSHIRE GALA, YORK.—

JUNE 17, 18, 19, 1896.

£700 OFFERED IN PRIZES.

£300 for Orchids, Stove and Greenhouse Plants, &c.

£180 for Pelargoniums, Carnations, &c.

£160 for Roses, Cut Flowers, &c.

£50 for Fruits, &c.

THREE GOLD MEDALS FOR TRADE EXHIBITS.

Apply for Schedules, to—

CHAS. W. SIMMONS, Harker's Hotel, York.

RICHMOND HORTICULTURAL SOCIETY.

£300 offered in Prizes & Medals.

The SUMMER SHOW will be held in the Old Deer Park, Richmond, on WEDNESDAY, June 24.

For Schedules and all particulars apply to

C. CAPEL SMITH, Hon. Sec.

Belle Vue Lodge, Richmond, Surrey.

NATIONAL CHRYSANTHEMUM SOCIETY

GREAT JUBILEE CELEBRATION,

Royal Aquarium, Westminster, Nov. 3, 4, 5, & 6, 1896.

Schedules of Prizes, &c., can be had of RICHARD DEAN, Hon. Secretary, Banelagh Road, Kaling, London.

VERBENAS.—Crimson, Purple, White, Pink,

or Scarlet, separate colours, 5s. per 100. LOBELIA, Emperor William, 2s. 6d. per 100, or 20s. per 1000. CALCEOLARIA, Golden Gem, 5s. per 100. Free on rail. Cash with order.—P. BOULTON, Beechenlea Nursery, Swanley.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE 57TH ANNIVERSARY FESTIVAL DINNER, in Aid of the Funds, will take place at the "Hotel Métropole," on SATURDAY May 30, 1896, when the Right Hon. the EARL of LATHOM, G.C.B., P.C., will preside.

The Committee have the pleasure to announce the following further sums, which have been promised or received, and added to the Chairman's List:—

Table listing names and amounts: JOHN SNEGROVE, per Walter Cobb ... £52 10 0; WALTER COBB, ditto ... 5 5 0; A FRIEND, ditto ... 3 3 0; A FRIEND, ditto ... 1 1 0; Mrs. WEBB, ditto ... 2 2 0; Rev. J. TILGARD, ditto (Annual) ... 1 1 0; J. VAN KAALTE, ditto ... 1 1 0; J. G. FOULSHAM, ditto ... 1 1 0; VARIOUS SUMS, ditto ... 15 14 6; F. A. BEVAN, per W. H. Lees ... 10 10 0; J. A. OAME, ditto ... 1 0 0; Mrs. WILLMOTT, per J. Preece ... 1 0 0; Miss WILLMOTT, ditto ... 1 0 0; JOHN RUSSELL, ditto ... 0 10 0; ROGER LEIGH, J.P., per G. Woodard ... 2 2 0; F. S. W. GORNWALLIS, ditto ... 1 0 0; Lieut.-Col. WARDE, M.P., ditto ... 1 0 0; R. J. FREELIN, ditto ... 1 0 0; Mrs. SHAKESPEARE, per A. Young ... 1 0 0; OTHER SUMS, ditto ... 0 4 8; JAMES MUIR, per H. J. Cutbush ... 1 1 0; C. J. HAYMAN, ditto ... 1 1 0; A FRIEND, per R. McIntosh ... 0 10 0; J. G. BUTCHER, M.P., ditto ... 0 10 0; Sir F. LOCKWOOD, M.P., ditto ... 0 10 0; A. SCHROEDER, ditto ... 0 5 0; Committee of Ancient Society of York Florists:—

Table listing names and amounts: Rev. H. VIVIAN, ditto ... 0 10 0; J. LAZEBNEY, ditto ... 0 10 0; W. CLUES, ditto ... 1 1 0; Mr. LAMB, ditto ... 0 5 0; J. F. WILKINSON, ditto ... 0 5 0; W. C. MILBURN, ditto ... 0 5 0; E. STAINES, ditto ... 0 5 0; Mr. HUDSON, ditto ... 0 5 0; J. C. MILBURN, ditto ... 0 5 0; B. PANNELL, ditto ... 0 5 0; A. SIMPSON, ditto ... 0 2 6; H. APLETON, ditto ... 0 2 6; WALTER H. BURNS ... 10 10 0; J. C. GRISELBACH ... 1 1 0; JAMES GODFREY (Annual) ... 1 1 0; W. RADLEY, ditto ... 1 1 0; E. RUSSELL, ditto ... 1 1 0; C. COOPER ... 12 12 0; J. S. UPEX ... 10 10 0; E. BURBURY ... 4 0 0; A. HANSHERE ... 3 15 0; T. LAST ... 2 8 0; C. TURNER ... 1 10 0; GEORGE BAKER ... 2 2 0; J. COOPER ... 0 19 0; W. BUCKLAND ... 0 16 0

Additional contributions will be most thankfully received and acknowledged by the Secretary—

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NOT RUBBISH, BUT PLANTS

That will make a good show, and give the Buyer entire satisfaction.

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- BEGONIAS, 12 splendid single, mixed colours, 3s. 6d.
BEGONIAS, 12 splendid double, mixed colours, 6s.
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CHRYSANTHEMUMS, 12 grand new early-flowering, good for pots or ground, 6s.
CHRYSANTHEMUMS, 12 early-flowering Pompon, 3s. 6d.
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DAHLIAS, 12 grand new Cactus kinds, 6s.
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FUCHSIAS, 12 splendid double kinds, including White and Rose, Phenomenal 4s.
FUCHSIAS, 12 splendid single kinds, 3s. 6d.
SHOW and DECORATIVE PELARGONIUMS, 12 splendid kinds, 6s.
ZONAL PELARGONIUMS, 12 best new singles, 13s. 6d., including Pearson's, Miller's, and Cannell's, 8s.
ZONAL PELARGONIUMS, 12 very fine older kinds, 4s.
ZONAL PELARGONIUMS, 12 best new double and semi-double kinds including Double H. Jacoby and Raspail Improved, 6s. 6d.
ZONAL PELARGONIUMS, 12 best older double kinds, 4s.
IVY PELARGONIUMS, 12 best kinds, 4s.
DOUBLE PETUNIAS, 12 grand kinds, 6s.
All free for cash with order. Send for Catalogue.

H. J. JONES, Ryecroft Nursery, Lewisham.

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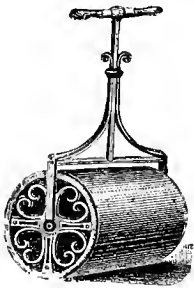
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SIZES—10, 12, 14, 16, & 18 inches.

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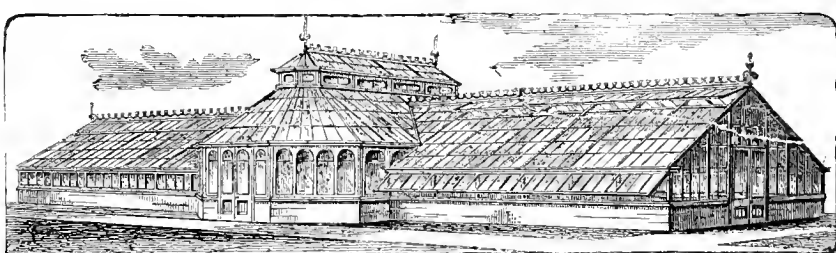
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Full priced Catalogue, with Cultural Directions, free from HENRY ECKFORD, Wem, Shropshire.  
Eckford's Culinary Peas are as far in advance of all other raisers as Eckford's Sweet Peas.

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Is the Cheapest and Best Weather Glass for all Classes.  
It works 6 inches from "Fine" to "Stormy," enabling everyone to be their own Weather Guide.  
3s. each, 4d. extra by post; Sample 3 for 7s. 6d. post free.  
A. MCKAY, Patentee and Sole Agent, King Street, Dunstable.

**SPLENDID GARDEN NETTING** 8s. per pad, 200 square yards, any width. Ditto for Lawn Tennis, 12s. Cash with order. "Your garden netting is far superior to that of Messrs. Rev. STEPHEN BENNETT, Uffculme. "Splendid quality, best I have had." DAVID BOWEN, Esq., Pembroke. — JOHN ROWE and CO., Temple Netting Works, Bristol. Please mention paper.

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Five 1st Prize Medals recently awarded in open competition.

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Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do our class of work, and that THE VERY BEST.  
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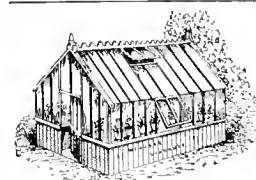
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Price 3d., Post-free 3½d.;  
Twenty-five Copies, 5s.; fifty, 10s.; and one hundred, 20s.  
Parcels of not less than twenty-five delivered, Carriage Free, in London only.  
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Everything complete, ready for erecting, From £2 10s.  
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**AMATEUR SPAN-ROOF FORCING HOUSE.**  
For Cucumbers, Tomatoes, Melons, etc.  
Everything complete, from 50s.

### COOPER'S "BEAT ALL" LAWN MOWER.



THE WORLD'S BEST.  
10 inch, 18/6; 12 inch, 19/6; 14 inch, 24/-; 16 inch, 27/6; 18 inch, 32/-.  
Grass Catcher, to fit any Machine, 5/- each.  
PACKED F.O.R. LONDON.



**DOVE or PIGEON COTE**  
(On Poles).  
For 8 pairs of birds, £1 15s.

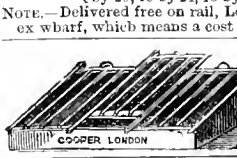
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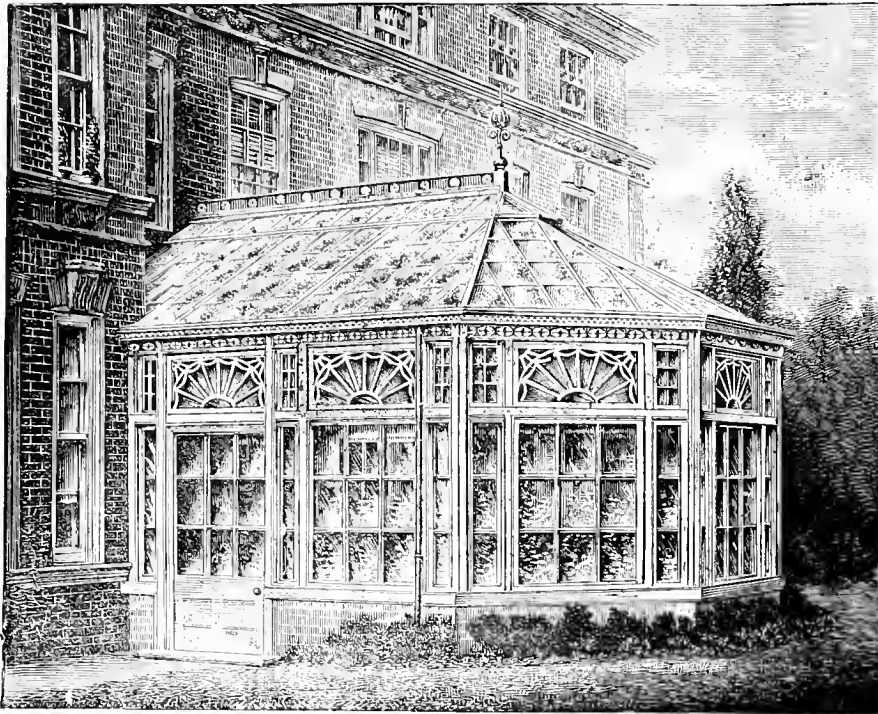
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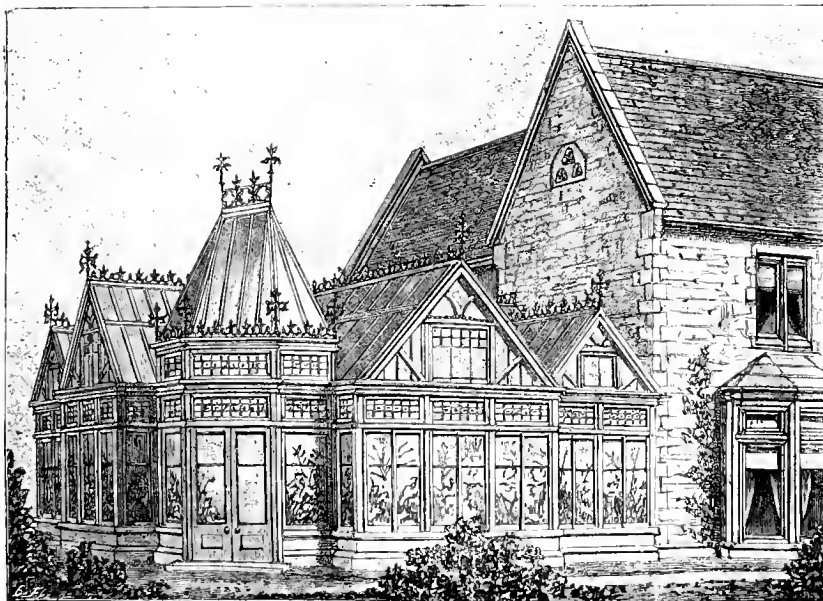
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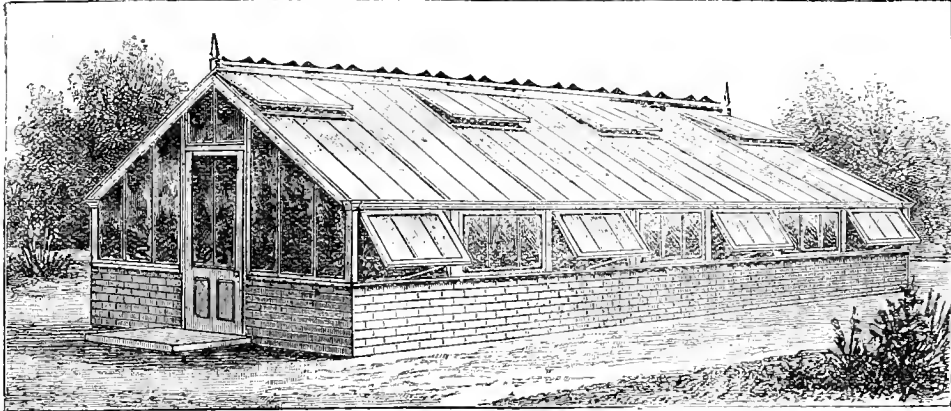
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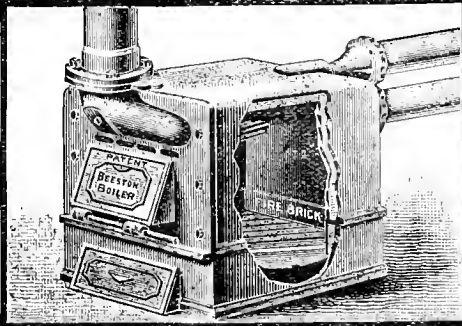
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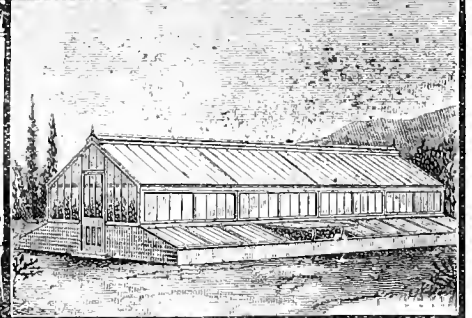
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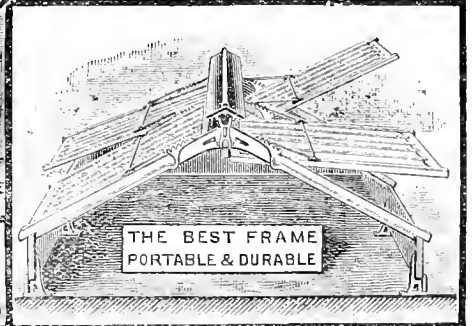
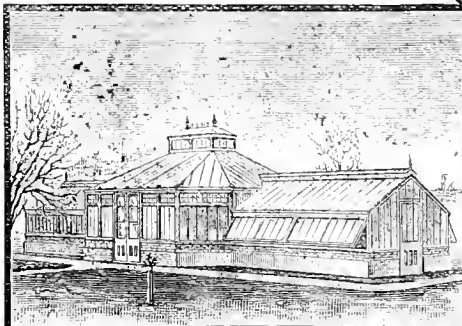
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  - LEDA**, short tube and very broad reddish-crimson sepals irregularly reflexed; corolla bluish-violet veined with crimson and much expanded.
  - METIS**, short dark-rose tube and sepals, the latter well reflexed; double white corolla, marked deep rose at base.
  - ROSALIE**, short bright crimson tube and sepals, horizontally extended; large double white corolla, veined at the base with cerise-pink.
  - SERENA**, very short rosy-pink tube, sepals completely reflexed; immense double spreading corolla, bluish-rose, veined with deep pink.
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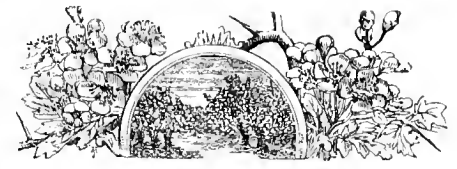
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THE  
**Gardeners' Chronicle.**

SATURDAY, MAY 9, 1896.

THE SALERNIAN SCHOOL OF  
MEDICINE.

“CUR moriatur homo, cui salvia crescit in horto?” is a quotation better known probably than its source, to say nothing of its authorship, which is altogether obscure. Now-a-days such a question (“Why should a man who has Sage in his garden die?”) is unintelligible, but formerly Sage was supposed to possess medicinal virtues of a high order. Indeed, it was called *salvus vite*, and in William Langham's *Garden of Health* (1579), 132 preparations of it are described, and it is recommended as a remedy for about 100 different diseases and ailments, often associated with other things. It was formerly recognised in the *London Pharmacopœia*, and is, I believe, still contained in that of the United States; and Sage-tea still holds a place in domestic medicine in this country. But I intended to write something about the book in which the sentence quoted occurs, as the it is interesting in many ways. It is entitled, *De Conservanda Bonæ Valetudine Opusculum Scholæ Salernitanæ ad Regem Angliæ*. This work is of early origin, and many manuscript copies, or variants, of it are in existence, as well as very numerous printed editions, down to the year 1852. The one before me is one of a number of editions, issues or reprints, edited by Cnrio and Crell; the first of which appeared, according to Meyer (*Geschichte der Botanik*, iii., p. 504), in 1545. In the Kew edition, the preface is so dated, but the printer's (Egenolph, of Frankfurt), date at the end is 1554. The dedication of the work to a King of England has given rise to much discussion as to which king it could have been. Meyer comes to the conclusion that it could have been no other than Robert Duke of Normandy, son of William the Conqueror, and heir to the throne of England, who on his return from the Crusades, stayed at Salerno to have his wounds treated. On hearing of the death of his first brother, it is assumed he proclaimed himself, and was recognised there as King of England.

This little book consists of a series of disconnected, chiefly leonine verses, on diet, remedial medicines, and other things relating to daily life, illustrated by curious, often humorous woodcuts, and connected by longer prose dissertations under the various headings. The first chapter or head is, “De animi pathematis et remediis quibusdam generalibus,” opening with the following lines, which give general directions for the regulation of personal habits, with a view to the preservation of health, and to secure a long life:—

Anglorum Regi scribit schola tota Salerni:  
Si vis incolumem si vis te reddere sanum,  
Curas tolle graves, irasci crede profanum,  
Parce mero, cenato parum, non sit tibi vantium.  
Surgere post epulas, somnum fuge meridianum

Hæc bene si serves, tu longo tempore vives.



This somewhat plain advice is followed by:—  
"Præsens hic liber à doctoribus Scholæ Salernitanæ  
in gratiam Regis Angliæ conscriptus," &c.

Returning to *Salvia*, I may give the quotation in full, just as it is printed, merely stating that the writer is modest enough to avow that there is no remedy against death, but that *Salvia* is a febrifuge, and together with Castor, Lavender, Cowslip, Nasturtium, and Athanas, cure paralysed limbs:—

Cur moriatur homo, cui *Salvia* crescit in horto?  
Contra vim mortis non est medicamen in hortis  
*Salvia* cõfortat nervos, manuuq. tremorem.  
Tollit et eius ope febris acuta fugit.  
*Salvia*, castoreumq. Lavendula, Primula veris.  
Nasturt. Athanas. hæc sanant paralytica membra  
*Salvia* salvatrix nature conciliatrix.

The administration of medicine is set forth under six heads, specifying what, when, and how often medicine should be given, namely:—  
Quale, quid, et quando, quantum, quoties, ubi, dando.  
Ista notare cibo debet medicus bene doctus.  
Ne male conveniens ingrediatur iter.

Sea-sickness is prescribed for in a very simple manner, by the administration of wine mixed with [salt] water previous to setting out—

Nausea non poterit hæc quem vexare marina.  
Undam cum vino mixtam qui sumpserit ante.

The advice with regard to excessive drinking reminds one of the old saying: "take a hair of the dog that bit you," and recommends those who take too much over-night, to begin again in the morning.

Si nocturna tibi nocet potatio vini,  
Hæc matutina rebibas, et erit medicina.

Mustard, we are told: Est modicum grauum, sicum, calidumque; and among other things: "dat lachrymas," i.e., promotes weeping.

It appears, too, that it was used in the form of a dry powder, as there is a representation of a caster similar to a modern earthenware pepper-caster.

The chapters dealing with herbs and vegetables are highly interesting, and the wood-cut figures generally good and sometimes excellent. Among the vegetables we find Cabbage, Onions, Leeks, and Turnips. Most of the cuts are apparently original, but I would not be positive on this point, as I find an elegant one of the common Violet which appeared at an earlier date in Egonolph's *Herbarum Arborum . . . Imagines*. Many other subjects are quaintly illustrated. In the seasons of the year, spring is represented by a social bath—males and females sitting together in a huge tub. Harvesting is the summer industry; vintage the autumn, and drinking the winter. There is a time for all things! The chapter "contra dolorem dentium" (tooth-ache) is illustrated by the various instruments employed in dentistry, and also a lower jaw full of teeth with strings attached to them. *W. Botting Hensley.*

## TREES AND SHRUBS.

### RHODODENDRON (AZALEA) RHOMBICUM.

THE value of this *Rhododendron* consists in its being the earliest of all the deciduous section to flower out-of-doors, and in its distinct and beautiful colour—differing from that of any other species in cultivation. The flowers appear whilst the branches are still bare, and occur as a rule, in pairs; they are 2 inches in diameter, and the colour is a bright rosy-purple, but with more blue in it than is seen in any other *Azalea*. The leaves also differ in shape from those of any other species, being very broad in the centre and narrowing to a point at each end, there-

fore almost purely rhomboidal. They are dull green and hairy on the upper surface, but in autumn turn a fine bronzy-purple. The plant at Kew is of compact bushy form, and is 4 feet high, but specimens of that size are as yet very scarce. The species grows readily enough from seed, but for several years the young plants require careful protection in winter, although the adult plants stand the severest frosts without injury. It was introduced from the Island of Nippon, Japan, where it inhabits the mountain forests. *W. J. B.*

### PINUS MASSONIANA.

The supposed scarcity of this Japanese Pine may be accounted for by its close resemblance in habit and foliage to two better-known species—*P. densiflora* and *P. Pinaster*. From personal observations I am inclined to believe that it is tolerably common in England and Wales; and being a perfectly hardy species, and decidedly ornamental, it is worthy of being largely planted—for special purposes at the least. As seen under cultivation in this country the tree is spreading, although neat in growth, well branched when growing in the open, and the rich pea-green of the needles render it a very distinct and pleasing object. Its leaves are stout, 5 inches long, bluntly pointed, and they are borne two in a sheath, and these are so arranged that the general appearance of the tree is rather light and graceful than massive and dense. The cones are smaller than, but resemble those of, the Scotch Pine, being hardly more than 1 inch long, with a short stout footstalk, and they are produced singly at the tips of the branch, where they cannot be readily seen amidst the long needles. Cones are produced at a comparatively early age, and a specimen under observation here when it was ten years old, at which time its height was 12 feet. Sir Joseph Hooker exhibited at a meeting of the Royal Horticultural Society a branch of *Pinus Massoniana*, bearing a large cluster of cones, but in all probability this was a native-grown specimen, as amongst all the fruit-bearing trees of *P. Massoniana* that I have observed in this country, the cones were produced singly. Probably in old age the cones may be produced in clusters; the trees from which these notes were taken having been planted within the last five-and-twenty years.

The variety *P. M. aurea* is justly recognised as the best of golden variegated Pines, the primrose-yellow colour being sharply defined, and the contrast with the bright green very marked. A great advantage that it possesses over many other variegated Conifers is, that the yellow tint becomes all the more pronounced on trees fully exposed to sunlight. As a specimen tree on a lawn, this variety of *Pinus Massoniana* is of great value. *A. D. Webster.*

## ORCHID NOTES AND GLEANINGS.

### LÆLIA ELEGANS, VAR. KATHLEEN.

AMONG the choice collection of Cattleyas possessed by A. Warburton, Esq., Vine House, Haslingden (Mr. Tom Lofthouse, gardener), is a remarkably well-grown plant of *Lælia elegans*, and of so distinct a character as to be worth a varietal name. The plant has fifty pseudo-bulbs and eight leads, and is in the "pink" of health. It is growing in a 10-inch pot, and is one of the dwarf-growing types of *Lælia elegans*. It is rare, indeed, that one finds a vigorous plant of *L. elegans* of this size. In habit and in flower it comes nearest to *Lælia Stelzneriana*. The sepals and petals are considerably broader than the typical form, and are of the softest peach-colour. The imbricated lobes of the lip are white, slightly flushed, turned back at the extremity, and showing a shaded purple broad margin. The interior of the lobes is white, with three purple lines running up to the base of an almost sessile column. The expanded portion of the lip at the extremity broadens out, forming a sweeping circular outline. The colour is of the richest amethyst, and contrasts well with the peach-blossom-tinted segments of the flower. *J. A.*

## METHODS OF PROPAGATION.

(Continued from p. 552.)

**PEARS.**—There are only one or two ornamental Pears worthy of culture, and these are best grafted on a Pear stock about 5 feet high. One is called the Willow-leaved Pear—*Pyrus salicifolia*, a native of Siberia—and has dark-green foliage, beautifully covered with silvery hairs on the under surface, which gives it during spring a very distinct appearance. The other, *Pyrus auriculata*, the eared Pear, is a very distinct-looking round-headed tree of large dimensions, and a very abundant bloomer.

### PLUMS.

The Plum is now too forward to be grafted this season, even in the north, as the operation should be completed in April. There are many good stocks for the Plum, and much of the special success in fruit-tree nurseries is due to a thorough experimental knowledge of the best one to select for different kinds. The Apricot, the Peach, and the Nectarine are budded on Plum stocks, but I will refer to this process at the proper season for its execution. The common Plum stock is one on which, broadly speaking, all-round Plums of the Orleans type may be worked, though there are exceptions even to this rule. Next in importance is the Mussel stock, used or most of the oval or egg-shaped Plums; then the Brompton stock, which originated in that suburb of London, and is used for budding the *A. ricot*, with the exception of that variety known as Brussels. Then there is the Cherry Plum, a stock much used on the Continent. The famous Deoyer's Victoria Plum thrives admirably on this, and it is suitable for all the Damsons and Bullaces; the union must be effected by budding, but it must be worked young, or the bark gets too thick and coarse, the bud being liable to be smothered by its rapid growth. In France and Holland, the Damask and St. Julien Plum stocks are much used, but these are too tender for our climate. The grafting process is essentially the same as in the case of the Pear or Cherry, but the bark being extremely tender, a very sharp knife must be used, or the effects of bruising will soon be apparent in the fatal gumming of the injured part, and for the same reason the tie must be prevented from cutting into the stock or scion. It should be added that the common Sloe (*Prunus spinosa*) serves as a stock for some Plums, and it has the same effect on them as the Quince on the Pear, inducing them to fruit early and freely. There is a double-flowered form of the Sloe, but except for its early-flowering character, it is not worth cultivation. It may be grafted on the Sloe, and even this, though usually a rough and unsymmetrical bush, may be grown into a respectable-looking tree. There are some good specimens in Eastwell Park, Kent.

A Plum which has been introduced to commerce recently will take a leading place in the arboretum or shrubbery; it is named after its raiser, *Prunus Pissardi*. I saw it used to great advantage at Baron Rothschild's, planted in masses with a few pyramidal silver variegated Maples (*Acer Negundo variegata*) dotted among the trees. The colour is not so dark as that of the purple Beech, but when one considers that nothing will grow under or near Beech trees, the value of the *Prunus* as a foliage tree or shrub will be recognised. This does well on any of the Plum stocks, but to form pyramids or bushes it is best worked on the Myrobalan; and to form standards, on the Mussel stock. *Experience.*

(To be continued.)

### A CURIOUS DEVELOPMENT IN RICHARDIA ELLIOTIANA.

—It is not an uncommon occurrence in the *Richardia* to throw twin flowers at the top of a stem. A few days ago, when visiting the Hassocks Nurseries of Messrs. W. Balchin & Sons, I saw a plant of *R. Elliotiana* that had produced a blossom, and at the back of it a huge bract, flattened out, golden over the greater part of it, and edged with green. Mr. W. Richardson, the foreman, stated that when first it developed the bract was almost wholly green, but was gradually becoming golden, and to all appearance of a deeper tint than the flower itself. *A Correspondent.*

THE CARNATION AND ITS CULTURE.

We have been favoured by Mr. Charles Blick with the following particulars of the practice adopted at

sand. To this add a plentiful sprinkling of charcoal broken up to about the size of Hazel-nuts. To every barrowload of the above mixture add a 5-inch potful of bone-dust, and the same quantity of blood-manure. Mr. Blick considers this

meter. If new they should be thoroughly soaked to get the dryness out of them; if old they should be well scrubbed. Porter's "Invincible Crocks" are strongly recommended, as they keep out worms and other insects; over these are placed about 2 inches of clean broken crock, then a layer of rough siftings obtained from the loam and manure. The pots being then half filled with the compost, is well compressed. The practice is to put three plants in each pot, the stronger-growing plants are put into 8-inch pots, and the weaker plants into 7-inch pots.

The soil is placed carefully round the roots of the plants, then shaken down and thoroughly rammed this being considered a very important point in Carnation culture, it being almost impossible to get the soil too firm. When potting is finished the plants are put into a cold frame, the lights being drawn off in all favourable weather. If the soil is in a proper condition at the time of potting, no water should be needed by the plants for a fortnight or three weeks; after this period if the weather is bright they may have a good soaking, after which most careful attention will be required. Towards the end of April the plants should be placed in the open, with full exposure to light and sunshine.

It has been found a good plan to put each class of plants by itself; thus, the selfs and flakes, bizarres, yellow-ground Picotees, and the white-ground Picotees. In May as the plants begin to throw up their flowering stems, or to spindle, they will require staking, and tying up. An observant eye should be kept for the green-fly and the spittle-fly, &c., which must be at once destroyed.

Towards the end of May and onwards, the plants should receive a top-dressing of blood-manure or other sustaining fertiliser, with an occasional application of weak liquid-manure. To make a good liquid-manure for Carnations, it is recommended to put a bushel of cow-manure and a 6-inch potful of soot into a bag, and immerse in a tub containing from 50 to 60 gallons of water. Use at the rate of one of the liquid-manure to two of ordinary water, which will be found serviceable in promoting vigorous healthy growth of the plants.

In order to obtain really good Carnations, it has been found that they require more extensive feeding than many gardeners are apt to be aware of, otherwise they soon show an exhausted appearance in their foliage. Great attention should be paid to cleanliness, removing weeds and dead foliage from the plants. Disbudding must be done as soon as the buds are large enough to handle, leaving two or three buds on each stem, according to the strength of the plant—say, the top, third, and fourth buds. Towards the end of June, or early in July, the plants should be taken into the flowering-house, otherwise, if left out-of-doors after the calyx commences to open, the thrip will sometimes get underneath the calyx-leaves, and when once there it is almost impossible to remove the pest. When all the plants are housed, they should receive a soaking of water two or three nights in succession. As the blooms begin to show colour, manure-water must be discontinued.



FIG. 90.—DENDROBIUM CYMBIDIODES.  
(Colour of the flowers creamy-white, changing to pale yellow.)

Warren House, Hayes, in the pot-culture of border Carnations.

The potting of border Carnations should be proceeded with during the month of February. The soil recommended is two parts good yellow fibrous leam, one part of well-rotted hot-bed manure, half a part of old lime rubble, and half a part of coarse silver-

the best artificial manure for the Carnation, because he has frequently noticed after a top-dressing of blood-manure, in about ten days or so, the fine fibrous feeding roots developing in a remarkable manner.

The compost should be turned several times, until each ingredient is thoroughly incorporated one with the other. The pots used are 7 or 8 inches in dia-

DENDROBIUM CYMBIDIODES.

THIS species is distinct from most Dendrobiums in habit of growth, in which particular it most nearly resembles the Bornean *D. Treacherianum*, and the Indian *D. amplum* and *D. Colognye*, all of which belong to the section formerly called *Sarcopodium* (a division of *Bulbophyllum*). The curious and pretty species here illustrated (fig. 90) is seldom seen in gardens, and probably few Orchid growers recognised it when the fine plant from which our illustration was taken was exhibited by Sir Trevor Lawrence at the meeting of the Royal Horticultural Society on April 21 this year. The flowers are creamy-white changing to pale yellow before they fade; the lip bears purple markings. The species was first introduced from Java about the year 1852, and since that time an occasional plant has appeared in importations from the same region. To cultivate it successfully, it requires to be placed in a warm and moist house when growing, and to be removed to the intermediate-house when the bulbs are fully grown.

## ATHYRIUM FILIX-FŒMINA PLUMOSUM, VAR. DRUERYI.

Of all the beautiful varieties of the Lady Fern that I am acquainted with—*Kalothrix* not excepted—none seems to me to possess the merits of the subject of this note. Why? Because, in the first place, it is nearly evergreen; that is to say, it is the last to lose its fronds, and the first to reproduce them—which is in itself a characteristic not to be despised. But, apart from that, this unique variety is so full and foliaceous in the frond, and yet so finely divided, that I cannot compare it to anything else than such lace as a princess might be expected to wear on a state occasion.

Mr. Druery, however, seems to be in favour of *Kalothrix*, for he writes, "This stands alone among our British varieties for delicate beauty." But, possibly, this description of *Kalothrix* was written before *Drueryi* was born. If so, then I can understand this well-merited eulogium being preferentially given to it. But *Drueryi* has other good qualities. It grows freely, is easily propagated, and continues to throw up fronds nearly all the year round. From one plant acquired two years ago, I now have four good pieces—or had, as I have been obliged to part with one to a pterophile—if I may call him so—who made such strong representations to the ferny side of my nature that I could not do otherwise than acquiesce. With reference to the lasting qualities of this Fern, I may say that it retained its fronds last year right up to Christmas, and that a particularly pleasing specimen now occupies a 6-inch pot, and possesses between twenty and thirty pretty fully-developed fronds of the most exquisite golden-green. In addition, then, to its beauty, it may be said to be practically evergreen. In fact, I dub it the "Rose" of the Lady Ferns; and, in the same sense, the term perpetual—substituting frond for flower—may be not inappropriately applied to it. If, then, I appear to give this preference, it is because I consider it to be the *Todea superba* of Lady Ferns. *C. B. G., Acton, W.*

## FLORISTS' FLOWERS.

### THE GOLD-LACED POLYANTHUS.

I HAVE never before seen such a mass of large plants in full bloom as there is at the present time at Mr. W. J. James's, Woodside, Farnham Royal, Slough. There are probably 300 fine specimens occupying a border at the foot of a hedge, and which has a north aspect. The plants are two years old, full of blossom, and many of the varieties worthy of being named. They grow with wonderful vigour in the strong clayey loam of the district, which appears to suit them exactly. Let no one say after hearing of such plants as those at Farnham, that the gold-laced *Polyanthus* is difficult to cultivate. The way to have strong plants is to sow in the autumn and plant out in the spring, and the following year the plants will bloom freely. Three or four months are gained by this proceeding.

### THE FLORIST'S TULIP.

Such a title as this is necessary, in order to differentiate the late-flowering exhibition Tulips from the early-blooming bedding varieties, the latter being also very useful for potting for decorative purposes, as they do well in pots with appropriate management; but the late varieties are not only generally taller in growth, but they do not lend themselves to cultivation in this way. They are planted at the end of October or early in November, in carefully-prepared beds in the open, the usual rule being to have a bed raised above the ground-level, carefully drained, and the Tulips planted in seven lines running lengthwise. The planter having a knowledge of the growth of the different varieties he cultivates, places the tallest growers in the centre of his bed, the next tallest comes on either side, the dwarfier varieties at the sides. Some cultivators mix their varieties, and when this is done, there is a more varied attractiveness when the plants are in flower, the rectified

forms—bizarres, byblomeus, and roses mingling with the unbroken selfs or breeders. Some plant their bizarres together, their byblomeus and roses also, and then their breeders; when this is done, the exhibition blooms are more readily picked out, but the general effect is less pleasing.

When planted, the bulbs being underground, they are left to the mercy of the weather till the foliage shows above the soil. Some of the bulbs, whether from lack of size, or some constitutional defect, will produce but one leaf, and however large and vigorous it may be, no flower will be produced. The old school of florists denominate these "widows." If two leaves be produced, bloom may be looked for; and, barring accidents, a bud will develop in due course.

March and April are the months which reveal to the cultivator, by the appearance of the foliage, something of a forecast of bloom. If all have gone well, he may look forward with pleasurable anticipation; if anything be wrong, the foliage will show it. Sometimes a keen disappointment is experienced; all goes to appearance well, until the time when the buds should be showing above the soil, then almost suddenly, a disastrous change comes, from some cause, perhaps oftenest, from being planted in harmful soil, the leaves lose colour and decay. In one of his pleasant articles upon the Tulip, the Rev. F. D. Horner says: "The old bulb is able, without aid of roots, to support leaf-growth thus far, and so to a considerable degree; but by April, the time has come when it is naturally a good deal exhausted, and it is time for the root-fibres to take up the work and supply a large share of food for the elaboration of leaves and blossom. If the fibres are dead, all this process fails, and any strength the old bulb may still have will be directed towards saving the life of the plant, by doing what is possible towards the formation of the new bulb, which, in the loss of its natural supporters, the leaves and fibres seem left, as it were, a vegetable orphan!" A sharp oversight is necessary when the leaves expand and acquire strength, for harm can come to the incipient flower through the leaves. Though the Tulip is very hardy, "and will not bear cutting, or any robbery of light or air, yet it may be seriously injured if exposed to hail-storms and high cutting winds, and any hurt to the leaf is sure to affect, in some measure, both the bloom and the future bulbs." When the leaves are frozen, and bright sunshine falls upon them when in this condition, much mischief may be wrought, hence the importance of a cover when the spring nights are cold and frosty. Shade from the sun is as important as protection from frost; and harm is also done to the leaves when stiffened by frost, if they are rudely stirred by the wind. "A critical time for the young plants," says the Rev. F. D. Horner, "is when they are just at the ground-level, enfolded in the heart of leaves. These frequently hold the rain-water sufficiently to surround or cover the buds, and in severe spring frosts they will be frozen up. The water can be liberated by gently opening the leaves, or by blowing it out with a tube, such as a length of small-bore gas-pipe; and it is worth while either to prevent the water from being frozen, or to dislodge it altogether. As the flower-stems rise, the greatest enemy to be feared is hail; it is sure to mark the foliage, and every shot that strikes the green bud is likely to bruise it, and leave a mark that will not only appear on the flower, but also be a source of weakness, whereat decay of the petals will first, and probably prematurely, set in." All this shows the importance of some protection being afforded the plants from frost and hail in April and May, as well as from sunshine and wind when the Tulips are flowering.

The National Tulip Society will shortly hold a southern show in the Temple Gardens, in connection with the exhibition of the Royal Horticultural Society; and the public will have opportunity of inspecting one of the flowers which the florist rated at a high value. It must be admitted that the manner in which the flowers are shown is hardly likely to attract the flower-loving public. Last year there was an entire absence of anything like uniformity in the

stands—while flowers in bottles, without much attempt at arrangement, do not constitute an artistic display. *R. D.*

## ARLE COURT, CHELTENHAM.

THE extensive grounds around Mr. T. B. W. Butt's residence of Arle Court, are of a naturally picturesque character, and certainly favoured the efforts of the landscape gardener who created them. Viewed from the high ground near the house, many varied and pleasing pictures become visible, among which are the lake bordered with rocks, and its rustic bridge; the spring garden, bright with the varied colours of early-flowering herbaceous perennial plants and bulbs; the well grouped clumps of flowering and other shrubs arranged on the well-kept lawn, and all having a charming background in the soft green of the distant woods.

Hardy plants are much employed in the embellishment of the gardens at Arle Court, and the show which they have made this season, and are still likely to make, is a very fine one. Many of the early alpine have flowered profusely, and they have been earlier and brighter in bloom, and better than is usually the case. The species of Tulips have flowered uncommonly well, especially *T. Greigi*. The most showy plants in the gardens probably have been the *Fritillarias* or *Crown Imperial*, large masses of whose bulbs having been left undisturbed for some years, made this year a very fine show of flowers on very strong stems, none of which failed to bloom.

The *Auricula* and the different types of *Polyanthus* and other hardy *Primulas*, of which the strains at Arle Court are very good ones, are also making a beautiful display. The entire garden is in such order as to reflect credit on Mr. Marsh, the head gardener, who appears to take as much interest in the small as in the greater matters under his care.

### THE GLASS-HOUSES

are connected with the residence by a series of glass-covered corridors, one side of which is covered chiefly with large plants of scarlet-flowered *Pelargoniums*, which look beautiful in foliage and flower. These are trained to cover the walls from the bottom to the top. Usually one sees some of the coarser-growing varieties used for this purpose, but here the favourite bedder *Vesuvius* is the one chiefly made use of; and few of those who are accustomed to see the plant as a neat pot-plant or bedder, and to praise it for its dwarf habit would suspect that it is so well adapted for covering the walls of a greenhouse or corridor. In all cases, however, it maintains its good name for the brilliancy of its colour and its floriferousness. At one point in the corridor a pretty rockery is found; and in the large *Camellia*-house a good prospective show of blooms, and a present display of neat plants of *Azalea indica*, *Clivea miniata*, *Hippeastrums*, &c.

The flower-house, which is a part of the block of plant-houses, contains a fine show of *Cyclamens*, *Cinerarias*, &c.; and in other houses it was observed that *Primulas* and other greenhouse florists' flowers are well represented; but in the matter of plant culture, it is evident that—

### THE ORCHIDS

take the lead, and worthily so, grown, as they are, in a very satisfactory manner by Mr. Marsh, Cattleyas, *Lælias*, *Dendrobiums*, *Odontoglossums*, and a few other showy genera, are those chiefly cultivated, and the plants throughout exhibit evidence of good and careful management.

In the Cattleya-house there is at the present time an excellent show of *C. Schroderae*, *C. Mendeli*, and a few late *C. Trianaei*, *C. Mossiae*, and splendid plants of *Lælia purpurata*, which are well furnished with blooms about to expand.

In another house are plants of showy species of *Dendrobium*, and in a warm corner of the same, some nice well-flowered *D. Phalaenopsis Schroderianum*, which are excellent as examples of good cultivation.

In the cool-houses, well-bloomed varieties of *Odo-*

toglossum crispum are noteworthy, as are also some *O. triumphans*, *O. Cervantesii*, *O. gloriosum*, *O. cordatum*, a very beautiful *O. nebulosum*, *O. luteo-purpureum* varieties, *Lycaste Skinneri*, *Ada aurantiaca*, *Oncidium Marshallianum*, *O. concolor*, and *O. sarcodeis*, all of which are especially fine. Plants of the pretty *Pinguicula caudata*, which seem to grow well only with the cool Orchids, were remarked; also some bright *Masdevallias*, and very healthy and finely-flowered *Cattleya citrina*, some of which have been grown and flowered annually, an experience which many cultivators cannot claim to have done. In a warm division, arranged among foliage plants, and with variegated *Panicum* as an edging to the staging, some excellent varieties were remarked of *Miltonia Roezlii* and *M. R. alba*; thriving plants of *Phalenopsis*, *Cypripediums*, and many other things, all of which showed care in selection and judicious cultivation.

The large kitchen garden, it may be observed, is in excellent condition; and that within its walls many rare and interesting hardy plants find suitable shelter.

## NURSERY NOTES.

### MR. JAMES' FARNHAM ROYAL.

The extent to which *Cinerarias* are grown for seed is shown by the 3,000 plants Mr. W. J. James has in flower at Woodside at the present time. The plants, in 32-sized pots, fill several span-roofed houses, and they carry fine heads of bloom. The frequenters of London horticultural shows and meetings are acquainted with Mr. James' fine strain of *Cinerarias*, which is dwarf, compact, and bushy, with dense heads of bloom, which are of fine quality. The plants are arranged in groups, each of which consists of a distinct self or margined variety, for experience teaches that many of the seedlings will come true to the type from which the seed is saved.

The beauty of the Farnham strain throughout is enhanced by a dark-coloured disc present in every one of them. A dark disc is a desirable feature in the florists' *Cineraria*, and its value in giving expression to the flower is obvious, as a dark disc goes admirably with almost any kind of colour, as do the gold tube in the *Auricula* and the pure base in the *Tulip*. It was satisfactory to notice that though size of bloom is still a leading characteristic, Mr. James is constantly striving to obtain fine form and good substance—two indispensable characters with the florists of fifty years ago. Some of the blue and white selfs in particular are of moderate size, but of perfect form; while the blue shades, whether dark or pale, are always decided. In order to maintain the excellence of his strain, seeds are saved from only the finest types. To obtain seed-bearers the seed is sown in the month of July. *R. D.*

### CALADIUMS AT VEITCH'S.

From the early commencement of summer until its close, a considerable share in the adornment of the stove and warm plant houses in most gardens falls to the *Caladium*. The usefulness and extreme beauty of the plant are quite sufficient to make it worth the while of any gardener to use his best efforts to obtain from his collection what is possible only from plants which are well and skilfully treated. In many places though the *Caladium* is admired for the delicate beauty of its foliage in the hottest of the houses, the idea prevails that it is by no means useful as a decorative plant in the dwelling-house, and owing to this its furnishing value, by no means inconsiderable, if proper means are taken to prepare the plants before they are required for such purpose, is forfeited. The collection should be large enough, that the gardener may keep a good representative group in the hottest house he has at his disposal, and in that structure the plants will be happiest, and develop the finest effect. Others, however—and in this case the varieties should consist of the less valuable ones, excluding all new varieties that are possibly weaker than others, owing to the excessive propagation they have been the subjects of—should

be taken to an intermediate-house or warm greenhouse when the plants have become well established towards the middle of May or even the commencement of June. From hence, provided the atmosphere is not allowed to become charged with excessive moisture, the plants may be removed to suitable positions in the dwelling-house, and they will sustain no injury whatever. We have been led to make these remarks through a belief that the *Caladium* has not been used for this purpose to the extent it might be if due care be given.

Our purpose in this note, however, is to notice a few of the novelties that Messrs. Veitch are sending out during the present season. In the first place, it is satisfactory that all of them were raised by the late Mr. C. F. Bause in his nursery at South Norwood. Without intending any discourtesy to our continental friends, from whom we gladly take what novelties in horticulture they have to offer us, it



FIG. 91.—*POSAQUERIA MACROPHYLLA*: TO SHOW HABIT. (SEE P. 586.)

is none the less with pleasure that we have to notice a set of English-raised *Caladiums*. It is an uncommon experience, and the fact affords additional testimony to the skill of Bause as a plant-grower, and particularly as a raiser of new decorative plants. Messrs. Veitch have their plants in a span-roofed pit, where they have the advantage of abundance of light [being very close to the roof-glass], a fairly humid atmosphere, and as much heat as it is thought desirable that they should receive. In this structure the plants have commenced to assume an exceedingly fine appearance, and if the plants are less in size than they may be seen after midsummer, there is a freshness about the collection that may be less perceptible when we have seen similar plants at the summer exhibitions. The first of the new varieties that came under our notice was *Sir Henry Irving*, which has already been described, the plant having received an Award of Merit from the Royal Horticultural Society. The centre of the leaf is creamy-white, marginal portion green, variously mottled with pale yellow and white. The veins are very distinct, being bright rose-coloured; size of leaf rather larger than some of the others noticed. *Marquis of Camden* has leaves of

deep blood-red, especially deep near the veins. Narrow margin of green, and some smaller green-coloured veins, occasionally spotted pale colour; the leaf is large, and the plant has a good habit. One of the new ones exhibiting a specially dwarf habit is *Lord Derby*. It may be said to resemble in some measure the variety *Madame Jules Precot*, but the novelty is dwarfer and more brightly coloured; the colour may be briefly described as pale rose, with veining of deep green. Next is *Mr. J. Pierpont Morgan*, a variety of seemingly capital habit, producing early quite a bunch of leaves; these are carmine or rose, more or less reticulated with green, with deep green veining, a very pretty and valuable variety. A plant of *Sir William Broadbent* had produced upwards of twenty leaves in a 7-inch pot. It is one of the blotched section, the interspaces between the carmine-coloured veins being green, but densely blotched with white; narrow margin also green. The variety *Sir Julian Goldsmid* is of very dwarf character, has a finely-shaped leaf of average size, colour of the blade silvery, but afterwards becoming suffused with red, the veining being of this colour. In *Silver Cloud* we have a very attractive variety, and one of the most delicate in colour; it is very palest flesh and silver, the one more prominent on this leaf, and the other on that—a carmine spot, where the veining originates, enhances the beauty of this very charming plant. Another of the reticulated section is *Duchess of Fife*; the leaf has a pure white ground, reticulated much with dark green, veining being rose-coloured. The following three are not yet in commerce, but we have no hesitation in describing each of them as being excellent acquisitions. Taking *Lady Mosley* first, it is almost a self-coloured variety. The veins are crimson, the interspaces rather carmine than rose, and has narrow green margin to the leaf. The footstalks are pale carmine with green lines running longitudinally—a very distinct and desirable variety. *Her Majesty* is one of the most attractive *Caladiums* we remember to have seen. The colours are gold, pea or apple-green, and silver; just at the stage at which we saw it, it had a netted appearance, reminding one of a charming *Melon*. The veining, as well as the margin of the leaf is green, the remainder silvery-white, with gold to carmine markings at the bases of veining. *Leonard Bause* has leaves slightly narrower, more arrow-like in shape, and may be recommended. The ground is white, with a dark red spot at the focus of veins, the largest of which are carmine; pale lilac, pea-green, and sulphur-yellow may be also detected in the leaf of this variety.

The above are the whole of the varieties sent out from Chelsea this year, and raised by Bause. In describing them briefly, it was the writer's desire to depict them exactly as they were seen, and leaves that had "characterised" were as far as possible selected for notice; but, as most of our readers know, there is no plant with foliage that continues to vary more in colour than the *Caladium*, and an intending buyer must not expect a plant to present on the first or every occasion he sees it the exact appearance he has seen described. The newer varieties undoubtedly possess an advantage over the old-fashioned large-leaved kinds in regard to habit, being dwarfer and requiring less attention in staking, and they have generally brighter-coloured foliage. Hints upon the culture of the *Caladium* and its propagation were given on p. 137 of our present volume, by Mr. J. F. McLeod, of Dover House Gardens, who cultivates them very successfully, and who has now a fine collection, including almost all the novelties.

## VARIORUM.

**SATURDAY HALF-HOLIDAY AT CHISWICK.**—We understand the Council of the Royal Horticultural Society has decided that all the persons employed at Chiswick are in future to have a half-day's holiday once a fortnight. By dividing the staff into two batches, one of which remains on duty, whilst the other is on leave, all difficulty with regard to the necessary work is surmounted.



## CULTURAL MEMORANDA.

## THUNIA MARSHALLIANA.

DURING the last few weeks I have had several plants of this very useful and highly-effective Orchid in fine flower; they are in 6-inch pots, containing a compost of equal parts of turfy loam and peat, with a little sphagnum added. The whole was pressed firmly together, and good drainage afforded. Each plant consists of from five to six erect reed-like, leafy stems, 20 inches high, which are furnished with seven pairs of perfect oblong-lanceolate acuminate pale green leaves, 9 inches long and 1½ inch across in the centre, each stem being surmounted by drooping clusters of seven and eight flowers each. The spreading sepals and petals of the individual flowers are white, the lip is also white outside, the interior frilled, and streaked and furled with golden-yellow, tipped with white, which contrasts most effectively with the petals and sepals. After these plants have matured their growth, water should be applied very sparingly to the roots, and sufficient only being given to prevent the growth of the current year from shrivelling. The plants should also be removed to a coal-house until February. They should then be turned out of the pots, and the old soil shaken from the roots, after which the latter should be cut well back. Re-pot as described above, and keep them in the Dendrobinm or Cattle-aye-house, or a plant-stove, in a position near to the roof-glass. Keep the roots moist, and when the young growths have become a few inches high, tepid liquid-manure may be afforded them with advantage. Plants treated thus will flower early in April.

## TREATMENT OF DEUTZIA GRACILIS AFTER FLOWERING

As soon as the beauty of the plants, which have been forced, has waned, the old shoots should be cut down to the level of the soil, thus allowing space for the current season's shoots to develop. If it is deemed necessary, the plants may be turned out of the pots, the old soil shaken off the roots, the latter shortened back, and repotted in clean pots of the same size, or of a size smaller than those they came out of, according to circumstances; affording good drainage, and using a compost consisting of about three parts fibrous loam and one of leaf-mould, with a small quantity of sharp sand or "crock-dust." Then place the plants on a bed of coal-ashes in a pit or frame facing south or south-west; afford them water at the roots, keeping the frame close and shaded for a few days during the hottest part of the day, till they have become re-established. It will hasten the growth of the plants if they are syringed with tepid water in the afternoon when the frame is closed and the shade removed. When fully re-established no shading is required, but air should be freely afforded during the heat of the day, and the watering of plants well attended to, giving liquid-manure occasionally. In July plunge the pots in a bed of coal-ashes out-of-doors. H. H. W.

## IRELAND.

## THE LARCH DISEASE.

SOME questions having arisen as to the frequency of the occurrence of this disease in the Sister Island, we are pleased to lay before our readers the opinions in brief of some of the most eminent foresters and gardeners. In the North-west (Newton Stewart), Mr. Robert Bell says the Larch-blight scarcely exists in the 3000 acres of mixed plantations under his charge. Upwards of 3000 tons have been sold this year, with no complaint as to the quality of the timber. Three hundred thousand trees were uprooted or broken within twelve hours in the hurricane of December, 1894. It will take years to clear up the havoc. There is a ready market for everything but Scotch and Spruce, for which there is only a local demand.

Mr. Whylock reports from co. Wicklow that there is very little Larch-blight on the estate of Coolattin, where the plantations consist of a mixture of Larch, Scotch and Silver Firs, and Oak. The soil is poor and thin on the hills where the Larch thrives. The disease occurs in a plantation on a flat piece of land on either side of the river, where the soil is heavy and wet. Alder and Birch do well in such soil, and nothing else should be there. Scotch Fir does well. There are several about 100 years old, and all that can be desired for cutting into boards, but the price

is too dreadful. One of these 100-year-old Scotch sold for 2s. 6d.! Mr. W. G. Mitchell writes that, from considerable experience in co. Wicklow and in Cork, he can say he has never seen the Larch disease in either county. The only thing he has to contend with is heart-rot or "pumping," and that only occurs on limestone-soil. From Ashford, Galway, Mr. Coupar records that the Larch is very free from disease, though there are a few cases here and there in low-lying, damp spots.

## SPRING AT GLASNEVIN.

It has been a wonderful spring; no frost to injure young growths, and wind not too harsh. Flowering trees and shrubs were better than I ever remember them. *Magnolia conspicua* and *M. c. Soulangiana* were quite covered with flowers. *Berberis stenophylla* and seedling forms of this, *B. Darwini*, *B. aquifolium* and varieties, are very fine. *Cytisus biflorus* (which passes under a host of other names) is the earliest of its class, and is also a valuable acquisition in any garden; it is very floriferous, and quite hardy. *Prunus (Padus) cornuta*, an interesting and scarce Himalayan plant, is flowering here for the first time, as far as I can ascertain. To-day (April 20) the first Rose, *Safrano*, opened against a wall, and I notice the *Laburnum* and *Horse-Chestnut* also in flower. *Glusnevin*.

## THE WEEK'S WORK.

## THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Villa, Trinj.

**PUTTING OUT BEDDING PLANTS.**—This should not be too hastily commenced. Although the days be fine and warm, the nights will still be treacherous, and by undue haste in planting the beds, many plants may be sacrificed. None but those that will resist a few degrees of frost should be planted for a week or two. The crowded condition of the frames and houses may be tolerated a short time longer.

**PLANTS FOR FURNISHING BEDS.**—Late-struck *Pelargoniums* may be kept growing for a short time longer in a warm pit or frame, but harden them off about the end of the month; also such plants as *Begonias*, *Petunias*, *Zinnias*, *Dahlias*, *Balsams*, *Ricinus*, *Solanum*, *Nicotianas*, *Zeas*, &c. Cuttings of *Asterantheras*, *Ageratum*, *Coleus*, and *Iresines* may still be inserted in sandy soil, and placed in a Cucumber or propagating-house; they will be useful for later work. Proceed with the potting-up of all rooted cuttings and seedlings, and move all established plants into cooler quarters to harden, preparatory to planting out. Dot plants intended for use in the general bedding should be kept growing. These may include such plants as *Ivy-leaved Pelargonium*, *Fuchsias*, *Heliotropes*, *Plumbagos*, &c. If these be partly trained to neat stakes at the desired height, before they are planted out, they will provide an effect immediately. The stiff formal style of bedding has latterly been displaced to some extent by a freer and less exclusive system, so that many plants once considered very unsuitable for the flower garden, are now freely used. *Pentstemons*, *Antirrhinums*, *Japanese Anemones*, *Delphiniums*, *Rudbeckias*, double and single *Pyrethrums*, *Carnations*, and many similar plants give additional grace and beauty to our summer and autumn display. Beyond this, they are hardy and withstand wind and rain without serious damage. *Herbaceous Phloxes*, if required as bedding plants, should be grown in pots up to the present date, for if they are lifted now and transplanted they will be apt to suffer greatly. These *Phloxes* are very effective for massing in large beds. If any are used in the beds on the lawn, they should be planted thinly at regular intervals, and the ground carpeted with some dwarf-growing plants. Before planting them, give the beds a good dressing of well-rotted manure, and as the plants make their growth render them secure from wind by neatly tying them to stakes.

**ROSES AND OTHER CLIMBERS**, on walls, arches, and trellis-work, are generally badly infested with green-fly; the recent dry weather has encouraged these pests. An infusion of Quassia-chips and soft-soap is an excellent remedy, so also is tobacco-water. One or other of these remedies should be applied with a garden-engine or syringe without delay; afterwards the plants should be syringed vigorously with clear water as a cleansing. If mildew has made its appearance, a mixture of sulphur and soft-soap, at the rate of an ounce to a gallon of water may be used.

I have also used, with great satisfaction, an insecticide known as "Killmright."

**THE ROCK GARDEN AND FERNERY** will now need a little attention to keep the plants free from weeds, or they will overrun the weaker-growing plants. Decaying flowers and stems should be removed, and the walks weeded and made tidy, but not formal looking.

## PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

**CHRYSANTHEMUMS.**—Collections of these plants will now require very careful attention. They should continue to make growth without a check till the flowers are fully developed. If all the plants have been potted twice, and a period of three weeks or so has elapsed since the strongest were done, it is probable that the latter have almost filled their pots with roots, and are, consequently, ready for removal to pots in which they will flower. Preparations for this final shift should be commenced at once. Soils should be put under cover, so that they are ready for use at any time. This precaution is doubly necessary at places where such work as mixing soils is only done upon wet days. Growers differ greatly in their opinions as to what is the best compost for the final potting of Chrysanthemums. But one has to make the best of what is at hand; and as loam forms the principal ingredient, the grower may find it necessary to modify its character. Should it be too heavy or clayey, materials must be added to lighten the compost; if, on the other hand, the loam is light and sandy, ingredients should be used which will tend to solidify it. I have mentioned two extremes in soils, but the best for this purpose is a moderately-strong loam containing plenty of fibre; such a soil should form two parts of the compost, and another part may be added of horse-droppings as prepared for a Mushroom-bed. Add a moderate quantity of soot, say a 4½-inch potful to a barrow-load of soil, wood-ashes, and only partially-broken charcoal. Thoroughly mix all together, and it will make a compost which should produce good results. All the pots should be thoroughly clean when used, and the crocking of same requires to be done with care. If the drainage should become impaired, the injurious effects on the plants will be only too apparent, and the slightest sunshine will cause them to flag. It may be thought that a good compost and careful potting are the principal items in successful culture. Admitting, however, that these are important points, I believe that unremitting care in the treatment of the plants afterwards is even more essential. Chrysanthemums can very easily be supplied with the food they require, either by liquid-manure from the farmyard or by chemical preparations. Each grower should make his own selection in regard to these, but here we have found nothing better than the liquid from the farmyard, with the addition of soot. The plants being thus easily supplied with stimulants, rich composts when potting are not desirable. [For special manures for these plants, see *Gardeners' Chronicle*, vol. xv., p. 779. Ed.] Careful watering after potting is of the utmost importance, and as the time is now approaching for turning the plants out-of-doors, they should be gradually hardened by removing the lights daily, and only on the occurrence of very cold nights should these be returned over the plants.

**DRACÆNAS** propagated from eyes last season should now be growing freely, and may be potted into 5 or 6-inch pots. If a dozen or so of *Paucum* (*Oplismenus*) *Burmanni* variegatus cuttings be pricked in the surface, they will soon root, and such a surfacing will add much to the appearance of the plants when used for decorative work, or on the dinner-table.

**POINSETTIAS.**—Cuttings ought now to be ready for shifting on. Use good loam and leaf-soil, two parts of the former to one of the latter. If a low span-roofed house is available, it is the best structure for them whilst making their growth. They should be given a temperature of 85° in the day and 70° at night. Once the plants are established in the new soil, and are growing freely, give increased ventilation. If cuttings have not been struck, it is not yet too late for the process, and if *Poinsettias* have to be grown in great quantity it is best to have two batches. The late plants will be fresh late in the season but their bracts will not be so fine as those produced by the plants struck earlier.

**EUPHORBIA JACQUINIÆFLORA** is a capital plant for covering walls in the stoves, and grown in this manner it will produce an abundance of bloom, besides the sprays are much longer, and

brighter in colour than when grown in pots. I have seen back walls of late vinerias clothed with this plant, and they bloom well in houses where a little heat is required during the winter to preserve late Grapes from damp. Euphorbias delight in a compost of good loam, leaf-soil, and old lime-rubbish, loam forming two parts of the whole. Give every encouragement to free growth during the summer months, whether in pots or planted out.

**THE ORCHID HOUSES.**

*B. W. H. WHITE, Orchid Grower, Euford, Dorset.*

**EAST INDIAN DIVISION.**—A great portion of the cultivator's time will now be taken up in watering, ventilating, and shading. In the hottest division, Orchids, such as *Aerides*, *Saccolabium*, *Angraecum sesquipedale*, and smaller-growing plants of the same family, the warm-growing *Vandas*, and others that are potted in crocks and sphagnum-moss, will require a moderate quantity of water at the roots throughout the growing season, affording just sufficient to keep the moss on the surface fresh and green. The whole of the *Cypripedium* will require copious waterings; exception must, however, be made as regards the *C. bellatulum* section. These should be given thorough soakings at long intervals. If kept constantly saturated, their roots at length decay, and the foliage becomes spotted and diseased. *Dendrobium*s suspended near the roof in small pans or baskets, with little moisture-holding material about them, will need water oftener than those grown in pots upon the stage. *Calanthes* of the *vestita* section must still be watered with discretion until they are thoroughly well-rooted; they are very susceptible to injury from over-watering. If the roots show signs of discoloration, or the tips of the young growths turn black, water should be discontinued immediately. If in a short time the surface-roots are making a fresh start, and the growths renew their activity, very careful watering is again necessary; but if no improvement is evident, the best policy is to turn the plants out of their pots, cut off the diseased growths, and plant them again firmly in small pots, using sphagnum-moss only, and when they commence to grow again, treat them as advised in a former calendar. *Thunias* now growing vigorously will appreciate an occasional dose of weak liquid manure-water. The heat-loving *Oncidium lanceanum* and *O. hematocilium*, although rooting freely, must be very carefully attended to, as their large succulent leaves are liable to become spotted if kept constantly moist at the root. It is sometimes advisable to allow them to remain dry for a day or two before giving more water. *Catasetum*s, *Cycnoches*, *Mormodes*, *Cyrtopodium*s, &c., will require abundance of water as they become well-rooted. Among miscellaneous Orchids that are usually grown in this division, as *Bulbophyllum*s, *Cirropetalum*s, *Sarcopodium*s, *Megacilium*s, *Ericas*, *Microstylis*, *Arundia*, *Spathoglottis*, *Coliopsis*, *Brassavolas*, *Scuticarias*, &c., should all be copiously watered during this their season of growth.

**INTERMEDIATE HOUSE.**—The tall-growing *Epidendrum*s, *Sobralias*, *Ceoglynes*, and *Pleiones* should be watered frequently, and they may be greatly benefited by periodical waterings of liquid-manure. *Vandas* of the tricolor and *suavis* sections should not be too freely watered at the root, but afforded only just sufficient to keep the moss on the surface in a fresh condition. The beautiful *Saccolabium coeleste* will require similar treatment to the *Vandas* as regards moisture, but now that it has commenced to grow and root, a lighter position is necessary than for those species. *S. coeleste* may be re-potted or top-dressed, using drainage nearly up to the rim of the pot, and surface with a thin layer of living sphagnum-moss. Such plants as *Cypripedium insigne*, *C. villosum*, *C. Boxalli*, *C. Leeannum* x, *C. venustum*, *C. Charlesworthii*, *C. Spicerianum*, *C. Arthurianum* x, *C. Fairieanum*, *C. Crossianum* x, *C. Schlimii*, *C. superbieus*, *C. adrastrum* x, *C. vexillarium* x, and *C. Niobe* x, all do well in a shady part of this house, if supplied with sufficient water. *Zygotetalmus*, *Calanthes* of the evergreen section, *Arpophyllum*s, *Stanhopeas*, *Gonoras*, &c., if well-rooted, should be thoroughly soaked each time they become dry. Plants of *Miltonia vexillaria* that are now sending up their flower-spikes should not be watered too freely. Plants of the hybrid *M. Bleuana* are commencing to grow, and may be re-potted if necessary; they will grow freely during the summer months in the coolest part of this division. *Miltonias* of the *spectabilis* and *Moreliana* section are rooting and growing vigorously suspended close to the roof-glass; abundance of water must now be given them until growth is completed.

**MEXICAN-HOUSE.**—The Mexican *Laelias* should now receive every encouragement. Give more atmospheric moisture when closing in the afternoon, plenty of sun-heat, and a gradual increase of water at the root.

**COOL-HOUSE.**—*Odontoglossum*s, *Oncidium*s, *Sophronites*, *Maxillarias*, *Pleurothallis*, *Masdevallias*, *Ocoteonias*, *Epidendrum vitellinum*, *Dendrobium Jamesianum*, *infundibulum*, and *Wattianum*; *Mesospinkidium*s, *Cochliodas*, &c. should be watered each time the compost becomes the least dry. Disas, if well rooted, will require almost unlimited supplies of water. *Oncidium cucullatum*, *O. nubigenum*, *O. Phalenopsis*, and *Pleione humilis* should be kept in an airy position in the coolest part of the house, and be kept always wet at the root.

**THE HARDY FRUIT GARDEN.**

*By G. WOODGATE, Gardener, Rollston Hall, Burton-on-Trent.*

**INSECTS.**—Caterpillars of several species having now begun to feed on the leaves and shoots of the Pear, Plum, and Cherry, means should be taken to destroy them. Badly-infested trees in the garden, and on walls and espaliers, should be examined for the caterpillars once a day for some few weeks to come. If, as is the case with some caterpillars, they have spun the leaves together with a web and thus concealed themselves, the leaves should be carefully unrolled, and the caterpillars caught, this being a matter of great importance in the case of leading shoots and those intended for the extension of the trees. The disbudbing of shoots and stopping of laterals will usually remove great numbers, and the disbudbler should carry a basket when at work to hold the leaves and young growths removed from the trees, instead of allowing these to fall to the ground, and he should burn these trimmings forthwith. Pear and Plum trees on walls require much the same kind of disbudbing and stopping as that advised for the Apricot, viz., allowing the shoots for extending the trees, filling up blank spaces, and taking the place of worn-out branches to grow unchecked; but stopping at the third large leaf, the shoots which are left to form the fruit-spurs. The latter should not be so numerous as to crowd each other when the foliage is of full size. All other shoots should be removed. Old fruit trees are often observed with long, unsightly spurs sticking out from the face of the trees to a distance of from 9 inches to a foot, which it is advisable to shorten. To do this without much loss of produce, a well-placed shoot forming at the base of a spur should be encouraged by affording as much light as possible, and a better chance of growing vigorously afforded it by cutting off a few of the leaves on the adjacent spur. These old spurs, after the crop is taken, should be cut back to a point just above the young shoot that has been left, which will have the effect of imparting strength to the latter, and aiding in the formation of flower-buds. With this kind of treatment, partially worn-out or aged trees may be re-invigorated and improved in appearance. Cherry trees on walls are usually encumbered with the fallen petals of the flowers, which, if not removed, afford a harbour for many kinds of insects injurious either to the foliage or the fruit. The gardener, in going over his trees at disbudbing time, should remove and burn these accumulations, and afterwards afford the trees a washing with the engine or a powerful syringe.

**THE KITCHEN GARDEN.**

*By C. HERRIN, Gardener, Droghda, Mayo, Ireland.*

**BRUSSELS SPROUTS.**—Plants from the first sowing, if of sufficient size for planting, may now be set out, and, if possible, on a dull or showery day. It is good practice to draw shallow drills, 2½ to 3 feet apart, and dibble in the plants in these at from 2 to 2½ feet apart. Unless rainy weather set in immediately after planting, water should be at once afforded, so as to settle the soil round the roots, no further watering being necessary unless the weather should become very dry. The plants raised from the later sowing will be ready to prick off into nurse-beds at 2 or 3 inches apart, transferring them to their permanent quarters as soon as the plants touch each other.

**ASPARAGUS.**—At present the hoe should be kept at work amongst the plants, especially those newly planted and the beds of one year old plants. Should the present dry weather continue it will be advisable, after the hoeing is finished, to mulch the beds or lines with some partially-rotted manure, and a plentiful watering; in any case the mulching will favour a strong start in the newly-planted crowns.

Asparagus beds which are being cut from should be afforded a dressing of common or agricultural salt, which will answer the double purpose of destroying small weeds and promoting free growth. It may be useful to amateurs to be reminded that in gathering the heads of Asparagus a knife should not be employed, but the head removed by firmly seizing it between the thumb and fore-finger near the base, and twisting it, which will readily detach it from the crown. To do this properly, the soil should be removed to a depth that will allow the head to be broken off sufficiently low down. By this method of taking the "grass," no injury is done to the immature shoots or to the crown itself, and no butt-ends are left to decay on the plant. With a very little practice a man will go over a bed as quickly in this manner as with the Asparagus-knife.

**RIDGE CUCUMBERS.**—Seeds may now be sown singly in 1-inch flower-pots, placing them in a close frame on a mild bottom-heat. Afford air to the frame when the seeds germinate, gradually increasing the amount until the period arrives when they may be placed under handlights on the ridge or bed prepared for them. The latter may have as a base the stumps of Brussels Sprouts, &c., and enough partially-decayed stable manure and leaves as will produce a mild heat—say, a thickness of 2 feet. On these materials when the heat has risen, some rich soil should be placed in flat-topped heaps, at 5 feet apart.

**GHERKINS** for pickling should be grown in this manner, as also Gourds, especially the large-fruited varieties of the latter.

**FRUITS UNDER GLASS.**

*By W. POPE, Gardener, Highclere Castle, Newbury.*

**PEACHES.**—As soon as the fruits commence to colour, syringing must be discontinued. The fruits should be examined frequently, and each one gathered as soon as it will part easily from the foot-stalk. If they are gathered carefully, and laid on cotton-wool in a dry, airy room, they will keep for some days, and the flavour will be much superior to that of any that may be allowed to hang on the tree until dead-ripe. Fruits which are required for sending by rail should not be too soft, or with the most careful packing they will hardly be presentable at the end of a long journey. As soon as the fruits on successional trees commence their second swelling, any additional thinning that may be necessary should be done without delay. The shoots should also be tied in, so as to give the fruit as much sunlight and air as possible. Use every means to secure the trees free from insect pests before colouring commences, for then syringing must cease, and if insects are present they will rapidly increase. Let the trees be given sufficient root-waterings—manurial or otherwise—and supplement by light mulchings, to check excessive evaporation. Thin the fruits in later houses, and complete the disbudbing of the young growths, leaving no more than are requisite for next year's fruiting-wood and for extension. Any shoots beyond the fruit retained to attract the sap should be pinched to a few joints. Let the aim be to secure stout, short-jointed wood, by liberal treatment, and an abundance of light and air. Young newly-planted trees should be given attention in the matters of disbudbing and thinning the growths. Secure the shoots loosely to the walls or trellis as soon as they are long enough. Extra strong shoots may be pinched at the sixth or seventh leaf, which will tend to equalise growth, and encourage the weaker part of the tree.

**VINES: EARLY HOUSES.**—As the Grapes approach the ripening stage, a constant circulation of warm, moderately dry air should be allowed in the houses, leaving a little ventilation on at night as well as day. Muscats during the ripening process require a somewhat drier atmosphere than Hamburgs and some other black Grapes; and as they require rather a long time to finish properly, care must be taken that they do not suffer from lack of moisture at the roots, or they will be apt to shrivel. Where beds of fermenting material on outside borders have not yet been taken away, they should now be removed. Afterwards afford the borders a thick mulching of light strawy manure for a time. If found necessary, a good watering with tepid liquid-manure should be given before mulching. Muscats now in bloom should have a night temperature of 70°, with a corresponding rise in the day-time, and always with a circulation of air. Draw a dry, clean hand over each bunch about the middle of each day, to assist the setting.

## EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

SUNDAY,	MAY 10—	Brussels Orchidéenne Meet.
WEDNESDAY,	MAY 13	Roy. Bot. Soc. Summer Show, at Regent's Park.
FRIDAY,	MAY 15—	Roy. Bot. Soc. Lecture.

## SALES.

TUESDAY,	MAY 12	Special sale of flowering Orchids at Protheroe & Morris' Rooms.
		Sale of Stove and Greenhouse Plants at the Royal Gardens, Hampton Court, by Protheroe & Morris.
WEDNESDAY,	MAY 13	Unreserved sale of bedding and other plants at the Nurseries, High Road, Balham, by order of Messrs. Harwood Bros., by Protheroe & Morris.
FRIDAY,	MAY 15	Imported and Established Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—53.3°.

IN spite of the near approach of the Temple Show, which usually exerts a somewhat deterrent influence on the exhibitors at the fortnightly meeting of the Royal Horticultural Society next preceding, the Drill Hall on Tuesday last was full of exhibits and of spectators. Orchids, as usual, were to the fore, and there were luminous Roses from Canterbury, which were awarded the rare distinction of a gold medal, especially a box of "Captain Hayward," of a rich singularly translucent rosy-carmine, innumerable herbaceous plants and flowering shrubs, Tulips, both species and florists' forms, were largely represented, and it was curious to see from a drawing exhibited by Dr. MASTERS of a group of florists' Tulips of the early years of the century, how comparatively little modification has been effected in that favourite flower. The centre of the hall was occupied by a large and most interesting series of coloured drawings of Irises and their hybrids, exhibited by Mr. CAPARN. These were faithful representations, and so far from being exaggerated in colour, as such drawings too often are, these erred, if at all, in the direction of soberness of colouring.

Mr. BAKER's lecture on Tulips was devoted to the genus *Tulipa*, of which he sketched, in his usual comprehensive and masterly way, the geographical distribution and the morphological characters on which the arrangement into species is made. To show how necessary it is to study the species in cultivation, we may here allude to the remarkable observations of Mr. ELWES as to the changes exerted upon one species, *T. Kolpakowskyana*. As the matter is pertinent to the discussions now going on as to the effect of the "environment"

in effecting changes of this character, we reproduce the woodcuts (figs. 93, 94) showing the flower as imported and what it looked like after three years' cultivation. As to the limits of species, it is evident that the herbarium-botanist and the garden-botanist must arrive at rather different conclusions, and the "biologist" must perhaps act as umpire. It is interesting to draw a comparison between the comparative fixity as shown in the florist's Tulips, and in the drawing just mentioned, with the great range of variation which has been effected by a change in the "environment" after only three years. Mr. CAPARN followed Mr. BAKER with a few observations of a similar character on the genus *Iris*.

The meeting was attended by Professor ZACHARIAS, of Hamburg, the successor to the late Professor REICHENBACH in the direction of the Botanic Garden and in the Botanical Professorship of that city. The Professor attended the meeting of the Scientific Committee, and was the guest of the Horticultural Club in the evening. His main object in visiting the Society was to induce its members to exhibit next year at the forthcoming International Exhibition. The authorities of Hamburg undertake to convey exhibits free, and the prizes offered for Orchids and other plants are tempting to those who care for such rewards.

The International Horticultural Exhibition at Dresden is now in full swing. No report has as yet reached us, but we believe Messrs. SANDER & Co. are the only British exhibitors. Mr. ARTHUR TURNER is among the visitors.

At the Society of Arts on the previous Wednesday, our old friend, Mr. E. W. BADGER, read a very practical address on the subject of fruit-drying, a matter on which he has long taken great interest. We hope to give the substance of his remarks in a subsequent issue. It will be remembered that the trials at Chiswick were of a very satisfactory character. In the matters of spraying and of fruit-drying our American cousins are a long way ahead of us.

The current number of the *Agricultural Economist* contains a portrait and a sympathetic appreciation of the character and life-work of Mr. D. T. FISH.

The remarks we made last week on the flowering of Conifers has brought us other illustrations of interest, such as the young cone of the dwarf form of *Pinus Cembra*, which is curious as being lengthened instead of having the barrel-shaped cones of the type. From Mr. HARRIS, of Eastnor Castle, come magnificent specimens of the handsome *Abies bracteata*, showing the male flowers. This is one of the most distinct and handsome of Conifers, but we suspect it is not hardy. From Mr. CROUCHER, of Ochertyre Gardens, come specimens in cone of the curious *Saxe-Gothæa*. Messrs. BALCHIN and Mr. McHATTIE send specimens of the noble *Posoqueria macropus*, which is noticed in another column, as are numerous other specimens which do not need special comment.

The Coomber Testimonial Fund, which was originated to make some acknowledgment to Mr. WM. COOMBER on his retirement from the Superintendence of the Royal Botanic Gardens, Regent's Park, and of which Mr. HARRY J. VEITCH was Treasurer, and Mr. J. WILLARD, Secretary, has resulted in a cheque for £124 2s. 6d. being handed to Mr. COOMBER. It will afford satisfaction to many that the services to horticulture Mr. COOMBER has rendered have been so satisfactorily acknowledged.

**POSOQUERIA MACROPUS.**—The magnificent stove-shrub of which we give an illustration (fig. 91 from a specimen obligingly forwarded to us by Mr. McHATTIE, of The Gardens, Strathfieldsaye, is a native of Brazil. It was sent to us under the name of *P. longiflora*, but the characters afforded by the tube of the corolla and the base of the leaf are not those of the Guianan *longiflora*. They agree with those of *P. macropus*, recently figured in the *Botanical Magazine*, t. 7467, and to which Sir JOSEPH HOOKER refers the *P. multiflora* of LEMAIRE, in *Illustration Horticole* (1869), t. 597, a name of more recent date, and which must consequently be suppressed. The name *Posoqueria* is, it appears, derived from the Carib name, signifying poisonous. Whether it is so or not is doubtful. The plant belongs to the great order Rubiaceæ, and is allied to *Gardenia*, the mode of culture required for the one being suitable for the other. The plant was shown at the last meeting of the Royal Horticultural Society by Messrs. BALCHIN & SON, who obtained for it a First-class Certificate.

**THE SURVEYORS' INSTITUTION.**—The next ordinary general meeting will be held on Monday, May 11, when the adjourned discussion on the paper read by Mr. R. M. D. SANDERS (Fellow) at the meeting of November 25, 1895, entitled "Landlord and Tenant in Ireland," will be resumed. The chair to be taken at eight o'clock.

**MADRESFIELD COURT GARDENS.**—The President (Earl BEAUCHAMP), of the Worcestershire branch of the Gardeners' Royal Benevolent Institution, very kindly gave permission for his garden at Madresfield Court, to be thrown open to the public on April 30. A small charge having been made for an admission on behalf of the branch funds of the above-mentioned Institution, a sum of £15 8s. 6d. was taken at the gates. Unfortunately, the unpropitious weather considerably marred the attendance. The dressed flowerbeds were gay with bulbs, Aubrietias, Wallflowers, Alyssums, Silene, Myosotis, Polyanthus, Daisies, Veronicas, &c.; whilst the many thousands of bright Parrot and other Tulips, Narcissus, Muscari, Lily of the Valley, Primroses, Fritillarias, Scillas, &c., planted in the turf in bold groups, being in perfection, were greatly admired by the visitors. The various flowering shrubs such as Berberis, Lilac, Rhododendron, Prunus, and Genista, which are planted in large groups, were in remarkable beauty. It is not too much to hope that other presidents of branches will do likewise, and thus afford their neighbours an enjoyable outing whilst assisting a very worthy charity. *Correspondent.*

**ROSE SHOW FIXTURES IN 1896.**—We are indebted to Mr. ED. MAWLEY, Berkhamsted, for notice of the following additional Rose Show fixtures, viz., June 17 (Wednesday), York (three days); 18 (Thursday), Colchester and Isle of Wight (Ryde); 24 (Wednesday), Reading (National Rose Society); 25 (Thursday) Hereford; 27 (Saturday), Windsor; 30 (Tuesday), Maidstone and Sutton; July 1 (Wednesday), Croydon, Ealing, and Leatherhead; 2 (Thursday), Eltham and Norwich; 4 (Saturday), Crystal Palace (National Rose Society); 8 (Wednesday), Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee (two days), Newcastle-on-Tyne (three days), Redhill (Reigate), and Tunbridge Wells; 9 (Thursday), Helensburgh; 15 (Wednesday), Ulverston (National Rose Society); 18 (Saturday), New Brighton; 21 (Tuesday), Tibshelf; August 5 (Wednesday), Chesterfield; 19 (Wednesday) Shrewsbury (two days). I am sorry, says Mr. MAWLEY, not to have been able to issue, as promised, a list of fixtures in April. Any dates not appearing in the present list I shall be glad to publish in the next one. I regret to announce that there will be no Rose Show held at Gloucester this year, owing to the small-pox epidemic prevailing there.

**ROYAL TRADESMAN.**—Mr. T. JANNOCH, Dersingham, Norfolk, Lily of the Valley grower to H.R.H. The Prince of WALES has been specially appointed florist to H.R.H. The Princess of WALES.

**THE FRENCH PLUM CROP OF 1895.**—Some curious facts are brought out in a recent report from

Bordeaux on the Plum crop in France during the year 1895, which, it is stated, was only half as large as that of the previous year, large fruit being very scarce, and the prices standing at double the figure of 1894. Exportations from Bordeaux were very restricted, and business in this article is considered to have been altogether unsatisfactory, California having an unusually

quantities of French Plums sent to those countries and to Canada consisted mostly of old fruit still held at Bordeaux from previous years.

**SPRING BEDDING AT THE QUEEN'S PARK, LONGTON, N. STAFFS.**—The simple massing of colours in flower-beds still has its admirers in certain

and an outermost edging of *Aubrietia purpurea*; these are showy beds. A bed is planted with *Tulip Potteri* (violet) on a groundwork of *Viola Bullion* (yellow), with an edging of white Daisies; another with *Duchess de Parma* Tulip, on a groundwork of *Myosotis sylvatica*, edged with yellow-flowered *Auriculas*. *Tulip Dussart* (scarlet), on a ground-

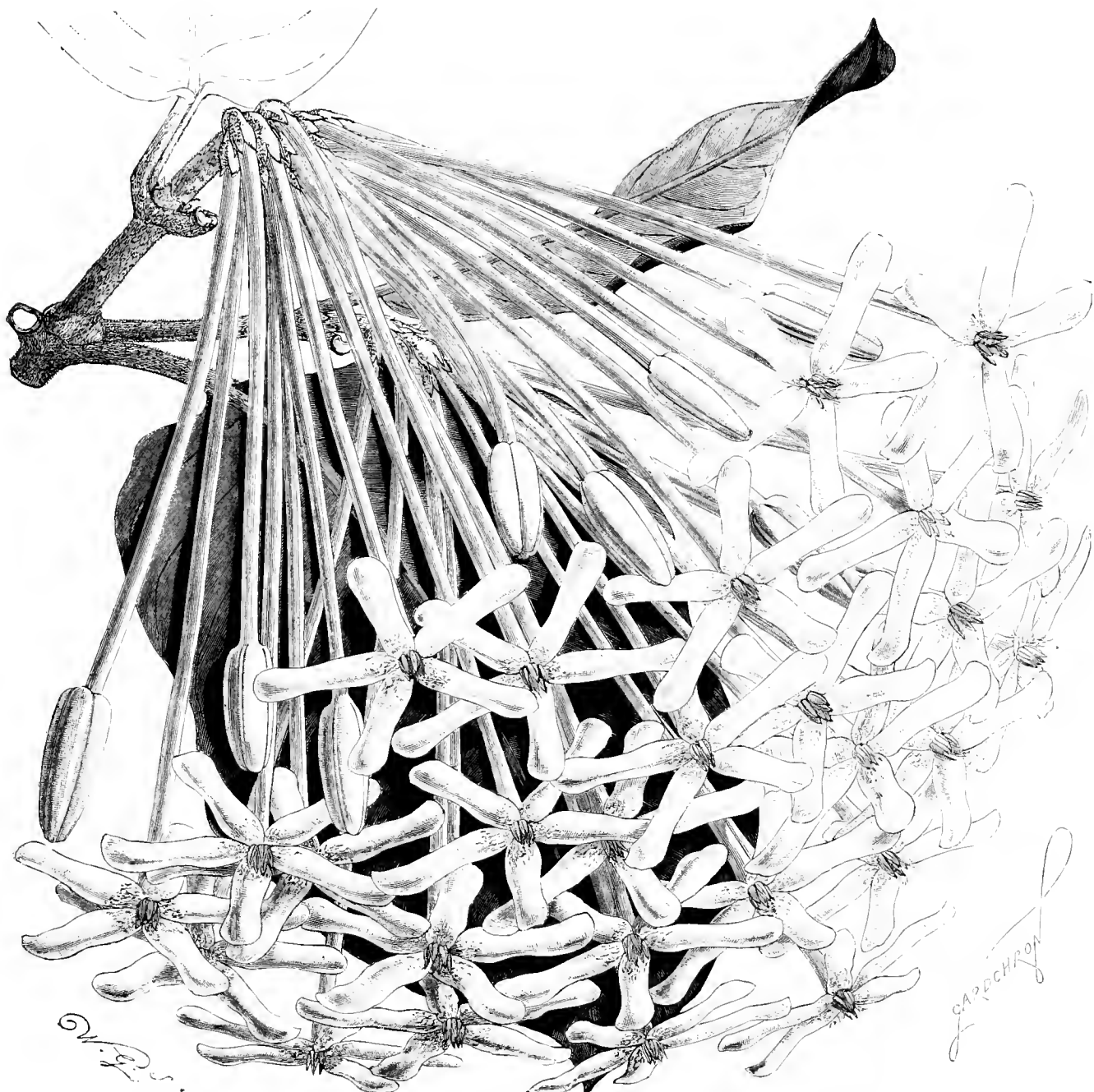


FIG. 92.—*POAQUERIA MACROPUS* (STOVE SHRUB): FLOWERS WHITE, FRAGRANT. (SEE P. 586.)

abundant crop of Plums, consisting mostly in large fruit. France was not only prevented from exporting to America, but dealers in Bordeaux had to witness the unprecedented fact of Californian Plums of excellent quality being sold in French markets at about half the price asked for the home produce. Germany and the United Kingdom also supplied themselves largely with these Californian Plums, and the limited

places, as the following contribution by a Staffordshire correspondent shows:—"The hedding-out at this comparatively new but well-kept park is at the present time very effective, and the enumeration of a few of the more prominent beds may be of interest to some of your readers. Three of the beds are filled with *Primrose Polyanthus* in mixed colours, edged with red and white double-flowered Daisies,

work of *Arabis alba*, and edged with red Daisies, filled another bed; as also *Tulip Chrysolora*, or *Myosotis sylvatica*, edged with white Daisies; and *Tulip La Reine* (white), on the new *Myosotis alpestris Victoria*, edged with yellow *Primroses*. These beds are very effective, and they are much admired. More than 10,000 *Wallflowers* are planted. *Hyacinths* are now over, but the beds



being carpeted with *Saxifraga Campositi*, are still presentable. Many of the beds are filled with *Auriculas* and *Aubrietias*, and in one part of the park there are beds filled with late double-flowered *Tulips*, such as *La Candeur*, Duke of York, *Rex rubrorum*, on a groundwork of *Myosotis* or *Arabis*, according to the colour of the flowers of the hulbs, and these will carry on the display till the summer bedding-plants are put out. *Violas* of the best varieties are extensively grown as edgings to borders, &c., and give every satisfaction, *V. Bullion* being one that is much prized as an early and continuous bloomer."

**DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.**—On the occasion of the meeting of the Floral Committee, on April 11, 1896, the committee awarded First-class Certificates to Mr. C. G. VAN TUBERGEN, Jun., of Haarlem, for *Arum palæstinum* Eggeri, and *Erythronium Johnsoni*; to Messrs. E. H. KRELAË & SON, of Haarlem, for *Fritillaria aurea Bornmulleri*. An Award of Merit was made to Messrs. E. H. KRELAË & SON, for *Allium nov. spec.*; and an Honourable Mention to Messrs. E. H. KRELAË & SON, for a collection of varieties from *Anemone fulgens* and *Anemone blanda*, *Fritillaria latifolia*, and *Helleborus*.

**FRUIT FROM TASMANIA, ETC.**—The P. and O. Company's steamer *Rome* arrived at the Albert Dock, London, on the 2nd inst., having on board 10,568 cases of Apples from Hobart, 1650 from Melbourne, and 120 from Adelaide. It is worthy of note that the improvement noticed in last year's consignments seems characteristic of this year's imports, some fine specimens of Ribstons and Pearmain's being on sale at prices which must certainly be remunerative; they are fetching twice as much money as could be obtained a few years since for the unsorted, irregular fruit, then thought good enough for the English market.

**A POISONOUS ORCHID.**—*Cypripedium spectabile*, a comparatively common Orchid, is mentioned by M. D. E. MACDONALD as possessing decidedly poisonous properties. These, says the *Revue Scientifique*, are located in the leaves and stems, and recognisable as producing a special cutaneous irritation on those who incautiously handle the Orchid, an irritation similar to that excited by Rhus. The substance causing these results is an oily matter secreted by the glandular hairs. This matter is found, as in the Chinese Primrose, between the cell-wall and the cuticle of the terminal cell of the glandular hair, and is liberated by the rupture of the cuticle. This poisonous substance appears to serve as a protection to the reproductive organs of the plant, as the action and secretion of the poison are augmented in proportion to the development of the plant, and attain their maximum during the formation of the seed.

**THE ROYAL BOTANIC.**—We are requested to publish the following letter:—"For the first time for between forty and fifty years the firm of PAUL of Chestnut will be absent with their exhibits from the Royal Botanic Society's Summer Show. Messrs. PAUL & SOX have refused to exhibit on account of the prizes awarded to them and other exhibitors, many of them gardeners, who have to pay their own expenses, the prize money not having been paid. Communications on the subject are treated by the officials of the society as hardly worthy of a reply."

**EXTENSIVE EXHIBITION AT CARDIFF.**—On Saturday last, the 2nd inst., the largest exhibition that has ever been held in Wales was opened in Cardiff by the Mayor, Lord WINDSOR, who is also President of the Exhibition. Briefly, the Exhibition is comprised of the following sections, each of which is managed by a separate committee:—1, Fine Arts and Antiquities; 2, Mining and Mining Appliances; 3, Machinery, Electricity, and Local and General Industries; 4, Maritime; 5, Agriculture and Horticulture; 6, Health; 7, Scientific Instruments; 8, Books and Manuscripts; 9, Photography; 10, Sports, Pastimes, and Amateur Exhibits. The Horticultural Committee includes many names well known to

our readers, such as J. MUIR, A. PETTIGREW, W. W. PETTIGREW, STEPHEN TRESSEDER, RALPH CROSSLING, &c. The whole buildings have been erected, and the shows will be held in Cathays Park, a private park in the centre of the town belonging to the Marquis of BUTE, who has lent the ground for the purpose of the exhibition. The enterprise is of considerable magnitude, and is a further testimony to the importance of the town and to the energy of its inhabitants. It is calculated that, to make it a financial success, the exhibition must be visited by 4,000 paying persons daily. Cardiff and its suburbs comprise about 180,000 souls, and there is an immense population on what is locally known as "the hills" engaged in the mining industry. The more entertaining and amusing features of the exhibition include the Bombardment of Santiago, a bicycle railway and cycling-track, Indian bazaar, Welsh fair, panorama, switch-back, concert-hall, a representation of SHAKESPEARE'S house, of a Dutch house, and various other minor items. The opening ceremony was a distinct success, and it is estimated that it was witnessed by 10,000 visitors.

## BOOK NOTICE.

**THE BAMBOO GARDEN.** By A. B. Freeman-Mitford, C.B. (London: Macmillan & Co.)

THE hardy Bamboos, even in their entirety, are but a small item in the great host of hardy trees and shrubs which modern enterprise and skill have brought to the gardener's hand. Their grace and beauty, however, are so striking, and their distinctness from the rest of the cool temperate flora so apparent, that they well deserve the honour that has now been paid to them in the shape of a volume all to themselves. Although these plants are almost certain to soon become common garden plants in the southern and warmer parts of these islands, the great bulk of them have only been introduced within the last few years, and it is to the author of this book, who by his pen, and by illustrating so happily in his own garden their suitability to our climate, that much of the prominence they have latterly attained is due. To no one, therefore could the task of writing a book on hardy Bamboos so worthily have fallen.

It has well been said that he who does a little thing perfectly is worthy of more admiration and praise than one who attempts the bigger thing, and ends by only doing it indifferently. That is the thought that occurs to us after looking through *The Bamboo Garden*, although the author probably would demur from the statement that the elucidation of the hardy Bamboos was a small undertaking. It is, indeed, certain that there are few groups of plants so small as this which would demand such long, careful, and minute observation, before a full and accurate account of them, as this volume supplies, could be given.

The book opens with a chapter dealing chiefly with the interesting phenomena attendant on the flowering of many Bamboos. It is well known, and has been recorded in various quarters of the globe, that the whole of a species—extending, it may be, over many miles of country—will burst simultaneously into flower, no matter how different the conditions may have been under which individual plants had existed. It has hitherto been commonly accepted that such plants after flowering die, and are replenished by means of the seed they so plentifully produce; but Mr. Mitford is of opinion "that the older botanists and travellers came to rather hasty conclusions on this matter;" and the evidence he produces supports the view that although the plants die to the ground and suffer greatly from exhaustion, they rarely, if ever, perish outright.

How exhaustively Mr. Mitford has studied his subject, as well as the amplitude of his research, is shown by the chapter dealing with the uses of Bamboos, and the superstitions connected with them, as well as by that dealing with etymology, classification, and characteristics. The bulk of the volume, however, is occupied with the description, nomenclature,

and history of the hardy species found in our gardens. It is this portion which will give the book its chief value in the hands of the cultivator, and which, in spite of the disclaimer of its author, invests it with a true scientific importance. Every species known at the present date to be hardy and in cultivation is described with a fullness and detail which could only be furnished by one who has watched and studied living plants. Nor is the important matter of cultivation dealt with in a cursory manner. This is of the greater consequence, because an ignorance of the peculiar requirements of Bamboos, and especially of the treatment of newly-imported plants, and the proper time for transplanting, has resulted in the loss or serious crippling of many Bamboos in recent years. Late spring is undoubtedly the best time to transplant, late autumn the worst; but we have been informed by a nurseryman who deals (more largely, perhaps, than any other in England) in these plants, that it is difficult to get people to order them, except at the latter season, frequent disappointment being, of course, the result. This, and similar pitfalls, the student of Mr. Mitford's book will happily escape. A useful list is also given of the native names of the Japanese species, with their European equivalents. A want of knowledge in this matter has led several cultivators to obtain from Japan species of which they had already sufficient, or which were easily obtainable in England.

Under the heading of *Apologia pro Bambusis meis*, Mr. Mitford closes his book with a delightful chapter. Its literary charm will appeal to any one who loves a garden or a book—it need not matter if he never saw a Bamboo. It seems there exist in these *fin de siècle* days people who object to the presence of any foreign tree in our English landscape. They dignify themselves with the name of "purists," although it is certain a more appropriate, if less complimentary, title might easily be applied to them. Anyone who would dispossess our parks and woodlands of the Horse-Chestnut—their crowning glory in these fragrant days of May—because it comes from the mountains of Greece, is scarcely worth the powder and shot with which he is here so easily demolished. But the process leads up to a charming word-picture of the author's own garden in winter time: "As I write, I look out upon a great rolling tract of park-land, studded with patriarchal Oaks that were saplings in Plantagenet and Tudor days; giant Ash-trees, Elms and Thorns, planted in the days of good Queen Anne. It is thoroughly English, and perfect of its kind; no impious hand should dare to tamper with it. But, farther up the hill, there is a spot smugly screened from the cruel blasts which come from north and east, where, when the great Oaks and Elms, shorn of their summer bravery, are mere gaunt skeletons, there is still some shelter and some warmth. Here, amid the sparkling glitter of a Holly-grove, are all manner of beautiful Evergreens—rare Pines, steeping Fir-trees, Rhododendrons, Cypresses, Junipers. A tiny rill trickles over the green velvet of the rocks, with Ferns peeping out of crannies, in which many an alpine treasure is hushed to rest, waiting the warm kiss of spring, and the song of the birds, that, like Orpheus with his lute, shall raise the seeming-dead from the grave. Tall rushes, and gracefully-arching Bamboos, hardly stirred by the wind, nod their plumes over the little stream from which the rays of a December sun have just strength enough to charm the diamonds and rubies and sapphires; a golden pheasant, all unconscious of a human presence, is preening his radiant feathers by the water-side. It is a retreat such as the fairies might haunt, and where in the bitter Christmastide a man may forget the outside world, and for one brief hour revel in a mid-winter's day-dream of glorious summer. In the planning of this sun-trap, surely the most captious critic will not cavil at the addition of such strangers as may seem best suited to fill in a scene which may not be English, and yet is in harmony with, and lends a new charm to, the surroundings with which it is contrasted."

With so much to be grateful for in this dainty little volume, it may seem ungracious to suggest that

there is room for improvement, yet we scarcely think the drawings by Mr. Alfred Parsons—clever as they may be from the artist's standpoint—serve any practical purpose so far as the illustration of the text is concerned. They are altogether too "impressionist" to help the bewildered novice to the determination of his plants. The picture of *Arundinaria nitida*—a Bamboo of very distinct and characteristic habit—is valueless as a portrait; and in the case of the drawing of *Bambusa Laydekeri*, it would be by no means difficult to select a more fitting legend. Mere portraiture, however, was probably not the artist's aim. In any case it is a small matter, and we heartily recommend this book, not only to those who cultivate the particular class of plants with which it deals—it ought to be indispensable to them, but to all who love a garden.

THE DESTRUCTION OF INSECTS ON FRUIT-TREES.

THE present month should see all cultivators of fruits busy with the destruction of their chief foes, the insects which infest the trees, whether growing on walls and fences, out in the open quarters, or in orchards. The days of letting these matters depend on Providence and regarding them as unavoidable accidents are gone, and soon we shall have the State insisting upon a systematic war being waged by all owners and cultivators against the common enemy. Let us take the important Apple first, examining the trees which we will suppose received a winter-dressing of some kind to eradicate the *Aphis lanigera*, *alias* American blight, woolly aphid, &c. Strong remedies are, at the present season, out of the question, and if it be observed that some of the aphides have survived the winter scarifying and brushing with petroleum, brine, soap-suds, or whale-oil, the garden-engine should be brought into use, and the pests washed off the branches. If this can be followed up for a week, the greater number will die of starvation, as they cannot for long periods of time be deprived of their milch-cow, the Apple-tree.

An ever-present enemy at this season is the Apple aphid (*A. mali*), infesting the leaves in enormous numbers, and which, if left in possession, destroy the foliage, and thus cripple the growth of the tree, and hinder the development of the fruit. As against this pernicious aphid, quassia-water, say, at the rate of 2 oz. quassia-chips, should be boiled in a bag in 1 gallon of water for a quarter-of-an-hour, and whilst it is hot, 2 or 3 oz. of soft-soap should be incorporated with it. This should be used cold. It may require several applications to rid the trees of the successive colonies of the aphid. Strong tobacco-water, such as is obtainable from the tobacco manufacturers, is also an efficacious remedy. It should be mixed with two-thirds or more water, according to its strength, and to render it somewhat sticky, soft-soap should be mixed with it.

The codlin-moth (*Carpocapsa pomonella*), is at this season industriously engaged in laying an egg in the eye of the Apple, and if these eggs, or the maggots which spring from them, are left undisturbed, there is sure to be a great loss of fruit, for the maggot bores a channel from the eye to the side or base of the fruit, which either soon falls to the ground, or hangs on the tree to be prematurely ripened.

Some observers say that the grub or maggot stays in the fruit and turns into a chrysalis therein, and then to the perfect moth ready to begin the process over again, and this may be true of very early hatchlings; but as a rule the maggot, after eating its way through the fruit, falls to the ground, and completes its transformation there. It is certain that most of them do so, hence the good which follows from dressing the land under Apple-trees with quicklime, pricking over the surface and turning-in pigs, fowls, ducks, &c., and fixing grease bands round the stems to prevent the ascent of the caterpillars, as is done in the case of the winter-moth, whose females are unable to fly, but who crawl up the stems of the Apple-trees. The caterpillar is about half an inch in length, fur-

nished with a few hairs, and a black or brown head, and dark-coloured marking on the ring next to the latter, and eight dots on the others. The moth is about three-quarters of an inch in the spread of the fore-wings, which are ashen-grey or brown, with streaks and markings of a dark colour. There is at the hinder corner a large brownish spot, and a coppery-coloured ring around it. If the attack is slight, a gentle shake will bring the maggoty fruits to the ground, when they should be carefully collected forthwith, and burned. As a remedy to apply to the tree use Paris Green at the rate of 1 lb. and 1 lb. of lime to 250 gallons of water. The Americans, who use this formula largely, say that lime should be used at this strength up to July 1, after which date one pound of quicklime should be used to neutralise the free acid; in fact, lime should always be

harm at times, devouring the foliage wholesale. The silken cocoons found in the trees should be destroyed. These can be found in July, and should be cut off, shoots and all, with nippers, one person cutting, and another holding a pail to catch the web and the caterpillar, which, on the first alarm, throw themselves down by their threads. It is very troublesome in orchards under long grass.

The small Ermine Apple-moth (*Yponomea padella*), whose caterpillars come out from under a patch of gum on the shoots, where they have lain all the winter, devour the leaves wholesale, and then spin a web. When full fed, they spin a light cocoon in the midst of their webs, and turn to a chrysalis. The moth appears at the end of June. The remedy is the same as with the Lackey-moth. Miss Ormerod recommends fish-oil soap, but we think that Paris Green washes would be more effectual against the caterpillar of this species, and its use would involve less labour. In the cider-growing districts the Apple-blossom weevil, *Anthrenomona pomorum*, in backward seasons, is very destructive, attacking the flower-buds just previous to their expanding, and, as in the case of the Collin-moth, one egg is laid in each flower-bud. This the female does by boring a hole in the bud with her proboscis and laying the egg within the hole thus made, closing the hole with her proboscis. It is now rather late for watching this proceeding, but in late districts, where egg-laying is postponed to May, the cultivator may catch many of the weevils engaged in it by quietly spreading cloths beneath the trees, and then shaking the trees, when they will fall on to the cloths, and can then be collected. As the weevils hide in rubbish and rough useless bark, these should be cleared away in the winter so as to afford as few hiding places as possible. A grease band is of service, as but few of the females can fly. The Cherry aphid, black-fly, *A. cerasi*, can be got rid of by the use of Paris Green; or in the case of wall trees, by dipping the infested ends of the shoots in strong tobacco water, or fumigating the trees with a sheet securely fastened to the wall to keep in the tobacco smoke.

The Pear has a host of enemies, one of the worst of which is the Pear-sucker, *Psylla pyri*, a small four-legged fly that is injurious to the plant by sucking the sap in the shoots and covering the leaves with excrement. The eggs are laid at about the time that the Pear comes into bloom, on the undersides of the leaves, and on the parts of the flowers that are furnished with woolly hairs. The larvæ hatch in about ten or twelve days, and they are yellowish, lighter on the abdomen; the head has a whitish horn, and they have six legs. In the next stage they resemble small bugs, crawling about the shoots and sucking the juices. When the pupa is fully matured, it attaches itself to a leaf, the outer skin cracks, and the perfect insect emerges, leaving the pupa-skin sticking to the leaf. Hitherto, any certain means for the destruction of this insect has been wanting, but it is now discovered for the killing of insects which suck, that the following formula is very effective:—Soft-soap, 1 quart; petroleum, 1 pint; water, 8 to 12 quarts. The soap should be warmed till it liquifies, then taken away from the fire, and the petroleum added, be stirred or agitated forcibly with a powerful syringe, until it becomes a creamy liquid; dilute with water till the petroleum be one-fifteenth to one-twenty-fifth of the whole. It must be kept well agitated whilst being used. This would also be a good remedy to use against aphid of any species.

The saw-fly of the Gooseberry and Currant is amenable to hand-picking and dusting with hell-bore-powder only at this season, although much may be done in the winter to mitigate the evil by removing the soil from beneath infested bushes, and replacing it with clean soil from another part of the garden, and by dressings of lime.

The Currant-bud mite, so destructive in some districts, can only be dealt with so far as our present knowledge goes, by cutting off all affected shoots and burning them without delay. The aphid of the Plum can be destroyed either with soft-soap, petroleum-washes, or tobacco-water, and even powerful syringings will do much to clear the trees of this species, the same being carried out late in the autumn, to prevent the laying of eggs.



FIG. 93.—TULIPA KOLAROWSKYANA: AS IMPORTED. (SEE P. 586.)

used when Paris Green is applied as a spray to any kinds of fruit. For this reason it is advisable to mix Bordeaux Mixture and the Paris Green mixture together, as then all caustic action is prevented.

The Winter-moth (*Cheimatobia brumata*) is one of the worst enemies of the Apple. Of course, prevention is better than cure, and the cultivator should place grease-bands on his trees early in October, to prevent the females gaining access to the trees; but supposing that this was not done, then the best remedy is spraying the trees as soon as they are out of bloom, with Paris Green, and repeating the spraying twice in June. Other remedies, such as shaking the trees and collecting the caterpillars that fall, or smashing them, turning up the soil and dressing it with quicklime are only palliatives; of course, the careful cultivator will collect all prunings in the winter and burn them.

The rings of eggs of the Lackey-moth (*Bombyx neustria*) should be carefully looked for and destroyed. The caterpillars of this species do a great deal of

## HOME CORRESPONDENCE.

**APPLE-BLOSSOMS IN EAST ANGLIA AND ABOUT EDINBURGH.**—While waiting for the opening of Apple blossoms in East Anglia on May-day, and through the first week of May, it was rather startling to hear from an old horticultural friend a week ago that Apples were in full bloom in and about Edinburgh. We all know that height tells for a good deal on such phenomena, as well as latitude; but few will be prepared to learn that Edinburgh had outrun Norfolk and Suffolk in the race for the first opened Apple blossoms. Possibly our extension of time in East Anglia arises from our greater uniformity of level. The monotony and flatness of surface may indeed make the blossoming, as well as the harvesting, later as well as more uniform. Thus, possibly the Apple trees in bloom in or around Edinburgh on the last days of April may have been but the advanced scouts, posted on sunny sites, of the advancing hosts of blossoms hurrying forward as their cooler environments enabled them to flush and flood orchards and gardens with their matchless blends of pink and white. Be that as it may, in all mountainous countries we have longer seasons of blossoming and of ripening, and astonishing variations of season and wide diversity of both, sometimes within comparatively narrow geographical limits. Many years ago I was much struck with these differences on the two banks of the Clyde, from Glasgow to Lanark. The state of the bloom as well as fertility were marked, and rose with the warm banks and sunny sides, and fell with the cool or shady shore. And it is also so with other river banks and coast lines. While every hill and mountain modifies climate by its altitude, it also cuts it up into local fragments in the ratio of its sunny or shady sides. On the whole, perhaps horticulture is the gainer in the long run, through the infinite number and variety of those disturbing forces which we conveniently speak and write of as local climate. *D. T. F.*

**LATE-BLOOMING APPLES.**—Is not that what is ordinarily termed a pious opinion given expression to by "Pyrus Malus," when he remarks of the new Apples he looks for, "the variety should bloom late." We have in Court Pendu Plat a variety that always blooms late. I noticed the other day, when looking over the extensive collection of Apple-trees at Maiden Erlegh, Reading, that whilst almost every variety was in full bloom, the exception, Court Pendu Plat, was fully a fortnight later. Now we want to know whether this latter variety is on the average a more constant fruiter, or a better one, than the greater portion of those earlier-blooming varieties that do flower so much sooner. The date of my visit was May 1, and though dry, the air was very cold. Still, so far as I could learn, no harm had been done by frost. Is there any more certainty that sharp white frosts will yet come during the middle of May than during its early days? But after all, has there not been ample experience of this one late variety for many years, and has not that experience shown that it has no claim to be regarded as more prolific than any other early-blooming variety? In reality we need early-blooming Apples in this country to enable the fruits to have a long season in which to swell and mature. Then we are told the bloom should have leaf protection. If Apple-bloom was not developed and well set before leafage became too luxuriant, and it must be so to give the bloom the protection asked for, the setting of the bloom would be materially hindered. It is a wise provision of fruit nature that the bloom which is to produce the fruit should have precedence of the foliage so as to be able fully to utilise what of sap fruit nature had placed at its disposal, and thus the present arrangement of trees and bushes in full bloom ere leafage is abundant is best. I entirely agree with "Pyrus Malus" when he demands that in fruit culture the needs of the masses should be catered for. I have always pleaded for that view, and to that end I must use the best varieties for the purpose we have. The ideal fruits so much wished for will not come for a few generations. *A. D.*

**THE ROYAL HORTICULTURAL SOCIETY'S CODE OF JUDGING.**—Your correspondent, "H. L." seems somewhat disappointed that neither he nor other critics have been able to draw members of the Code of Judging Committee into a discussion respecting the merits of various points in the published code. No doubt it is to some an amusing occupation to poke a dog with a long stick, in the hope of arousing his anger; but if the animal is dignified and cool of temper, he

refuses to be drawn. It is very much so with the members of the committee. They have, however, other reasons for reticence. In the first place, what of criticism so far has been published, though worthy of all attention, has been of a theoretical order, seeing that since the issue of the code few or no flower-shows have been held to enable the principles of the code to be utilised. Naturally it was wise to await such results, and the autumn may be expected to furnish numerous critics, who have had practical experience of the code in its application to judging. Then there was an implied understanding on the part of the members of the committee that in due course they should be again called together to consider criticisms, and utilise good suggestions, with a view of making such of service in any future edition. But it is evident that the time for the publication of a second edition is not yet. We need ample opportunity to enable the code to be tested. No amount of criticism or discussion can alter the existing code, but many changes may be found needful in a new edition, or perhaps few. In any case, I must ask "H. L." and others who are impatient, to patiently wait. They must not forget that such a code never before had existence in relation to horticulture; and if imperfect, at least it does offer an admirable foundation for perfection. *A. D.*

**FRUIT PROSPECTS.**—There is in this garden and district every probability of as good a crop of fruit this year as last, should mild weather prevail. Apricot trees are exceptionally promising, and the fruits are fast swelling up. Pears, too, are a heavy crop, and in this garden the blossoms of nearly all the varieties grown are set. The Damsen, a much-planted kind in the county, promises to be very abundant. The blossoms of the Strawberry are already showing in great numbers. *Geo. Burrows, Berwick Gardens, Shrewsbury, April 27.*

**MULCHING AND WATERING WALL TREES.**—These simple but important operations ensure good crops, fine fruit, and well-conditioned trees, and where they have not as yet received attention, no time should be lost in pricking up the soil of the borders, placing thereon a layer about 3 inches thick of half rotted dung, and affording a thorough watering. These thorough waterings of the soil about the roots of the trees should be several times afforded during active growth, and if applications of liquid-manure can be sometimes afforded, all the better, especially to Apricot, Peach, and Nectarine trees. In some gardens the wall trees receive but little attention in the matter of watering the borders, and to this fact is to be attributed the starved and barren condition of a large percentage of the wall trees in this country, albeit in the majority of cases the cause is put down to a bad soil and our indifferent climate. The making up of one's mind to do the work forthwith at the right time is of far more consequence than the fact of considering whether there is time in which to do it, the first will make the latter easy of accomplishment. *H. W. H.*

**THE "BOLTING" OF CABBAGES.**—In the gardens around Maidstone there are general complaints about Cabbages bolting, and in some cases entire plantations of certain varieties have failed to heart. I have several varieties growing side by side, and the best of them are Ellam's, of which scarcely a plant has run; Veitch's Main Crop, a very good Cabbage, of which, out of a large number, only some half-a-dozen have bolted; and Mein's No. 1 is turning in well, these three varieties being far ahead of any other grown at Mereworth. The Nonpareil, Early Enfield, and Battersea have bolted to the greatest extent, although the plants were treated all alike, and looked well till the time for hearting came round; and whether the dry autumn has caused the bolting, I cannot form an opinion—but from two sowings and plantings, all of the last-named trio have run up for flower. *H. Markham, Mereworth, Maidstone.*

**GOLD-LACED POLYANTHUS.**—In the current correspondence in the *Gardeners' Chronicle*, re Gold-Laced Polyanthus, I am much interested, and quite agree with "R. D." that a Priuula Society, calling itself National, should not omit these old-fashioned beauties, and the fact that they are not well presented at the shows, should, of itself, not be sufficient reason for excluding them from the schedule. The proper course would be for the judges to withhold the prizes if not deemed of sufficient merit. It is well known that they are difficult to manage in the South Midlands and the North, but the difficulties are surmountable, and I have at the present moment a grand plant of

George IV. with half-a-dozen trusses on it. I have grown the breed for many years, solely for love of the flowers, and for fear that some of them should be lost, for it is a pity, and perhaps a disgrace, too, for the florists of to-day to admit that they cannot grow or raise flowers equal to those grown of old. When we look at the lovely illustrations of Pearson's Alexander and Kingfisher, and then know that these sorts are lost, and that there is nothing as good to take their places, it behoves a National Society to encourage the cultivation of them. Mr. Douglas, surely, is mistaken when he says that the varieties which were in existence sixty years ago are still exhibited at Newcastle-on-Tyne. The last Alexander was in the hands of the Rev. Whitehouse, and he promised to let me have a plant, but lost it some fifteen years ago. I agree with Mr. Douglas's statement that there are only a few good sorts, and if societies continue to disregard them, their number is likely to become less. These old flowers take one back in imagination a long way, and the interest which attaches to them is like that which causes us to find something to admire in ancient buildings and antiquated customs, which I for one should be sorry to see entirely lost. *J. P.*

**KELWAY'S MODEL CINERARIA.**—It may interest Mr. Harrow to know that I have a plant here of "Kelway's Model Cineraria" strain, with a head of bloom 7 feet 8 inches in circumference, a dense and brilliant mass of flowers. I counted over 600 open flowers on this plant at one time. I have had several specimens out of fifty-five plants which measured 24 feet, with blooms up to 34 inches in diameter. *Thomas Wager, Gardener, Hill Grove, Mardy, Abergareenny.*

**A VALUABLE PALM, SO-CALLED.**—It is stated on the authority of *Modern Society*, that Miss Helen Gould, the gentle maiden-millionaire, who takes a great pride in her conservatories, "has just committed a little piece of personal extravagance in the purchase of a very rare Palm, for which she paid the sum of £7,000. This Palm is a magnificent specimen of *Ravanola nudagarvieni*!" (*Ravanola madagascariensis*), "and stands a little over 32 feet high, while it is nearly 100 years old." This species will be known to some under the name of *Urania speciosa*. It may not be generally known that the French term this Palm "the travellers' tree," probably on account of the water which is stored up in the large cup-like sheaths of the leaf-stalks, and with which travellers are said to allay their thirst. The leaves are of gigantic size, somewhat like those of *Musa Ensete*, but arranged in two rows on opposite sides of the arboreal stem. [The plant is nearer to *Musa* than to *Palms*. *ED.*]

**FLOWERS OF CONIFERS.**—Your interesting leader on these, recalls my first experience with those of *Picea Pinsapo*; from that day, many years ago, I have never failed to recommend the flowers of this and other species for their beauty of structure and colouring. The colour is brilliant, and as the habit is specially compact and floriferous, the small flowers make the semi-glaucous-leaved branchlets glow with brightness. The *Pinsapo* Fir also blooms freely at an earlier period than most other Conifers. *D. T. F.*

**NECTARIES ON THE CARPELS OF CALTHA PALUSTRIS.**—Last year, about this time, I called attention in your columns to the fact that I could not, after most careful study, observe anything on the carpels of *Caltha palustris* at all like the process represented by Müller in his work on *The Fertilisation of Flowers*. Professor Henslow was good enough to record his experience in your issue of June 1, 1895, and it practically coincided with mine. He, in his communication suggested that if the following period were prolonged in Germany there would be more insect visitors, and this would be quite in keeping with a correspondingly well developed honey-secreting system. Of course, Müller's illustration would be drawn from German flowers. I have this season procured flowers of *Caltha palustris* from Germany, and aided by a much more expert microscopist than I am, Mr. John Ballantyne, of Rothesay, have failed to discover anything in the way of a well-developed honey-gland. The superficial tissue at the base of each carpel is in two places peculiarly developed, and through it seems to exude, in very minute drops, nectar or honey. This is observed in flowers grown in this neighbourhood, and to about the same extent in those grown in the South of England, but to a greater extent in flowers grown in Germany; only it never assumed, in the large number of flowers we examined, anything like the figure in

Müller's book. I sent some of the German flowers to Professor Henslow for his inspection, and the following extract from his letter acknowledging them will be interesting:—"I am very much obliged to you for sending me the specimen of *Caltha*. The embryonic and slightly-papillate tissue on the sides is much the same as in our English ones; so I begin to think Müller must have 'exaggerated' the point a little!" *William Cuthbertson, Rothsay.*

**FEEDING ASPARAGUS.**—Permit me to back up Mr. Wythes' most sensible caution in last week's *Gardeners' Chronicle*, against over-feeding and salting at the wrong time. My first experience in Asparagus growing on my own account was peculiar. The proprietor had his notions in regard to this kind of vegetables. The first was that it could not be overfed, the second that it could not be oversalted, especially when at rest. In pursuit of both theories this

the whole of the plants and soil had, as soon as practicable, to be removed, and a new start made. And from those early days until now, I have never had an object-lesson of a more instructive nature on the matters of manuring and salting Asparagus-beds. Two other lessons were also speedily learned in Asparagus-culture: the first was, never to plant this vegetable in the open in a dormant state; and the other is, never to plant on raised beds unless on very low or wet land. Alike at Ely, Colchester, in Cambridgeshire and in Lincoln, good Asparagus is grown on raised beds, on fen-land, near the water-level. But on good soils, a yard or two or more above the water-line, better Asparagus can be grown with less labour and expense on the flat than on raised rows or beds. Growers also will generally endorse Mr. Wythes' recommendation of frequent deluges of liquid-manure. As to common salt, affording it in small quantities and often to crowns during the season

acute angle. Now take your scion, and with two clean cuts shape its base so as to fit accurately the cleft at the branch, taking care that the edge of the barks of the stock and scion accurately coincide, for reasons before stated." &c. Well, I know how to cleft-graft, and many other methods, but were I to stand up and explain myself as above, I wonder how many would grasp my meaning? Such instruction as is here used would baffle rather than teach, and anyone that could understand "Experience" would be already a master of the art of grafting. I consider myself fairly well up in such matters, but confess I had to read it over several times to make sure I was not about to learn a new way of uniting stock and scion (for grafting, after all, is only a unity of barks), and the way to teach this simple work is to use plain words—at least, such is my experience; and as to cleft-grafting, I consider it the most objectionable of all methods. Saddle, rind, or whip-and-tongue grafting are preferable, and will meet the case, let the stock be of what size it may. The reason I write this is, that any one teaching those who do not know, should use the plainest and most simple language, so that he may be quite sure the teacher is understood. *Charles Itoll, Technical Lecturer in Horticulture.*

**BITTER ORANGES.**—The naturalist Galesio was the first to trace the history of the Orange, and the result of his careful researches he published in 1811 at Paris. According to this author the Arabs penetrating further into the interior of India than any foreign nation had done before, discovered the Orange family flourishing there, and held in high esteem by the natives. From this point the Arabs conveyed the sweet Orange into Persia and Syria, and the bitter Orange, now called the Seville, found its way into Arabia, Egypt, the North of Africa and Spain. From these points the Orange travelled into other countries, notably China, and in this latter empire it so flourished and spread, that by-and-by it came to be a fiction, believed in by Europeans, that the Orange was indigenous to China. Galesio shows, however, that the so-called "China Orange" is by no means a spontaneous production of that country, and his statement is further corroborated by the absence of all mention of this fruit in the exceedingly minute and circumstantial account given by Marco Polo of the productions of China. The sweet Orange which the Arabs carried to Spain spread thence into Portugal, Sicily, St. Michael, the Mediterranean Islands, and the West Indies. In each and all of these various places has the difference in climate and soil produced varieties and changes in the characteristics of the original common stock. On the banks of the Rio Cedeno, in the midst of a great forest, Humboldt, to his amazement, came upon a broad belt of wild Orange-trees laden with large, sweet, and most delicious fruit. "Surely, these must then be indigenous to the soil," he thought; but subsequent inquiry led to the discovery that these grand old trees had once formed a portion of extensive groves planted by the Indians from seeds obtained from their early Spanish visitors and conquerors. And to this same source does Florida owe her beautiful groves; only there, whether by the accident of soil or seed, the wild fruit is sour, not sweet. I am indebted for the above information to *Florida Fruits*, published in Louisville, U.S.A. W. Roupell, Harvey Lodge, Roupell Park, S.W.

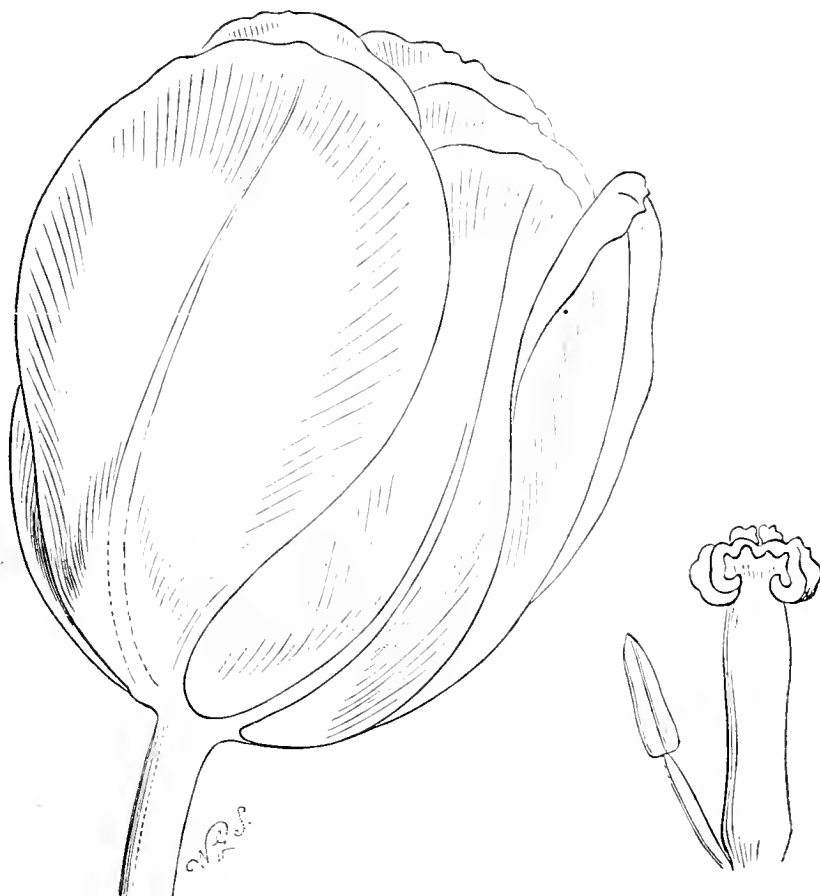


FIG. 94.—TULIPA KOLPAKOWSKYANA: AFTER THREE YEARS' CULTIVATION.

(SEE P. 586.)

gentleman took advantage of a change of gardeners to carry out his ideas to the letter. In pursuit of this object he lifted his old beds and formed new ones, chiefly of the richest, rankest manures that could be carted from his piggeries, cowsheds, and bullock-yards. The plants were carefully planted on these rank dunghills of nastiness and rottenness, which extended to over a yard in depth. So soon as all were planted, the beds were heavily top-dressed with salt. I did not see them till April 1, and shortly before this date they had a second dressing of 3 inches thick of salt. As I neared the beds I fancied there had been a heavy local fall of snow. It need hardly be added that the treatment killed most of the grass, and crippled all that escaped with their life. Efforts were at once made to scrape and sweep off as much of the salt as possible; but the mischief had already been done, and the roots and crowns, already semi-paralysed by the tremendous dressings of salt, were made worse by contact with the rank manure, while the cold and the moisture which carried down the salt to the roots, rendered recovery hopeless, and

of growth is the safest and most successful practice. Salt is most indispensable, and I saw some splendid beds last year, said to be fifty years old, which, I was told, have had no salt applied to them during that long period of time. If you or your readers would care to have the practice that resulted in such plentiful and permanent results, I shall be pleased to give it on a future occasion. *D. T. F.*

**TEACHING THE ART OF GRAFTING.**—I, like "Experience," lecture on horticulture, but I fear that I for one should have to "button-hole" him, as it appears his audiences do at times, especially in the matter of grafting—see p. 552, on cleft grafting, where he instructs us to "take a fine-tooth saw, cut through the branch at its axis, and finish off smoothly with a knife, then proceed to cleft-graft. To do this, a piece of wood should be removed, by two diagonal cuts, forming an acute triangular incision, being careful to cut the bark cleanly, and not to bruise it; this cleft being for an ordinary branch, half an inch deep at its base, diminishing to a point at the opposite

## SOCIETIES.

### ROYAL HORTICULTURAL.

MAY 5.—Those who had expected a paucity of exhibits at the meeting in the Drill Hall, Westminster, on Tuesday last in view of the much larger exhibition at the Temple a fortnight hence, must have been agreeably surprised when they found the hall literally packed from end to end. Of course the very large exhibit of water-colour drawings of Irises, Tulips, &c., which was lent by Mr. J. CAPARN, occupied a considerable portion of the central part of the hall, or the building would have been much less crowded. The sketches were sufficiently novel a feature at these meetings, however, to warrant the placing of them in such a position as they could be best seen, but it was regretted that in consequence of this, several exhibits containing really interesting plants were necessarily staged in the darker parts of the building, where it was difficult to appreciate their true appearance. Several collections of Tulips were shown, and among them were several novelties. These were especially appropriate as they illustrated in a practical manner the instructive lecture upon the subject delivered by Mr. J. G. BAKER, F.R.S. The meeting was remarkable also for a really superb display of



Roses, and to one of these exhibits from Mr. Mount, of Canterbury, the unusual award of a Gold Medal was deservedly made. Decorative plants of a miscellaneous character continue to form a prominent feature at these Shows, and in addition to these, and to the fine collections of hardy alpine plants shown, there were on the occasion under notice a display of Peonies and Pyrethrums, and other early summer flowers. An exhibit of Anthurium spathes by Sir T. LAWRENCE also deserves mention, many of the hybrids that have been raised in this garden being very valuable ones. Orchids were present in about the usual quantity. The work of the Fruit and Vegetable Committee still continues light.

#### Floral Committee.

*Present:* W. Marshall, Esq., Chairman, and Messrs. Jno. Fraser, H. B. May, H. Herbst, R. Dean, Geo. Stevens, R. B. Lowe, Jas. Hudson, J. F. McLeod, W. Bain, G. Gordon, Thos. Peed, J. D. Pawle, Chas. E. Pearson, Chas. E. Shea, J. W. Barr, H. J. Jones, E. Beckett, Chas. Blick, H. H. D'Ombraio, Geo. Paul, J. Fraser, G. H. Engleheart, T. Bennett-Poe, Ed. Mawley, R. M. Hogg, Jas. Walker, and Prof. Dr. E. Zacharias.

An Award of Merit was recommended to *Pteris Drinkwateri*, a group of plants of which was shown by Messrs. STROUD BROS., 182, Green Lanes, London, N. It is an exceedingly strong growing variety, and will no doubt be useful for market work. The plants were in 5-in. pots nearly two feet high, with ten to a dozen fronds, the pinnae of which were about  $\frac{3}{4}$  inch wide, and dense green in colour. Later fronds will be much taller.

A group of a semi-double flowered zonal Pelargonium named King of Denmark was exhibited by Mr. R. JENSEN, Mansfield Hill Nursery, Chingford, Essex. They were bushy little plants, and the zone on the leaves was unusually prominent. The flowers are salmon-rose in colour and large, not unlike those characteristic of the Ivy-leaved kinds (Award of Merit).

Messrs. WM. PAUL & SON, Waltham Cross Nurseries, Herts, showed two plants about 4 feet high of *Pyrus Malus Scheideckeri*, with semi-single flowers of very pale rose, the tree was very profusely flowered (Award of Merit). Messrs. PAUL also exhibited plants of a pretty new variegated Ivy, and some seedling forms of *Cydonia japonica*.

Messrs. PAUL & SON, The "Old" Nurseries, Cheshunt, staged a group composed of good and interesting plants in flower. These were of a mixed character, the greater part being hardy, whilst others were greenhouse species. An Award of Merit was recommended to *Cardamine Miss Jekyll*, a pale lilac double-flowered variety. Several hardy Rhododendrons in flower were shown, and some plants of greenhouse varieties equally well flowered. To Rhododendron var. *Profusion* an Award of Merit was recommended. Lilacs were shown in considerable variety, and there were sprays of other flowering shrubs also. A few pot Roses were included, but the greater part of the group consisted in hardy alpine and herbaceous plants (Silver Flora Medal).

A group of Anthurium sprays, in wonderful variety of shapes and colours, was exhibited by Sir T. LAWRENCE, Burford, Dorking (gr., Mr. Bain). The spathes were in earthenware bottles, three of a variety in each. The collection was relieved with Anthurium foliage also (Silver Flora Medal). Sir TREVOY LAWRENCE also exhibited a fine crimson-flowered Cann named *Roi des Rouges* (Award of Merit), and a yellow-flowered variety, *Mine d'Or*.

Mr. GEO. MOUNT, The Rose Nurseries, Canterbury, was the exhibitor of a very large number of cut Roses of excellent quality. Indeed, the superb character of the bulk of the blooms staged was quite unusual, and the collection was the subject of continual remark. The Committee recommended the Award of a Gold Medal, which the exhibit well deserved. There would be near upon 150 blooms in the collection, and a considerable number of varieties were represented. The most noticeable box, however, was one full of the variety *Captain Hayward*. Always a bright-coloured flower, the blooms were on this occasion uncommonly dazzling. Mrs. John Laing, too, was exhibited in really fine form; *Baroness Rothschild*, *The Bride* and *Catherine Mermet*, were also especially noticeable. One large box filled with various Roses, cut with long stems and well-furnished with foliage, was also provocative of much admiration.

A large group of Roses in pots was shown by Mr. WM. RUMSEY, Joyning's Nurseries, Waltham Cross, composed of plants in excellent health and well-flowered. The group was faced with a large number of cut blossoms, also some plants of *Nidderhair Fern*. Amongst the cut blooms, *Marechal Niel* was exhibited finely (Silver Flora Medal).

Messrs. J. ONEAL & SONS, Lowfield Nurseries, near Crawley, were the exhibitors of a collection of sprays of flowering Trees and Shrubs, and a few varieties of *Viola* flowers in sprays. Among the former were noticed sprays of the beautiful *Exochorda grandiflora*, *Wistaria sinensis*, &c. (Silver Banksian Medal).

Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, S.E., exhibited a very fine group of miscellaneous plants, composed chiefly of choice *Dracenas*, *Crotons*, *Palms*, *Caladiums*, and such plants. A little flower was provided by the addition of a few *Gloxinias*, and various hard-wooded greenhouse plants (Silver Flora Medal).

A Bronze Banksian Medal was awarded S. L. STILL, Esq., Woodside, Wimbledon Park (gr., Mr. Curtis), for a group of plants composed of well-grown specimens of *Herbaceous Calceolarias*, *Hippastrums*, *Pelargoniums*, &c.

Messrs. HIGH LOW & CO., Clapton, London, N., made an exhibit of a group of *Caladiums*, and *Crotons*, &c., composed of very choice varieties. Such *Crotons* as *Thompsoni*, *Flambean*, *Agnithusis*, *Russelli*, and *chrysophylla* were shown in excellent specimens (Silver Flora Medal).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, again staged a group of plants. Included in this were the following—Ward's variety of *Anthurium Scherzerianum* in splendid condition, a fine plant of *Pandanus Bupistii*, *Saxifraga pyramidalis*, *Phyllocactus* var. *Agatha*, a group of excellent plants of *Erica ventricosa* magnifica, *Richardia Elliottiana*, *Epiphyllum Russelli*, *Makoyanum*, the white variety of *Anthurium Andreanum*, a nice lot of *Boronia megastigma*, *B. elatior*, *Cianthus Dampieri* in bloom, *Arisema fimbriatum*, *Tillandsia tessellata*, a very ornamental plant with beautifully marbled foliage, *Leschenaultia biloba*, a very fine *Streptocarpus*, and other things. Messrs. VEITCH also exhibited a group of hardy plants and sprays of flowers, including *Chionanthus virginicus*, *Acer palmatum linearilobum*, a very graceful variety with narrow pale-green foliage (Award of Merit), *Azalea Vaseyi*, *Cornus florida pendula*, *Prunus sinensis rosea* fl. pl., &c. (Silver-gilt Flora Medal).

Messrs. JNO. PEED & SONS, Roupell Park Nurseries, Norwood Road, London, S.E., had a group of miscellaneous plants, bright with *Azaleas* and *Caladiums*, &c. (Silver Banksian Medal).

An excellent group of hardy plants in flower was contributed by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham. The finely coloured *Trollius Orange Globe* was well shown, and the deeper coloured *T. Fortunei plena*, also the variety *asiaticus*. About a score of nice plants of the purple flowered dwarf *Ranuncula pyrenaica* were conspicuous, a large pan full of the pale yellow flowered *Cheiranthus alpinus* was very pretty, and a group of *Dielytra spectabilis* was in full flower. The showy little *Alyssum saxatile compactum*, *Erimos alpinus hirsutus*, several kinds of hardy *Primulas*, *Orchids*, and a number of finely flowered tree Peonies, were a few of the other components of this collection (Silver Flora Medal).

Messrs. WM. CUTBUSH & SON, Highgate, London, N., arranged a group of plants of considerable extent. In the centre of this were some capitally flowered plants of *Carnation Uria Pike*, and varieties of the *Malmesion* type. Some plants of *Leptospermum bullatum* covered with their axillary white flowers were very cheery, and increasingly gay were the groups of *Indian Azaleas* and *Erica Cavendishii*. *E. coccinea minor*, *E. erecta* and *Boronia heterophylla* were some of the more noticeable objects in the group. A collection of hardy plants and flowers was contributed by the same firm (Silver Flora and Silver Banksian Medals).

From Messrs. BALCHIN & SONS, Hassocks' Nurseries, Sussex, was shown a plant of *Richardia Elliottiana* in which the yellow of the spathe had spread into one of the leaves, as is frequently the case in the ordinary white *R. Ethiopica*.

Messrs. BALCHIN also exhibited a spray of the exceedingly handsome and fragrant stove shrub *Posoqueria macropus*, to which the committee deservedly awarded a First-class Certificate; see fig. 91, p. 583.

Mr. J. WALKER, Thame Nurseries, Oxon, exhibited a superb collection of forty-eight blooms of *Marechal Niel* Rose (Silver Flora Medal).

An Award of Merit was gained by a Rose named Mrs. F. Cant, exhibited by Mr. FRANK CANT, Braiswick Nurseries, Colechester. Several vigorous plants in pots were shown, and from the healthy appearance of the foliage the plant is likely to possess a good constitution. The flowers are palest flesh colour, exceedingly delicate in appearance, and very like to *La France* in general character, though a rose grower has only to see the flower once to be sure it is distinct from that variety.

The DIRECTOR of the Royal Gardens, Kew, contributed a collection of sprays of various species and varieties of *Rhododendron*, and which, for the purpose of comparison, were very valuable and interesting. We shall have another opportunity of alluding to this collection.

Messrs. KELWAY & SONS, Lumpert Nurseries, Somerset, sent a display of Tree Peony flowers, also a large number of *Pyrethrum* flowers in variety, and a small group of *Irises*, including such varieties as *I. germanica major*, *paradoxa*, *spectabilis*, *Pontarabia*, &c. (Silver Banksian Medal).

MARTIN R. SMITH, Esq., The Hayes (gr., Mr. Blick), exhibited a pure white-flowered seedling *Carnation* named *Nell Gwynne*, apparently of considerable merit.

A number of flowers of hybrid *Irises* that were sent by Prof. M. FOSTER, Shelford, Cambridge, were most interesting, and all of them are undoubtedly valuable varieties. They are seedlings, and at present have not been named, but the parentage of each was given.

Mr. M. FRITCHARD, The Nurseries, Christchurch, was awarded a Silver Banksian Medal for a collection of hardy flowers, including the rare *Morisia hypogala* and many of our best hardy spring flowering species.

Messrs. YOUNG & ROBINSON, Holmesdale Nurseries, Stevenage, Herts, exhibited a collection of *Pansies* and *Violas* in bunches laid upon damp moss. A *Viola* named *Stevenage Sweep* struck us as being an uncommonly dark one. Double-flowered *Wallflowers* and some *Tulips* were also shown.

Mr. W. J. CAPARN, of Oundle, Northamptonshire, exhibited a numerous collection of water-colour sketches of *Irises* in great variety, and of *Narcissus*. Examples were remarked, not of course of equal merit, as there was evidently an earlier and a later manner of the Tall Bearded section flowering mostly in the summer season, and a subsection of these of dwarf habit flowering at various seasons; of the *Niphon* section, of which *Pusteriana*, *Boissieri*, and *Bathos* were

examples; *Tulerosus Iris*, as *Palestina caucasica*, *Vartani*, *persica purpurea*; *Reticulate* section as seen in *Junio*; *Dwarf-bearded Iris* like *lutescens*, and *Cengialti*: *Pumila* vars. as *Purity*: cushioned *Irises* such as *Susiana*, *Suwarowii*, and *Catesii*: *Regelia* section, of which *Korolkowii*, *paradoxa* and *Leichtlini* are examples; crested *Irises* as seen in *fimbriata*, and *tectorum*; finally beardless *Irises* of which *sibirica*, *hexagona*, *Kiempteri*, *stylosa* and *areua* may be noted.

A water-colour picture of irregular groups of *Irises* in flower in his garden, in the style of the impressionists, was likewise shown by Mr. CAPARN, which was useful in exhibiting a method of planting both pleasing in effect and truly artistic in treatment, and for that reason not likely to be well carried out by the ordinary gardener.

The collection of drawings of *Narcissus*, if it was less extensive, showed good draughtmanship and colouring. The same were exhibited, if we remember rightly, at the recent Daffodil Conference of the Royal Botanic Society. An Award of a Silver Flora Medal was made.

#### TULIPS.

May is the month of the Tulip, and that it was largely represented on Tuesday is not surprising. They were there in all types—early and late, breeder and broken, with not a few species and varieties.

The florists' varieties were particularly prominent: the choicest collection came from Mr. J. Walker, nurseryman, Thame, this Oxfordshire town having been a home of the Tulip for many years. Bizarres, gaudy in gold and dark brown to black, were represented mainly by flamed varieties, such as Sir J. Paxton, some of them very dark; Dr. Hardy, one of the brightest, gold and dark red being seen in happy combination; *Horreus*, in the way of Dr. Hardy, but paler in the ground colour; *Richard Yates*, pure, and finely marked; *General Grant*, pure, but heavily feathered; *Masterpiece*, nicely feathered, but weak in the flame; *George Hayward*, very bright and pure, the petals much flooded with colour; and *Gold Cup*, having a deep golden ground, but deficient both in feather and beam. There was but one feathered bizarre, *La Circassienne*, bright yellow, delicately and regularly feathered with red, but sadly stained at the base; the petals a little pointed, yet a bright and pleasing flower. All the byblomms were flamed, and consisted of *Passé Colpade*, fine shape, pure in the ground, nicely feathered, but heavily flamed. *Talisman*, also pure but heavy in colour. *Bessie*, large weak in the feather; *Lord Denham* wanting both in feather and beam; *Duchess of Sutherland* much suffused with colour; Mrs. John Walker wanting in colour, and Mrs. H. F. Stone. The roses were also confined to flamed flowers, such as *Annie McGregor*, very bright, but heavy in colour; *Triomphe Royale* and *Heroine*, likewise flowered. *Modesty*, very pretty; *Aglaia* and *Mabel*. There were some charming breeders or self-coloured flowers, viz., *William Lee*, so dark as to be almost black; *Richard Yates*, deep bronzy-crimson; Sir J. Paxton very fine, some darker than the others, but all very pure in the base; and rose-breeder, *Annie McGregor*, delightful in its tint of bright rosy scarlet. Evidently the flowers had not been shaded, which will account for several of them being so heavily flooded with the breeder colour.

There was quite a large collection from Messrs. JAMES VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea. Here the early single and double varieties, represented by large blooms, were prominent. Of double varieties, *Duke of York*, *Rox Rubrum*, *Alba Maxima*, *Henri White*, having the appearance of a double *Keizer's Kroon*; *Parnassian*, rose; *Don Carlos*, crimson; *Reine des Roses*, pale rose; *Lord Beaconsfield*, deep rose; and *Helianthus*, crimson, deeply edged with gold. Of single varieties, *De Keizer*, crimson, with yellow base; *Alba regalis*, white; *Princess Royal*, white, edged with deep rose; *Couleur Cardinal*, shaded crimson, very fine, and a superb bedder; *Empress of India*, orange scarlet; *Golden Eagle*, feathered with red on a golden ground; *Stanley*, bright deep rose; *White Swan*, *Pink Beauty*, deep pinkish scarlet, with a white flame to each petal; *Goldfinch*, yellow; *Queen Victoria*, white, delicately edged with pink; *Nelly*, large white; *Ophir d'Or*, deep yellow; *Duode Grillon*, bronzy rose; *Spandouck*, white ground, crimson flame; *Queen of the Netherlands*, a fine semi-double striped and suffused rose on white; with such species as *retroflexa*, and *cornuta*; and examples of the showy parrot varieties (Silver Flora Medal).

Messrs. BARR & SON, King Street, Covent Garden, staged a remarkable collection, especially of the florists' type, the Darwin breeders as they are termed, Parrot Tulips, &c. Among what are termed the May flowering garden varieties there were *Golden Beauty*, *Bouton d'Or*, *macrospila*, a very showy late; form *Golden Eagle*, yellow feathered with red; *Gesneriana*, glowing vermilion, with a metallic blue base; *Gala Beauty*, yellow, with a flame of crimson, scarlet up each petal. *Chameleon*, a very singular form, black, violet, cream, yellow, &c.; *Fulgens*, rich showy crimson, the petals reflexing somewhat, pure yellow base; *Fairy Queen*, pale rosy violet; margined yellow, the inner petals white, very novel and pleasing; and *Striped Beauty*, rose, crimson and white. Of species there were *Bataini* (Award of Merit), of a soft Primrose colour, *Digieri*, vermilion, the black base surrounded by a creamy ring; *saxatilis*, having a golden base to the petals inside and out, deeply edged with delicate lilac rose (Award of Merit). The Darwin breeders were also in great force, and in many colours, conspicuous among them the *Sultan*, medium-sized, finely formed, almost black, but with a glossy, bronzy sheen (Award of Merit), said to be a very excellent garden variety; *Heela*, deep wine-crimson, and *Bronze King*, golden-bronze, were also very fine. Some of the best of the English florists' Tulips were also represented

but the method of showing them in boxes covered with white paper, is not to be commended (Silver-gilt Flora Medal).  
 From the Royal Gardens at Kew came a group of species and varieties, such as *Lindolia*, brilliant scarlet, with a dark base, very striking—this is quite a dwarf-growing form; *Vittellia*, very soft primrose, almost white; *Parisienne*, two forms, one white the other yellow, in each case delicately edged with rose; forms of *Dicieri*, *Picotée* and *Golden Eagle*, being noticeable; also examples of *retroflexa*, *acuminata*, *cornuta*, *Eichleri*, &c. To most collections of hardy flowers shown on this occasion, bunches of Tulips found a place.

**Narcissus Committee.**

Present: J. T. Bennett-Poë, Esq., in the Chair; and Rev. G. H. Engleheart, Messrs. P. Barr, A. Kingsmill, and J. Walker.

Except the very latest varieties, Narcissi were evidently out of flower by this date, for even such specialists as Messrs. BARR & SON showed only a few vases of *Jonquils*, *poeticus recurvus*, &c., among the Tulips, which now hold the field.

The prize for the best new seedling of the meeting was awarded to the Rev. G. H. ENGLEHEART'S poeticus "Spenser," a broad petalled, flat flower, raised between the early *N. p. ornatus* and the late *N. p. recurvus*. He also showed a very large and striking late Trumpet Daffodil, of deep self-yellow, named "Sol."

An Award of Merit was given to *N. Bernardi* var. *Philip Hurt*, from Rev. C. WOLLEY DOD, Edge Hall, Cheshire. This is of great value as a late-blooming Narcissus; the perianth is creamy-white; the corolla is wholly of a rich orange-red.

The prize for the best new Narcissus exhibited at any Royal Horticultural Society Meeting in 1896, has been gained by the Rev. G. H. ENGLEHEART'S "White Queen," shown April 7 (Silver-gilt Flora Medal).

**Orchid Committee.**

Present: Harry J. Veitch, Esq., in the Chair, and Messrs. Jas. O'Brien (Hon. Sec.), A. H. Smee, W. H. Protheroe, R. Brooman-White, T. W. Bond, H. J. Chapman, S. Courtauld, T. B. Haywood, W. Cobb, C. Winn, Dr. M. T. Masters, H. Ballantine, J. Douglas, and H. M. Pollett.

The meeting preceding the great Temple Show is usual y a quiet one, but on this occasion a much better display than usual was made, the fine group of well-grown, well-flowered, and artistically staged Orchids, for which Messrs. JAS. VEITCH & SONS were awarded a Silver-gilt Flora Medal, being equal to the best ever seen at the Drill Hall. The centre of the group consisted of many varieties of the soft-tinted *Cattleya Schroderae*, which vary in colour from blush to pink, and with a lip which, in the different specimens, was of a peculiar orange glow of varying degrees of intensity. There were remarked besides, a good plant of the snow-white flowered *Cattleya intermedia alba*; the pretty *Lelio-Cattleya* × *Zephyra* (*L. xanthina* ♂, C. Mendeli ♀), with its nanken-yellow flowers, veined with rose at the tip of the labellum; the singular *Dendrobium* × *Stratius* (*japonicum* ♂, *Dalhousieanum* ♀); the India yellow and purple *Lelio-Cattleya* × *Hippolyta*; the wax-like, white tipped with rose, *Chysis* × *Langleyensis* (× *Chelsoni*, × *bracteosus*) (Award of Merit); a fine variety of *Miltonia* × *Bleuana nobilior*; *Cypripedium Lawrenceanum*, *Hyeaanum*, and other rare species. In another part of the group were plants of *Anguloa Clowesii*, *A. uniflora*, and the pink *A. uniflora Turneri*; a fine plant of *Maxillaria Sanderiana*, *Cypripedium Chamberlainianum*, *C. × Morgania*, and *C. × euryleucis*; *Masdevallia* × *Heathii*, and good varieties of *M. ignea*; *Lycaste Deppii*, and varieties of *L. Skinneri*; and interspersed were fine sprays of *Oncidium Marshallianum*, *Odontoglossum ramosissimum*, *O. crispum*, *O. Pescatorei*, *Cattleya Lawrenceana*, *C. Walkeriana*, *Lelia purpurata*, &c.

Few in number, but of fine quality, were the constituents of the group of Orchids shown by Baron Sir H. SCHROEDER, The Dell, Egham (gr., Mr. H. Ballantine); the more remarkable was *Vanda teres gigantea*, a variety which is an advance in all respects on the type, especially in the size of its growths, the inflorescence, and the size of the flowers. The colour of the latter resembles the best form of the type, which is no faint praise. The true plant is only to be found at The Dell and at Tring Park (First-class Certificate). Another fine exhibit was *Dendrobium thyrsoiflorum* Lowii, with many fine spikes of cream-white flowers, the chief peculiarity being in the fixed, abnormal shape of the lip, which is narrow, spoon-shaped, and much flatter than in the ordinary form. The lip is also cream-white marked with a yellow streak. It is a further development of the plant figured in the *Lindensia*, Vol. VI., pl. CCXLI., as *D. Gallieanum* (Award of Merit). In the same group were the very beautiful *Lelio-Cattleya* × *Dighyana-Mossie*; a very pretty *Odontoglossum* × *Wickeanum*, with flowers coloured like those of *O. × excellens*; some very fine *O. crispum*, one of the blotched varieties being superb; the clear white-flowered *O. Pescatorei leucocanthum*, a noble *O. luteo-purpureum* and *O. Ruckerianum*; *Masdevallia Veitchii grandiflora*, with fifteen flowers; *Cypripedium Lawrenceanum* *Hyeaanum*, &c. (Silver Flora Medal).

The Hon. WALTER ROTHSCHILD, Tring Park (gr., Mr. E. Hill), sent a pretty spotted form of *Catasotum macrocarpum*, the labellum of which was pale green, and the other segments yellow dotted with purple (Botanical Certificate); *Cattleya* × *intermedio-Loddigesii*, received from Rio de Janeiro as a natural hybrid of the species named. The sepals and petals are bluish-white with a few purple spots;

front of the lip purple-crimson. In general appearance it is close to some varieties of *C. intermedia*, but the pronounced isthmus to the middle lobe of the lip as seen in *C. intermedia*, combining with the more ample and frilled edge of *C. Loddigesii*, seems to indicate mixed parentage; also a very pretty *Epidendrum* with cream-white flowers, veined with cinnamon brown, and produced in a showy branched spike.

Sir WREYMAN PEARSON, Bart., M.P., Paddockhurst, Crawley (gr., Mr. Csp), showed three grand specimens of *Cattleya Lawrenceana* with an aggregate of twenty-one spikes of very brilliant and richly-tinted flowers; also several well-flowered *Dendrobium nobile*; a fine spike of the singular purple and green *Catasotum stupendum* (Botanical Certificate); and a fine form of *Cattleya Schroderae* (Silver Banksian Medal).

J. T. BENNETT-POË, Esq., Hohnwood, Cheshunt, was awarded a Silver Banksian Medal for a stand of fifteen fine plants of *Cattleya citrina*, furnished with fine racemes of flowers. The plants, it was stated, had been grown cool. WELBORE S. ELLIS, Esq., Hazelbourne, Dorking (gr., Mr. Masterton), showed a group of fine varieties of splendidly-grown *Odontoglossum crispum*; a fine variety of *Coelholia Noeliana*, and another of *Dendrobium Hildebrandi* (Silver Banksian Medal).

Messrs. F. SANDER & Co., St. Albans, staged a very effective group, in which were a magnificent variety of *Oncidium varicosum Rogersii*; the pretty South African *Stenoglottis longifolia*, with tall spikes of lilac flowers; *Cypripedium* × *grande*, *Dendrobium superbum eusomum*, *D. Bensonae*, and *D. densiflorum*; the singular *Eria bracteosus*, of which two varieties were shown (Botanical Certificate); *Lycaste Deppii*, *L. Skinneri*, *Miltonia Phalenopsis*, *Spathoglottis Lobbi*, and a singular little Orchid with rose coloured flowers, which the Committee referred to Kew.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. Bond), showed *Lelio-Cattleya* × *Eudora* (*L. purpurata* × *C. Mendeli*), with flowers of the L.-C. *eximia* class, and with yellow tinge in the throat (Award of Merit); *Cattleya* × *Preciosa* (*C. speciosissima* × *C. Lawrenceana*), and *C. × Sedeni* (*C. Lawrenceana* × *Percivaliana*), both of which bore some resemblance to the handsome *C. × Wm. Murray*.

C. J. LUCAS, Esq., Warnham Court, Horsham (gr., Mr. Duocan), showed the singular *Bolhophyllum tremulum*, with feathery lip, like *B. harbergiana*. It was imported from Koorg, India (Botanical Certificate); and *Odontoglossum Italli grandiflorum*, a noble form of the *O. H. xanthoglossum* type (Award of Merit).

A. H. SMEE, Esq., The Grange, Wallington (gr., Mr. Cummins), showed *Oncidium varicosum Rogersii*, with remarkable pseudo-bulbs, in some respects like those of *O. Marshallianum*, which the large yellow flowers in colour also nearly approached; also a very poor form of *Cattleya Mossie*, purchased as *C. Guariocensis*, the so-called blue *Cattleya*. W. VANNA, Esq., Camden Wood, Chislehurst (gr., Mr. W. H. Robbins), showed *Odontoglossum crispum* Princess, a splendid variety, of perfect form, and decorated with one large irregular blotch on each sepal, the back of the petals having purple blotches which were visible on the other side (Award of Merit).

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), sent *Lelio-Cattleya* × *Highburyensis* (*L. cinnabarina* × *C. Lawrenceana*), a remarkable example of rapid growth in a garden cross, the two longest bulbs having been developed in 1895.

E. H. ADCOCK, Esq., Ribblesdale, Dorking (gr., Mr. J. Green), showed a specimen of *Cypripedium bellatulum*, consisting of one plant bearing ten flowers (Cultural Commendation).

WALTER COAN, Esq., Dulcote, Tunbridge Wells (gr., Mr. Howes), showed *Miltonia Roezii* alba, Cobb's var. It had large white flowers with a chrome yellow marking on the lip (Award of Merit).

C. YOUNG, Esq., The Thorns, Sevenoaks (gr., Mr. S. J. Ryder), showed *Odontoglossum polyxanthum*, with a six-branched spike of twenty-seven flowers (Cultural Commendation). R. BROOMAN-WHITE, Esq., Arddaroch, Garelochhead (gr., Mr. Roberts), showed out spikes of *Odontoglossum*. W. A. BEVAN, Esq., Coombe Court, Kingston, sent *Odontoglossum Pescatorei*, Mrs. W. A. Bevan, a fine form with purple blotched sepals and lip. J. FORSTER ADCOCK, Esq., Northchurch, Herts, sent *Lacena bicolor* and *Cattleya citrina*. Messrs. W. L. LEWIS & Co., Southgate, sent *Odontoglossum Pescatorei Lewisii*, *Cattleya resplendens* and *Cattleya citrina*. J. BRADSHAW, Esq., Southgate (gr., Mr. Whiffen), staged a neat group of *Odontoglossums*, *Cattleyas*, *Oncidium Marshallianum*, *Chysis*, &c. (Silver Banksian Medal), and T. FIELDEN, Esq., Grimston Park, Tadcaster (gr., Mr. Clayton), showed *Lelia purpurata* Grimston var., large in size, fine in form and with a rich maroon purple lip (Award of Merit).

**Fruit Committee.**

Present: Philip Crowley, Esq., in the Chair; and Messrs. Robt. Hogg, T. Francis Rivers, Jos. Cheal, H. G. Pearson, A. F. Barron, G. W. Cummins, Geo. Bonyard, T. J. Saltmarsh, Alex. Dean, J. W. Bates, T. Glen, Geo. Wythes, Geo. Reynolds, H. Balderson, and G. H. Sage.

An Award of Merit was recommended to Radish Olive-shaped Bright Red Leafless, from Messrs. VILMORIN & Co., Paris. The roots had been grown at Chiswick. Its chief merit as a variety for forcing is, apparently, the miniature character of the foliage, for although not leafless (as is implied by the name), the leafy part of the plant is so small and buff-like that the roots might be grown quite closely together.

Messrs. CARTER & Co. exhibited their Express Forcing Radish, a nice red, long root; and Messrs. R. VEITCH & SONS, Exeter Nurseries, showed a Radish named Ever Tender, a round root, of rather pale colour.

Earl PERCY, Syon House, Brentford (gr., Mr. Geo. Wythes), exhibited a large box of ripe fruits of Royal Sovereign Strawberry, of excellent quality; also some excellent Amsden June Peaches, which had been gathered within five months from the time the trees were started (Cultural Commendation); and a dozen or so of ripe fruits of Brown Turkey Figs (Cultural Commendation). Mr. WYTHES also showed some of Wythes' Seedling Kidney Potatoes, which had been grown in nine weeks, and were the product of two sets, weight 3½ lb.

Messrs. LAXTON BROS., Bedford, exhibited some capital fruits of Royal Sovereign Strawberry. W. A. HENDERSON, Esq., Buscot Park, near Faringdon (gr., Mr. W. Mead), sent four excellent ripe Melons in two varieties, viz., Countess, and a seedling which has been grown at the establishment for some years. Another Melon was shown by JOS. WHEATLEY, Esq., Woodlands, Mirfield (gr., Mr. G. Firth).

Fruits of Apples, Sturmer Pippin, still in good preservation, were shown by H. BOGHUST FISHER, Esq., Pit Place, Chelmsford.

A collection of varieties of Rhubarb was exhibited from the gardens of the Society at Chiswick. Included were Dancer's Early, Ryder's Perfection (Victoria), Victoria, Collis's Seedling, Laxton's No. 1 and Laxton's No. 2, Buckley's Crimson, Paragon, and Hawke's Champion. The well-known Victoria not having previously been distinguished by an Award of Merit from the Royal Horticultural Society, the Award was now tardily made. It still appears to be the best of any, though a similar Award was recommended to the variety Collis's Seedling, as shown the largest-growing of any, but it was not so well coloured as the Victoria.

**Lecture.**

**THE SPECIES AND VARIETIES OF TULIPS.**

In the afternoon was delivered a Lecture upon the above subject by Mr. J. G. BAKER, F.R.S., of Kew. The Rev. Prof. HENLOW occupied the Chair.

At the commencement Mr. BAKER described the geographical distribution of most of the species of Liliaceae, and particularly of the tribe Tulipeae. This tribe included about half a dozen genera, and they are peculiar to the north temperate zone. The genus *Tulipa* had its head-quarters in Central Asia, and stopped abruptly with the old world. There are no Tulips native to America, but another genus of the same tribe, viz., *Calochortus*, was found there, and so completed the chain round the world. *Calochortus* was partly or wholly confined to the western side of America, Gagea, another genus of the tribe, was entirely peculiar to the north temperate zone.

Of the genus *Tulipa*, Mr. BAKER said, there had been many new species made known during recent years. From Central Asia, many of these had been discovered by Russian explorers, and afterwards they had been described by Russian botanists, which accounted for the (to us) extraordinary names that had been given them. They were in most cases named after the collector who had first discovered them. These new species amounted to something like fifty per cent. of those previously known. They did not, however, furnish any new types, and as they were easily placed in previously existing groups, they had not interfered with the classification of the genus. The principal differences which divide the species of the true Tulips for botanic purposes, consist in the hairy or glabrous character of the filaments of the stamens, and in the smooth or woolly exterior of the bulbs. Many other minor features are useful for sub-division.

**WINCHESTER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**

APRIL 30.—The monthly meeting was held at the Young Men's Christian Association rooms on the above date, W. MAVO, Esq., presiding; and Mr. J. Miles, gardener, Portwood House, Southampton, read an interesting paper on the chief points of fruit culture, to a good audience.

Mr. MILES, having about 200 varieties of Apples under his care, directed attention chiefly to that fruit; and illustrated his remarks on pruning with examples of his ideas, showing the results of good and bad pruning; and in the case of the bad, showed what should be done to them at the proper time. Root-pruning also came in for its share of consideration, and here again the lecturer availed himself of a specimen fibrous root. Insects affecting the Apple, canker, mildew, received their share of notice. Mr. MILES gave a list of the best dessert and culinary varieties, and hints on exhibiting.

A good idea of the executive was the handing round to members a printed List of Apples which had been found to succeed in the neighbourhood of Winchester, where the soil consists largely of chalk and strong loam.

The meeting terminated with a vote of thanks to the lecturer, who, in responding, made an appeal on behalf of the Royal Gardeners' Orphan Fund, giving at some length the objects of the fund, and the advantages of membership.

**CATALOGUES RECEIVED.**

YOUNG & ROBINSON, Holmesdale Nurseries, &c., Stevenage, Herts.—*Begonias*, *Oloxinias*, *Chrysanthemums*, &c.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (Day-deg., Day-deg., Day-deg., Day-deg., 10ths Inch, Ins.), RAINFALL (Inch, Ins.), and BRIGHT SUN. (Ins.). Includes data for districts 0-10 and a summary row.

The districts indicated by number in the first column are the following:—

- 0, Scotland, N. Principal Wheat-producing Districts; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c.; Districts — 6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending May 2, is furnished from the Meteorological Office:—

The weather during the period was fine and dry over the kingdom as a whole; but some considerable falls of rain were experienced in the extreme north and north-west during the earlier part of the week, and showers of cold rain, sleet, and soft hail in many districts later on. Thunderstorms occurred in several parts of Great Britain during the middle part of the week.

The temperature, as a whole, did not differ much from the mean, being high during the earlier, and low during the latter, part of the week. The highest of the maxima were registered either on the 26th or 27th, and varied from 69° in 'England, E.,' and 68° in 'England, S.,' to 69° in 'Scotland, W.,' 'England, N.W.,' and the 'Channel Islands,' and to 58° in 'Scotland, N.' The absolute minima were very low for the time of year; they were recorded, as a rule, on May 2, when the sheltered thermometer fell to 28° in the 'Midland Counties' and 'England, S.W.,' 29° in 'Ireland, S.,' and to between 31° and 33° in most other parts of the kingdom. In 'England, N.E.,' however, the lowest reading was 35°, and that in the 'Channel Islands,' 39°. Shary ground-frosts were very general during the latter part of the week.

The rainfall exceeded the mean in 'Scotland, N.,' 'Ireland, N.,' and 'England, N.W.,' and just equalled it in 'Scotland, W.,' but in all other districts there was a considerable deficit.

The bright sunshine was again deficient in 'Scotland, N.,' but either equalled or exceeded the normal in all other districts. The percentage of possible duration ranged from 55 in the 'Channel Islands,' 57 in 'England, S.W.,' and 50 in 'Ireland, S.,' to 34 in 'Scotland, E.' and 'England, N.E. and N.W.,' and to 26 in 'Scotland, N.'

MARKETS.

COVENT GARDEN, MAY 7.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing plants in pots with columns for s. d. s. d. and prices. Includes Adiantum, Arum lilies, Aspidistra, Azalea, Cineraria, Dicycla, Dracena, Erica, Evergreen shrubs, Ferns, and Ficus elastica.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing cut flowers with columns for s. d. s. d. and prices. Includes Arums, Azalea, Bluebells, Bouvardias, Carnations, Cowslips, Daffodils, Dentia, Eucharis, Gardenias, Iris, Lapageria, Lilac, Liliun Harrisii, Lily of the Valley, Maidenhair Fern, Marguerites, Mignonette, Narcissus, Pelargoniums, Polyanthus, Pyrethrums, Roses, Spiraea, Stephanotis, Tuberoses, Tulips, Violets, and Orchid-bloom.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing fruit with columns for s. d. s. d. and prices. Includes Apples, Grapes, Peaches, Pine-apples, Strawberries, and Tasmanian Apples.

The fruit by the sea. Rome arrived in splendid condition, which were all sold on Wednesday. Demand good at from 10s. to 15s. A small quantity from Victoria sold up to 18s. per case. Grapes from 18s. to 25s. per case.

Our next arrival is due per S. Austral, to be sold on Monday, the 11th inst.; and, as she brings over 20,000 cases, lower prices may be anticipated. J. B. Thomas.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing vegetables with columns for s. d. s. d. and prices. Includes Asparagus, Beans, Cucumber, Mushroom, Peas, Onions, Parsley, Potatoes, and Tomatoes.

NEW POTATOES.

Market remains firm, and prices quite up to last week's. J. B. Thomas.

SEEDS.

LONDON: May 6.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, although as might be expected, there is now a daily diminishing consumptive demand for Clover and Grass seeds, value for same are receiving considerable support from an increasing speculative inquiry, and also from some export business. It is somewhat unusual for the close of the sowing season to witness higher prices than at any previous period. Notwithstanding, however, the recent rise, fine samples are still obtainable at very moderate figures. Tares are neglected. Rape seed favours buyers. There is no change in Mustard. For Canary seed there is an improving sale. Hemp seed also tends upwards. Some remarkably clean Linseed is offering at tempting rates. Peas and Haricots keep steadily.

FRUIT AND VEGETABLES.

Borough: May 5.—Quotations:—Cabbages, 2s. 6d. to 3s. per tally; new Carrots, 5d. to 6d., and Turnips, 6d. per bunch; Broccoli, 1s. per bag; Spring Onions, 9d. to 1s. per dozen bunches; Spinach, 2s. to 2s. 6d. per bushel; Onions, 5s. to 5s. 9d. per bag.

SPITALFIELDS: May 5.—Quotations:—Cabbage, 1s. 6d. to 3s. per tally; bunch Greens, 1s. 3d. to 1s. 9d. per dozen; Onions, spring, 1s. to 1s. 6d. per dozen bunches; Parsley, 9d. to 1s. do.; Mint, 1s. 6d. to 2s. do.; Leeks, 1s. to 1s. 6d. per dozen; Beetroots, 1s. 3d. to 1s. 6d. per bushel; Cauliflowers, 5s. to 7s. per tally; Asparagus, 1s. to 1s. 6d. per bundle; Carrots, 25s. to 40s. per ton; Turnips, 20s. to 35s. do.; Rhubarb, 1s. 6d. to 2s. per dozen bundles; Cucumbers, 2s. 6d. to 3s. per dozen; Lettuce, 6d. to 6d. per dozen.

STRAFORD: May 5.—Quotations:—Cabbages, 1s. 6d. to 3s. 6d. per tally; Greens, 1s. 3d. to 1s. 6d. per bag; do., 1s. 9d. to 2s. per dozen bunches; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; do., 5s. to 7s. 6d. per tally; Beetroot, 1s. 3d. to 1s. 6d.; Horseradish, 1s. 2d. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Rhubarb, field, 1s. 6d. to 2s. per dozen bundles; White Turnips, 1s. 6d. to 2s.

per dozen bunches; egs, 1s. 6d. do.; Spring Onion, 1s. to 1s. 6d. do.; Salad, 1s. 6d. per dozen punnets; frame Cucumbers, 2s. to 3s. 6d. doz.; Carrots, household, 2s. to 2s. 6d.; do., cattie feeding, 2s. to 2s. 6d.; Mangels, 10s. to 16s. do.; Onions, Egyptian, 5s. 9d. to 6s. 3d. per case; Apples, Tasmanian, 10s. to 10s. 6d. do.; do., Nova Scotian, 18s. to 20s. per barrel.

FARRINGTON: May 7.—Quotations:—Cauliflowers, 1s. 6d. per dozen; Cabbages, 9d. per dozen; Leeks, 1s. per dozen; Beet, 9d. per dozen; new Carrots, 10d. per bunch; new Turnips 10d. per bunch; Asparagus, 1s. 9d. large bunches; Rhubarb, 1s. 9d. to 2s. per dozen bundles; Cucumbers, 2s. 6d. per dozen; Mint, 2s. per dozen bunches; Apples, Tasmanian, 10s. to 14s. per case.

POTATOS.

BOROUGH: May 5.—Quotations for Old Potatoes ranged from 30s. to 70s. per ton; and New sold at from 10s. to 14s. per cwt.

SPITALFIELDS: May 5.—Quotations:—Highlands: Magnums, 40s. to 50s.; Bruce, 35s. to 45s.; Main Crop, 40s. to 55s.; Reading Giants, 40s. to 50s.; Drones, 55s. to 60s.; Blacklands, Bruces, 30s. to 40s.; Giants, 30s. to 40s.; Imperators, 30s. to 35s.; Scotch Bruce, 45s. to 55s. Main Crop, 50s. to 60s.; Dunbar do., 70s. to 85s.; Bruce, 70s. to 80s. per ton.

STRAFORD: May 5.—Quotations:—Dark soil, Bruces, 20s. to 25s.; light do., 25s. to 50s.; Reading Giants, 30s. to 40s.; Sutton's Abundance, 30s. to 50s.; Scotch Main Crop, 40s. to 60s.; Dunbar Magnums, 50s. to 70s. per ton.

FARRINGTON: May 5.—Quotations:—Best Main Crop, 70s. to 80s.; Drones, 50s. to 60s.; Bruces, 40s. to 50s.; Magnums, 35s. to 45s.; Imperators, 25s. to 30s.; Darton's Rounds, 25s. to 30s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending May 2, and for the corresponding period last year:—1896: Wheat, 25s. 8d.; Barley, 22s.; Oats, 14s. 3d.; 1895: Wheat, 21s. 4d.; Barley, 20s. 5d.; and Oats, 14s. 3d.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 85s. 6d.; inferior, 38s. to 60s.; Hay, best, 60s. to 80s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 24s. to 40s. per load.



\* Correspondents not answered in this issue are requested to be so good as to consult the following number.

ANTS ON TURF. G. A. Pour carbolic acid dissolved in water into their nests.

CARNATION: S. G. J. Not Germania. Good, but not extraordinarily so.

CUCUMBER ROOTS CLUBBED: J. H. The result of eel-worms in the root, often described and figured. The creatures are in the soil; there is nothing for it but a change of soil.

DISEASED CARNATIONS: J. F. The Carnations are attacked by Heterosporium echinulatum, of which there can be no mistake, as the mould is in full fruit. Better clear off and burn diseased plants if you wish to save the rest. M. C. C.

EUCHARIS GRANDIFLORA: Young Gardener. You seem to be growing the plant in the proper temperature, but whilst growing very freely, and the roots not in a pot-bound state, it is sometimes springing in flowers. It will, however, do better as time goes on. If the drainage is in good order, do not disturb the plant at the root. Some gardeners afford no rest-period, in the sense of keeping them dry; but afford the plants less water for two or three months, and then gradually increase the amount, with the result that they throw up a crop of blossoms, and this method seems to be what suits the plant best, for a decided drying-off has a weakening effect, and is often the forerunner of an attack of the bulb-mite. It is a bad practice to often divide up petfuls of plants with the idea of increasing the stock of them; let them alone if they are doing well. In potting, use a heavy, unctuous loam, and no manure, as that can be applied best as a liquid; but use some coarse sand

in the soil, so as to let the water pass freely away, but not too freely, the Eucharis being half an aquatic. Moreover, it dislikes a loose soil, therefore pot firmly, but do not use a rammer, as that would cause too much pressure about the fleshy roots, and might bruise them. The plant is not shade-loving, therefore let it have a considerable amount of sunshine in the summer—in the winter it cannot have too much. Plants in flower may be shaded, but not the entire collection; and the plant should not be so placed that any undue lengthening of the leaves takes place, nor should it be placed on dry shelves in a hot house, with the idea of bringing it up to the light. The best place is a low pit, the plants being placed on a stage, or elevated in some way.

**FERN SPORES:** *Margaret*. If you have a damp moss-grown wall in your warm-house or green-house, scatter the spores thereon, and most of them will grow, and, when large enough, they can be removed and placed in thumb-pots. If no such wall exists, the spores may be sown on slabs of half-decayed peat, or in pots of peaty soil. This peaty soil should be baked to kill moss-spores and weed-seeds, and then made moist by burying it in moist earth, or in other ways. Afford the seed-pots plenty of drainage; use a large proportion of sand in the compost, press the soil firmly into the pots or pans, make level and sow the spores thinly, stand in a shady spot in a greenhouse or hothouse, according to the species of Fern sown, and keep the soil moist, preferably by dipping the pots in a pail of water till the water rises almost to the surface. If no glasshouse is available, the seed-pans may be covered with a bell-glass, having a hole for ventilation at the top, or in a Fern-case in a window.

**FUCHSIA:** *A. E. N.* We cannot undertake to name florists' varieties.

**HEDGE IN THE "BLACK COUNTRY:"** *F. B.* We do not know what is meant by "Wild Fig." You might test the smoke-withstanding properties of the common Privet, planting it at 8 inches apart, the bottom of the hedge being made further secure against the fowls by some large-meshed rabbit-proof wire. Do not use a small-meshed sort, or the birds will get lanced therein. If long stakes like Hop-poles are driven into the soil in the line of the hedge, and stout iron wire secured to these, the plants may be allowed to grow 10 feet high. You might plant *Lycium barbarum* here and there, as it will keep the hedge together, making it more impenetrable.

**INSECT:** *T. D.* The grub in your tree is *Zenizera æsculi* (fig. 95).

**INSECT ON RASPBERRY:** *Miss P.* The Raspberry-moth (*Lampronia rubiella*, fig. 96). The caterpillars pass the winter in the earth. The eggs are hatched in the flower, the caterpillars making their way out by a hole at the base. Cart-grease smeared round the base of the canes, or kerosene emulsion washed round the stems, might be tried. In any case, all affected canes should be burnt. See *Board of Agriculture Report on Injurious Insects, &c.*, 1892, p. 15; and for a full account, Westwood, in *Gardeners' Chronicle*, 1853, p. 757.

**KITCHEN GARDEN CALENDAR, MAY 2.** Mr. C. Herrin desires us to state that the rows of Runner Beans when stopped at 1 foot in height should be 3 feet apart—not 8 feet, as there given.

**LYCASTE:** *C. E. S.* The points of the leaves may have turned black from mechanical injury, from low temperature, or from the plant getting dry at the root whilst at rest or at other times.

**MILDEW ON M. NIEL ROSE:** *Nemo*. Employ sulphur in the dry state, or mix some with hot water, as mustard is made, and dilute the mixture, so that it can be used with a syringe, and distributed over the plant. The Bordeaux Mixture is likewise good against all kinds of fungus diseases of plants, the formula for making which has repeatedly been given in these pages. Let the air of the house be more buoyant and less moist.

**NAMES OF PLANTS: Flowers.** 1. *Bifrenaria Harrisonæ*; 2, *Clematis*; 3, send frond with spores: the young immature frond withered; 4, *Adiantum capillus-veneris*; 5, *Selaginella casia*; 6, *Aloe verrucosa*.—*C. & S.* *Reseda alba*.—*E. M. A.* 2, *Solanum aviculare* (laciniatum); 3, *Dolichos gibbosus*.—*Alpine.* 1, *Saxifraga Compositi*; 2, *S. palmata*.—*F. N.* An Aroid, of which we will give you the name next week.—*J. H.* *Dentaria bulbifera*.—*P. M. J.* 1, *Forsythia viridissima*; 2,

*Berberis stenophylla*; 3, *Berberis empetrifoli*; 4, *Cupressus* (*Retinospora*) *obtusata* var. *filicoides*; 5, *Cupressus* (*Retinospora*) *obtusata*; 6, a form of *Thuja orientalis*.—*M. R.* Another time send to the Editor, and not to the Publisher, unless the letter relates to advertisements. 1, *Andromeda calyculata*; 2, *Vinca minor*, gold-leaved var.; 3, *Anchusa italica*; 4, *Triteleia uniflora*; 5, *Asphodelus luteus*; 6, *Fritillaria* sp.—*S. R.* 1, *Scilla campanulata* alba.—2, *Primula farinosa*; 3, 2, *P. abyssinica*, yellow; 4, *Omphalodes verna*, blue; 5, *Saxifraga* *Wallacei*; 6, *Tussilago fragrans*. Your paper labels were sodden with the wet moss, and in some cases torn, and in others illegible.—*C. W.* 1, *Asphodelus luteus*; 2, *Ribes aureum*; 3, *Meda Aze-*



FIG. 95.—ZENIZERA ÆSCULI; WOOD LEOPARD-MOTH.

*darach*.—*L. C.* 1, *Bifrenaria Harrisonæ*; 2, *Iberis coriifolia*; 3, *Saxifraga cordifolia*; 4, *Stachys lanata*.—*J. R.* A very pretty variety of *Dendrobium nobile*.—*F. H. A.* All varieties of *Cattleya intermedia*.—*E. C. L.* 1, *Coryanthes Feildingi*; it is uncommon in gardens, chiefly because it is not easy to cultivate; 2, *Maxillaria tenuifolia*; 3, *Next week*.—*W. M.* *Tulipa sylvestris*.

**ORCHID DISEASE:** *Anciens*. Yours seems to be an ordinary case of Orchid disease, and there is no better treatment than to remove affected parts, and try and find more suitable quarters for the un-healthy specimens. Usually, irregular heating and defective ventilation start the disease.



FIG. 96.—LAMPRONIA RUBIELLA; RASPBERRY MOTH.

**ORCHIDS AND WATER:** *C. B. S.* Unfortunately, we cannot convert water from the mains into rain-water, although, as you suggest, Maignan's Anti-Calcaire will eliminate the lime, if there is any of this substance contained in the water, which will be the case with water supplied by the companies deriving it from your part of Kent. Can you not catch the rain which falls on the roof of your Orchid-house or other buildings, this being more beneficial to the plants than any kind of clarified or boiled water? If this be impracticable, and the water supplied is drawn from the Thames, it will be well to expose it to the air in a wide cistern or tub before using it, using Anti-Calcaire if you like to

do so, but we should say that the lime in this water is not present in injurious quantity. It may be prudent to use slightly warmed water, but the plants do not get their water warmed when growing in a state of nature, and it is not essential to healthy growth.

**PELARGONIUM OR GERANIUM:** *J. M., Cornwall*. If yours is a cardboard-box with no name on it, the flowers therein are varieties of Cape Pelargonium.

**PETUNIA:** *E. M.* There is no trace of fungus on *Petunia*. The spots on the leaves are caused by the cuticle being eaten away. Hence, there is some external mischief. *M. C. C.*

**PRIMULA ROSEA GRANDIFLORA:** *Cocker & Son*. A fine variety, with dense clusters of deep crimson flowers—very beautiful.

**STRAWBERRIES:** *J. A. B.* The leaves appear to have been sunburnt when wet.

**STREPTOCARPUS:** *Young Gardener*. It may be said that the treatment of these plants is similar to that usually followed with the *Gloxinia*, *G. speciosa*, in the matters of raising from seed, pricking off the plants, &c., excepting that better results are obtained if, after the seedlings are well rooted in thumbs or small 60's, they are planted out in beds on a mild hot-bed, or over hot-water pipes, a bottom-heat of about 75° being aimed at. Generally, it may be said that they require a temperature from 5° to 10° less at any season than the *Gloxinia*. When the plants which have been grown in beds reach a good size, they may be potted-up, using loam, leaf-mould, and sand.

**THE SWEET LIME:** *Limc*. Botanically—*Citrus Limetta*. It would grow under glass in this country under the same kind of treatment as that afforded the Shallock, i.e., intermediate-house warmth, &c. You could procure plants at the large plant-nurseries.

**TO DARKEN LIGHT-COLOURED GARDEN EARTH:** *Light Mould*. The following substances will darken the soil and likewise improve its fertility, which is doubtless not very great. Fine coal-ashes, soot, charcoal, admixture of dark-coloured soils, leaf-mould, partially rotten cow and horse-dung with the straw in it, spent Mushroom-bed materials, and rotten garden-refuse. It will be a work of time to permanently alter the colour. The spent Mushroom-bed dung, leaf-mould, and soot may be strewn on the surface as a mulch during the summer, or slightly covered with soil by the hoe.

**TOMATOS: Culture.** Almost innumerable notices have appeared in these columns, we therefore think that you will be acting wisely to purchase a little manual called *The Tomato, its Culture and Uses*, by W. Iggulden, and published at the *Journal of Horticulture*, 171, Fleet Street, London, E.C.; you will find your questions having regard to culture answered in that work more fully than we can do so in this column.

**VALOTTA, TULIP, HIPPEASTRUM:** *R. W.* Will you kindly let us inspect the bulbs which will not grow.

**WOODLICE:** *St. J. Arabin*. You will find that the application of scalding water is very effective in destroying these pests if followed up for a few weeks. It should be poured into their haunts, dashed under stoves, &c., at night when the insects are about. Remove all rubbish and anything under or behind which they can secrete themselves.

**COMMUNICATIONS RECEIVED.**—*R. McL.*—*F. Curtis*. *T. B.*—*N. E. B.*—*G. C.*—*W. R.*—*R. W. A.*—*B. M.*—*F. G.*—*W. T. D.*—*W. W.*—*A. Z.*—*E. W. B.*—*J. B. D.*—*California.*—*J. E. H.*—*W. M.*—*Professor Surgeut*, Boston, U.S.A.—*W. T. H.*—*F. C. H.*, Erfurt.—*P. T. 1*—*W. Bull.*—*A. C. F.*—*P. B.*—*S. and W.* (we will test the value of the mudro).—*J. D.*—*Expert.*—*W. K.*—*F. J. C.*—*W. E. G.*—*H. M.*—*C. T. D.*—*D. T. F.*—*F. Kfanzlin.*—*E. C.*—*A. G. G.*—*J. H. Sams* (reply next week).

**PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.**—*E. J.*—*W. B.*

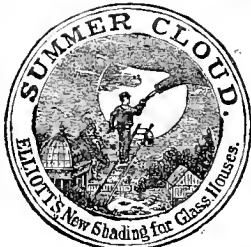
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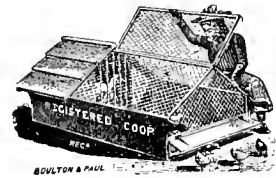
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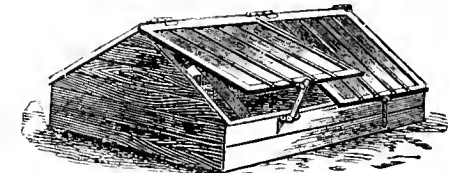
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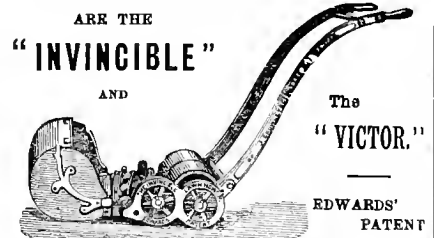
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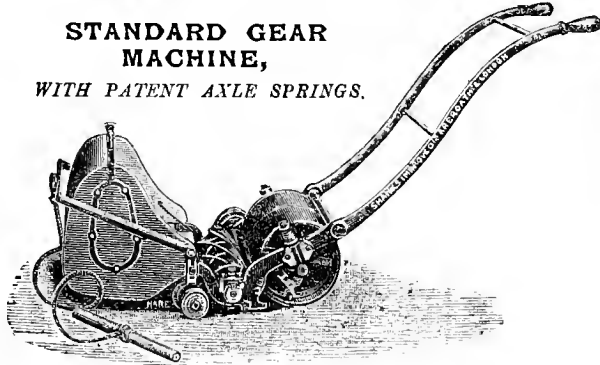
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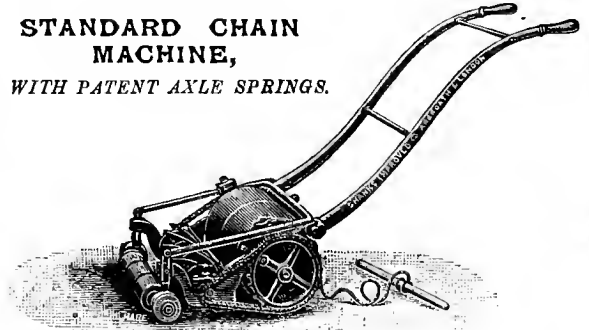
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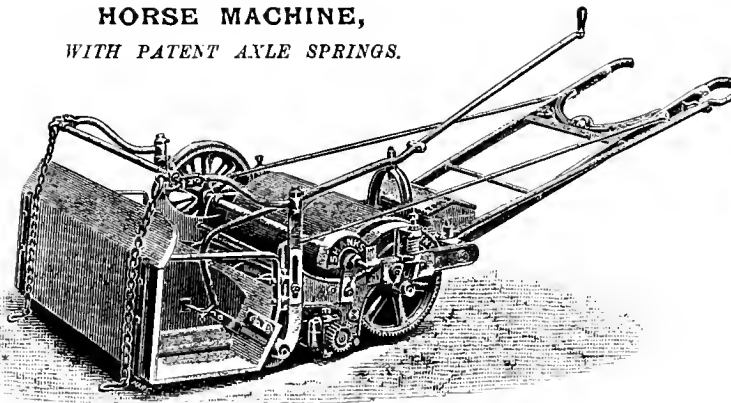


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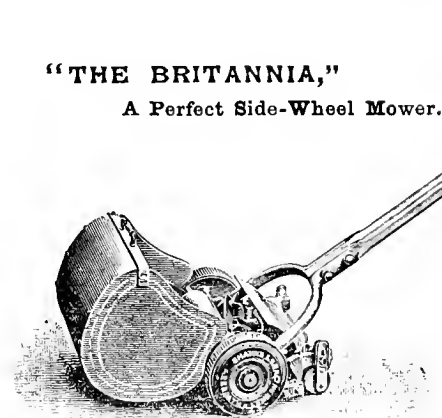
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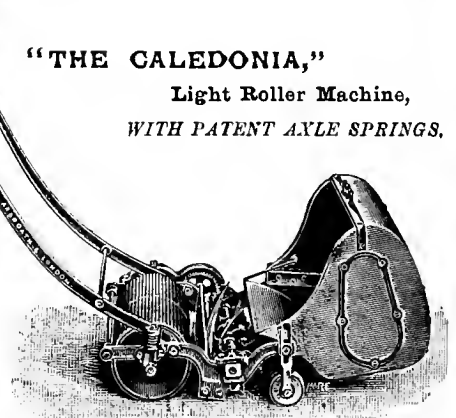
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## CONTENTS.

Apple Annie Elizabeth . . . . .	620	Plants, new or note-worthy—	
Brazilian Orchids, the treatment of . . . . .	609	Sobralia Brandtia . . . . .	608
Calceolarias, &c., at Harrow Weald House . . . . .	621	Salernian School of Medicine, the . . . . .	620
Cucumbers, market . . . . .	610	Societies—	
Daffodils at Brookfield . . . . .	618	Royal Botanic . . . . .	621
Elsheld House, Maidstone . . . . .	609	Royal Horticultural, Scientific Committee	620
Express Postal Delivery service . . . . .	615	Yorkshire Naturalists' Union . . . . .	617
Father Delavay, the late . . . . .	615	Stock-taking . . . . .	616
Feeding Asparagus . . . . .	620	Summer bedding . . . . .	610
Foreign correspondence . . . . .	611	Tumpleshov, the coming . . . . .	614
Fruit drying . . . . .	607	Trees and shrubs . . . . .	610
Garden names . . . . .	614	Tulips in Philips Park, Manchester . . . . .	618
Gold-laced Polyanthus, new varieties of . . . . .	611	Vegetable trials at Chiswick . . . . .	619
Grape culture in its commercial aspect . . . . .	617	Viola, the work . . . . .	608
Horseless lawn-mowers . . . . .	620	Week's work, the—	
Judging, the Royal Horticultural Society's code of . . . . .	620	Apiary, the . . . . .	612
Kew notes . . . . .	610	Flower garden, the . . . . .	613
Nomenclature of Orchids, the . . . . .	614	Fruits under glass . . . . .	612
Orchid notes and gleanings . . . . .	609	Hardy fruit garden . . . . .	613
Propagation, methods of . . . . .	618	Kitchen garden, the . . . . .	612
		Orchid houses, the . . . . .	612
		Plants under glass . . . . .	612
		Wexham Park, Slough, Orchard house at . . . . .	619

## ILLUSTRATIONS.

Elsheld House Gardens, Maidstone, views in . . . . .	609, 611
English Tulip, Samuel Barlow . . . . .	615
Orchid-house in Str Charles Pigott's garden . . . . .	619

## NOTICE TO ADVERTISERS.

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SALES BY AUCTION.

Monday Next, May 18. SPECIAL SALE OF ORCHIDS IN FLOWER AND BUD. MESSRS. PROTHEROE AND MORRIS beg to announce that they will be holding at their Central Sal Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, May 18, at half-past 12 o'clock, a SPECIAL SALE OF ORCHIDS IN FLOWER AND BUD. On view morning of Sale, and Catalogues had.

Greenwich S.E. UNRESERVED SALE of the BEDDING PLANTS, 3000 Geraniums, 500 Chrysanthemums, GARDEN TOOLS in variety, a lean-to GREENHOUSE, and other EFFECTS. By order of the Administrator of the late Colonel Veau. MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Point House, Blackheath Hill, on THURSDAY NEXT, May 21, at 1 o'clock. View day prior and morning of Sale. Catalogues on the Premises, and of the Auctioneers, 67 and 68 Cheapside, E.C.

Friday Next, May 22, 1896. SALE OF ORCHIDS, DAY AFTER TEMPLE SHOW. By order of Messrs. F. Sander & Co., St. Albans. A GREAT VARIETY OF SPLENDID AND RARE ORCHIDS, including—

- Dendrobium Wiganiae
Cattleya Skinneri var. White Beauty
Cattleya Trianae Maiden's Blush
Anectochilus Sanderianus
Odontoglossum Ruckerianum var. punctatifissimum
Angreecum Fournissianum
Luddemansia Lehmanni
Cypripedium Wiganiae
Catanthe Wm. Murray
Harold
Cooksonii
Clive
Bryson
Cypripedium Kimballianum
Dendrobium amethystoglossum
Dendrobium Owenianum magnificum
Cypripedium Madame de Custe
Angreecum polystachyum
Dendrobium Dominianum rubrum
Lalia sneeps Schroderae
Cypripedium Lord Derby
Sobralia xantholeuca superba
Bolles Dayana
Aerides Lawrenceana

Also DENDROBIUM FARMERII, and D. FREEMANNII. A Consignment of ODONTOGLOSSUMS, mixed; offered as received. Most distinct-looking plants, apparently O. maculatum, O. cordatum, O. nebulosum, &c., found growing intermixed, and probably containing many novel forms and natural hybrids, such as O. rexstriatum, O. Warnerianum, &c. Also THUNIA BENSONLE, DENDROBIUM THYRSIFLORUM, D. NOBILE LANG TANG var., D. DEVONIANUM, D. AUREUM, CYPRIPEDIUMS, &c. In addition, many lots specially adapted to amateur buyers, and fine bulbs of GLORIOSA SUPERBA.

TO BE SOLD BY AUCTION BY MESSRS. PROTHEROE AND MORRIS at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 22, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, May 22. Important Consignment of two cases containing 700 BULBS of CALLA PENTLANDII, from the same sender who forwarded the last importation to us. He writes:—"They are all one variety, and have been grown in my Nursery grounds and flowered, and are Richards' Pentlandii."

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, May 22, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Perry Vale, Forest Hill, S.E. CLEARANCE SALE of TUBEROUS-ROOTED BEGONIAS, EXOTIC FERNS, ROSES, GARDEN UTENSILS, &c. NOTICE OF WITHDRAWAL.

MESSRS. PROTHEROE AND MORRIS beg to announce that the above SALE, advertised for FRIDAY NEXT, May 22, WILL NOT TAKE PLACE, as the Stock has been sold privately. Auction and Estate Offices, 67 and 68, Cheapside.

Normandy, near Guildford, Surrey. By order of the Trustees. IMPORTANT SALE of a HIGH-CLASS FRUIT GARDEN and NURSERY, with Possession.

MESSRS. PROTHEROE AND MORRIS in conjunction with Messrs. MUMFORD and BOND, will SELL by AUCTION, at The Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY, May 27, at 2 o'clock, at a low reserve, to balance an Estate, by order of the Trustees of J. P. Parrott, deceased, and Mr. Wm. Parrott, the productive MODEL FRUIT GARDEN and NURSERY, of 4 1/2 a. fr. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade, and in splendid condition; 16 modern Greenhouses, heated and fitted upon the best hot-water principles; ranges of newly-built Stables, Coach-houses, Van, Cart, and Store Sheds, Piggeries, &c. The soil is of the best quality, and there are 1580 feet of frontage to existing roads. Particulars, Plan, and Conditions of the above, also the Farm and of the remainder of this Estate, may be had on the Premises; at the principal hotels in the neighbourhood; at the Mart; of Messrs. J. & T. PARROTT, Solicitors, Aylesbury; of Messrs. MUMFORD and BOND, Auctioneers, Brill, Bucks; and of Messrs. PROTHEROE AND MORRIS, Auctioneers, Valuers, and Estate Agents, 67 & 68, Cheapside, London, E.C.

DUMBARTONSHIRE. THE ARDDARROCH COLLECTION

ESTABLISHED CATTLEYAS and LELIAS, So well known for the grand varieties contained. HIGHLY IMPORTANT SALE.

By order of R. Brooman White, Esq., Without Reserve, who is giving up the Cultivation of Hothouse Orchids.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Arddarroch, about 3 miles from Garelochhead Station on the West Highland Railway (frequent boats leave Craignaldoran Pier for Garelochhead Pier, which is about 3 miles from Arddarroch), on TUESDAY and WEDNESDAY, June 9 and 10, at half-past 12 o'clock precisely each day, entirely Without Reserve, the above valuable collection of ESTABLISHED CATTLEYAS and LELIAS, together with about 100 ODONTOGLOSSUM ALEXANDRE, in Flower and Bud. Many plants have secured First-class Certificates and Awards of Merit, and have been specially mentioned in the leading horticultural papers and reviews. Amongst the principal plants the following may be mentioned:—

- Cattleya gigas purpurea
Hartysna
libiata varieties
Mendeli Bluntii
Kiln's variety
Empress of India
Whitai
Rajah
Wallisii
Mrs. Brooman White
superbissima
Sea-gull
Morganian type
J. O'Brien
Argus
Adonis
Fanchantress
Duchess of Montrose
Cock of the North
Mossie Wagnerii
Horsmannii
Rex
Trianae alba, 3 plants

100 Plants of CATTLEYA AUREA, also about 150 Plants of ODONTOGLOSSUM ALEXANDRE in flower and bud. May be viewed any day prior to the Sale on application to Mr. G. Roberts, the Gardener. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Wednesday Next. A Collection of STOVE and GREENHOUSE PLANTS, including well-grown PALMS, &c.; choice GARNATIONS, IMANTOPHYLLUMS in bud, &c., from a Continental Nursery; CATTLEYAS, AMARYLLIS, a variety of JAPANESE LILIES, GLADIOLI, 2000 PEARL TUBEROSES, ANEMONES, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 20, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Thames Valley Nursery, High Street, Hampton Hill. IMPORTANT SALE of thriving young NURSERY STOCK.

MR. J. EMBLETON has been favoured with instructions from Mr. J. Chipperfield, to SELL by AUCTION, on his Premises, as above, being the first Annual Sale, on TUESDAY, May 19, 1896, at 2 o'clock in the afternoon precisely, an extensive assortment of well-grown NURSERY STOCK, including 1100 Roses in Pots (named), 3000 Geraniums, 2500 Marguerites, 2000 Chrysanthemums (named), 1000 Mignonette, Cucumber, and Marrow Plants, and a large assortment of Bordering, Bedding-out, and other plants. May be viewed day previous to Sale, and Catalogues obtained on the Premises, and at the offices of the Auctioneer, Suffolk House, Hampton Hill, and Town Hall, Teddington.

On Tuesday and Wednesday Next, May 19, 20, 1896. UNRESERVED SALE, at "Holly Lawn," Beech Lanes, Hagley Road, Birmingham (by direction of William Bown, Esq.).

An Important Collection of ORCHIDS, GREENHOUSE and BEDDING-OUT PLANTS, and Sundry OUTDOOR EFFECTS, comprising in all about 2000 Plants, including a large number of very fine specimens for exhibition purposes, having been shown successfully at the Birmingham Spring and Autumn Shows, and also at Wolverhampton, and gained many prizes and special certificates; a large quantity of Bedding-out GERANIUMS, BEGONIAS, very fine specimen AZALEAS; Exhibition PALMS, from 10 feet to 18 feet in height; a Collection of fine ORCHIDS, including a fine specimen Cattleya Mossie, in Teak basket 4 feet by 3 feet, with 500 bulbs and numerous sheaths; a fine piece of Cymbidium Lowianum, Dendrobium nobiliss, Lelias, Cattleyas, and Cool-house Orchids, including Odontoglossum grande, O. Alexandræ, Lycaste Skinneri, &c., &c.; and several pairs of Iron GARDEN VASES on Pedestals about 4 feet high; a quantity of CHINA FESTIVAL JARDINIÈRES, &c.; a nearly new Farmer's HAY CART, GIG, and DOG-CART, and sundry OUTDOOR EFFECTS.

MESSRS. WALTER LUDLOW & BRISCOE, will SELL the above by AUCTION, without reserve, upon the Premises, on TUESDAY and WEDNESDAY NEXT, May 19 and 20, 1896, commencing each day at 12 o'clock. On view each morning of Sale. Catalogues on application to the Auctioneers, who will execute commissions for gentlemen who cannot attend the Sale. (Sale No. 6784). Auctioneers' Offices: 18, New Street, Birmingham.

FOR SALE, an Old Established NURSERY, containing Nine good Glasshouses, well stocked. Long lease. Low Rent. H. HOWARD, 19, The Village, Child's Hill, Hendon.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1 1/2 acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—WILLIAM BADMAN, Cemetery Nursery, Gravesend.

To Nurserymen and Florists commencing Business. HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-houses, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

NORTH-WEST OF ENGLAND.—Old established SEED BUSINESS with good connection, present proprietor retiring; would suit energetic young man. Will be disposed of upon most moderate terms. H. R. R., 41, Wellington Street, Strand, W.C.

FLORIST'S BUSINESS for SALE; good neighbourhood, a few doors from station. Rent low, good living trade, same hands thirteen years. Cause of selling, ill health. Any further particulars, apply to—Messrs. NEWELL and HAMLIN, 487, New Cross Road, S.E.

FOR SALE; very cheap, a 36-inch (Ransome's) HORSE-MOWER, in good working order. Too large for advertiser.—Apply to D., 41, Wellington St., Strand, W.C.

TO LET, a COTTAGE and Half-acre of GROUND, with Outbuildings; wall 300 feet. Suitable for Gardener, Nurseryman, or Poultryman. Apply to—GOATLY, Twickenham Green.

WATERCRESS and OSIER-BEDS.—TO BE LET ON LEASE, from September 29 next, a valuable property at Stone Court, Greenhithe, Kent.—For particulars and orders to view, apply to Mr. HEWITT, Manager, Stone Court Chalk-land and Pier Co., Ltd., Greenhithe, Kent.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

CUT FLOWERS received on commission.—Plants and Flowers supplied. Cash with order. W. G. BAILEY, Flower Market, Covent Garden, W.C.

To the Trade. MANGEL WURZEL and TURNIP SEEDS. H. and F. SHARPE are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, Crop 1895, at exceptionally low prices, which may be had on application. SEED GROWING ESTABLISHMENT, WISBECH.

CHRYSANTHEMUMS.—W. H. Lincoln and Lady Lawrence, strong plants, 4s per 100. Cash with order. Golden Dart. See Coloured Plate in Garden, May 9, 1895. Full particulars.—JENKINS, Florist, Hampton Hill.

Dahlias. CHARLES TURNER'S New Varieties of Show, Pompon, and Cactus, were awarded Twenty-one First-class Certificates last year at the leading London Exhibitions. Catalogue free on application. The Royal Nurseries, Slough.

HARDY BORDER and HERBACEOUS PLANTS, &c.—FORBES' new descriptive Illustrated priced CATALOGUE for 1896, 148 pages, gives all particulars, including colour, height, season of flowering, &c., of thousands of these marvellously varied and highly-popular flowers. Free on application.—JOHN FORBES, Hawick, Scotland.

FERNS and DECORATIVE PLANTS!—(TRADE)—Ferns, in 2 1/2-inch pots, Stove and Greenhouse, 30 best selling sorts, 12, 100, ditto; large, in 4 1/2, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 10s. 50s. 1000; Adiantum cuneatum, in 4 1/2s, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, in 4 1/2s, 6s. doz.; Marguerites, Heliotropes, Mignonettes, Fuchsias, Cinerarias, Spiraeas, Genietas, in bloom, in 4 1/2s, 8s. per doz.; Ericas, Ficus, Palms, Dracaenas, Pelargoniums, and Hydrangeas, in bloom, in 4 1/2s, 12s. doz.; Liata free. Packed free. Cash with order.—J. SMITH, LONDON Fern Nurseries, Loughborough Junction, London, S.W.

FERNS A SPECIALITY. We have an immense stock of all kinds of Ferns, Stove, Greenhouse, Filmy, Hardy Exotic, and British, including many very beautiful varieties rarely seen, but which ought to be more generally grown. Catalogue free on application. W. & J. BIRKENHEAD, F.R.H.S., FERN NURSERIES, SALE, near MANCHESTER.

PINES.—For Sale, a few dozen succession and rooted Seekers of Smooth Cayennes; clean.—Apply to GARDNER, Grimston, Tadcaster.

AN APPEAL.

MANY of the older generation of Housekeepers will remember Mrs. ELLA WARREN, the Editress for many years of 'The Ladies' Treasury,' and Authoress of a large number of practical works on Cookery and Domestic Economy. At an advanced age, and in too feeble a state of health to continue her work, this veteran authoress has fallen penniless, owing to circumstances entirely beyond her own control. This is a hard fate for one who has worked so much, during a long life, for the good of others. Some of her literary friends are endeavouring to raise a fund to comfort her remaining years, contributions to which, however small, will be thankfully received by— Miss ELLEN T. MASTERS, 4, Mount Avenue, Ealing, W.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE 57TH ANNIVERSARY FESTIVAL DINNER, in Aid of the Funds, will take place at the "Hotel Metropole," on SATURDAY May 30, 1896, when the Right Hon. the EARL of LATHOM, G.C.B., P.C., will preside. The Committee have the pleasure to announce the following further amounts, which have been promised or received, and added to the Chairman's List:—

Table listing names and amounts for the Gardeners' Royal Benevolent Institution. Includes names like Henry Tate, Spencer Morris, John Gabriel, etc., with amounts in pounds and shillings.

Table listing names and amounts for the Gardeners' Royal Benevolent Institution. Includes names like Walker H. Burns, W. Plant, Henry Cross, etc., with amounts in pounds and shillings.

NOTICE is HEREBY GIVEN, that the PARTNERSHIP lately subsisting between us the undersigned, SOLON DENSON and SIDNEY JAMES DENSON, carrying on business as Plant-Salemen, Palm Importers, and Nurserymen, at No. 22, Maida Vale, in the County of Middlesex, and Field Common, Walton-on-Thames, in the County of Surrey, under the style of "S. DENSON & CO.," has been DISSOLVED by MUTUAL CONSENT as from the 25th day of April, 1896. The Business at No. 22, Maida Vale, will in future be carried on by the said Solon Denson, who will pay all debts owing by the said late firm in respect of this Business.

The Business at Field Common, Walton-on-Thames, will in future be carried on by the said Sidney James Denson, who will pay all debts owing by the said late firm in respect of this business. (Signed) SOLON DENSON, S. J. DENSON.

FERNS!—FERNS!!

A large quantity of Small FERNS in 2 1/2-in. pots.—PTERIS CRISTATA, SERULLATA CRISTATA, ditto ADIANTUM FULVUM, PUBESCENS, and ELEGANS (small thumbs), at 9s. per 100; 500 and upwards, at 8s. 6d. Large 60's, Pteris tremula, at 20s. per 100; 45's, Pteris cristata, nobilis, major, tremula, and also ARAIAS, at 4s. 6d. per dozen. ADIANTUM CUNEATUM (small thumbs), 10s. per 100. Above prices are for cash with order only. Packing Free. An Inspection at the Nurseries is invited.

B. PRIMROSE, BLACKHEATH NURSERIES, ST. JOHN'S PARK, BLACKHEATH, S.E.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY OF MANCHESTER.

THE GRAND HORTICULTURAL EXHIBITION of the SEASON will be opened on THURSDAY NEXT, at the Gardens, by the Right Hon. the Earl of Derby, at 2 P.M., after which his Lordship will preside at the Annual Luncheon. Admission, First Day, 5s.; Second Day, 2s. 6d.; Remaining Days, 1s. Entries close this day (Saturday). For full particulars apply to the undersigned— BRUCE FINLAY, Old Trafford.

OLYMPIA.—OLYMPIA.—OLYMPIA.—GRAND SUMMER FLOWER SHOW

will be held in the beautiful Palmarium, at this Great Pleasure Resort, on MAY 27, 28, and 29. SPECIAL MEDALS and CASH PRIZES will be awarded to successful competitors. Schedules are now ready, and may be had by intending Exhibitors, together with particulars of space, from Mr. J. BICK, Garden Superintendent, at Olympia. General Manager: Sir AUGUSTUS HARRIS.

WOLVERHAMPTON FLORAL FETE

JULY 7, 8, 9, 1896. OPEN CLASSES:—PLANTS, ROSES, FRUIT, PANSIES, and VIOLAS. For Schedules, &c., apply— W. A. GREEN, Horticultural Secretary.

SHREWSBURY GREAT FLORAL FETE

August 19 and 20, 1896. Schedules are now ready. The cash prizes offered in the Schedule amount to over £500. H. W. ADMITT, W. W. NAUNTON, Hon. Secs. The Square, Shrewsbury.

NATIONAL CHRYSANTHEMUM SOCIETY GREAT JUBILEE CELEBRATION,

Royal Aquarium, Westminster, Nov. 3, 4, 5, & 6, 1896. Schedules of Prizes, &c., can be had of RICHARD DEAN, Hon. Secretary, Ranelagh Road, Ealing, London.

FOR ORCHIDS and GARDENERS to

Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras. 50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 16 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 16 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 26 in. to 40 in., at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 6s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

Lowest MARKET PRICES.

Special Trade Offer:—Ferns, Ivy; Gold, Silver, Green, in var. Fuchsias, Bouvardias, Calceolarias, Heliotropes, Lobelias, Musk, Dahlias, Violas, Pansies, Hollyhocks, Cannas, Palms; Pelargoniums: Show, Rega', Ivy, Zonal, Bedding, stores, small pots, 5-inch pots, &c., &c. SHUTTLEWORTH, Limited, Fleet, Hants.

NOT RUBBISH, BUT PLANTS

That will make a good show, and give the Buyer entire satisfaction. THIS I GUARANTEE, OR CASH RETURNED.

BEGONIAS, 12 splendid single, mixed colours, 3s. 6d. BEGONIAS, 12 splendid double, mixed colours, 6s. CHRYSANTHEMUMS, 12 grand new Japanese, 6s. CHRYSANTHEMUMS, 6 grand new Incurved, 3s. 6d. CHRYSANTHEMUMS, 12 grand new early-flowering, good for pots or ground, 6s. CHRYSANTHEMUMS, 12 early-flowering Pompon, 3s. 6d. CHRYSANTHEMUMS, 12 beautiful singles, A 1 for cut flowers, 4s. DAHLIAS, 12 grand new Cactus kinds, 6s. DAHLIAS, 12 best older Cactus kinds, 3s. 6d. DAHLIAS, 12 splendid show and fancy kinds, 3s. 6d. DAHLIAS, 12 beautiful single kinds, 3s. 6d. FUCHSIAS, 12 splendid double kinds, including White and Rose, Phenomenal, 4s. FUCHSIAS 12 splendid single kinds, 3s. 6d. SHOW and DECORATIVE PELARGONIUMS, 12 splendid kinds, 6s. 6d. ZONAL PELARGONIUMS, 12 best new singles, 1895, including Pearson's, Miller's, and Cannell's, 8s. ZONAL PELARGONIUMS, 12 very fine older kinds, 4s. ZONAL PELARGONIUMS, 12 best new double and semi-double kinds including Double H. Jacoby and Raspail Improved, 6s. 6d. ZONAL PELARGONIUMS, 12 best double kinds, 4s. IVY PELARGONIUMS, 12 best kinds, 4s. DOUBLE PETUNIAS, 12 grand kinds, 6s. All free for cash with order. Send for Catalogue.

H. J. JONES, Rycroft Nursery, Lewisham.

10,000 TREE CARNATIONS, for winter

blooming, in 2-inch pots, from 4s. per doz., 30s. per 100; Miss Jolliffe Improved, S. W. Gowan, Reginald Godfrey, Mrs. Hemsley, Delicata, Wiuter Cheer, Madame Therese Franco, Duke of York, La Neige; and new American varieties. Portia, Sweet Briar, Daybreak, William Scott, also borders, Souv. de la Malmason, Mrs. F. Watts, Germania, R. Hole, Duchess of Fife, Uriah Pike, and Saccharissa. F. V. RASPAIL GERANIUM CUTTINGS, 41 per 1000. CHRYSANTHEMUMS, 50 varieties, to clear, 9d. per doz., 5s. per 100. DAHLIAS, the very best obtainable, in 60's, Cactus and Show, 2s. 9d. per doz., 4l per 100. BOUVARDIAS, well rooted, P. Cleveland, P. Garfield, A. Newnes, Vreelsadii, Variegata, Mrs. R. Green, Jasminiflora, 2s. 6d. per doz., cheaper per 100 and 1000. JAMES GREEN, Reliance Nurseries, March.

NATIVE GUANO.—BEST AND CHEAPEST

MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags, Lots under 10 cwt., 4s. per cwt.; 1 cwt. sample bag sent carriage paid to any station in England, on receipt of P. O. for 5s. Extracts from 20th Annual Collection of Reports:—

NATIVE GUANO FOR POTATOS, VEGETABLES, &c. B. LEE & SON, Market Gardeners, Burnham.—Used for three years for Vegetables, Strawberries, Cucumbers, Tomatoes, and other Market Garden Crops, and it has "given great satisfaction for all crops." T. REASON, Gardener to Lord Windsor.—Used for several years for Potatoes and general Kitchen Garden Crops. Results: "Good. A capital manure." NATIVE GUANO FOR FRUIT, ROSES, TOMATOS, &c. G. STONARD, Gardener to Sir A. T. Watson, Reigate.—"I have used your Guano for five years, and can bear testimony to its great value for fruit growing." C. ROUSE, Nazeing Park Gardens, Wallbam Cross.—Used for Tomatoes, Cucumbers, Chrysanthemums, and Roses. Results: "A marked improvement wherever used. A good and cheap manure."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where pamphlets of testimonials, &c., may be obtained. AGENTS WANTED.

BEESEY'S MANURE, SHEFFIELD.—For

Vines, Plants, and Vegetables. Sold with a Guaranteed Analysis. Has stood the test of the principal growers for over 20 years, and is admitted to be the Best for all Horticultural Purposes. In boxes, 1s. and 2s. 6d.; bags, 50 lb., 8s.; 1 cwt., 15s. May be obtained through any Seedsmen; or, direct (bags only), carriage paid, and liberal discount for cash with trial order, from W. H. BEESEY, SHEFFIELD. Pure Crushed Bones, all sizes, and other Fertilisers at market prices.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes. The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W. Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey. Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application. Analysis sent with orders of 3-cwt. and upwards. SOLD BY ALL SEEDSMEN.

KILL-M-RIGHT

Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used. Sample Tin, 2 lb., free by Post, on receipt of P.O. for 2s. 10d. Price List and testimonials on application.

The STOTT FERTILISER & INSECTICIDE CO., BARTON HOUSE, MANCHESTER.



For destroying Insects on Plants. Used by every Orchard Grower of any note all over the World. The CHEAPEST and BEST. Half-pints 1/4, pints 2/6, quarts 4/6, half gallons 7/6, gallons 12/6, 3-gallon Drums 10/6 per gallon. Carriage Paid.

E. G. HUGHES, Victoria Street, MANCHESTER. Sold by all Seedsmen. Pamphlets free on application.

EWING'S MILDEW COMPOSITION.—The original, certain, and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. Sold by all Seedsmen. CORRY & CO., Ltd., LONDON.

TANNED GARDEN NETTING, will not rot. 8s. per pad of 200 square yards, any width. When buying, buy good. Hundreds repeat orders. Name paper. JOHN ROWE and CO., Netting Works, Bristol.



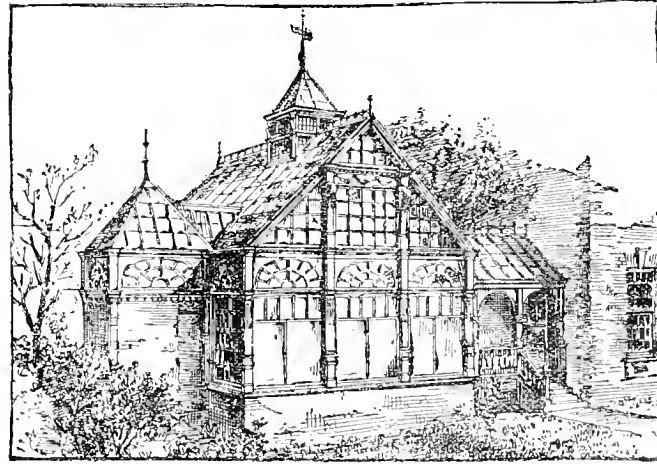
**TENTS! TENTS!! TENTS!!!**— I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £3 each. Will send any number, carriage paid, for 28s. each, cash with order. **TWO JUST SUPPLIED TO BUCKINGHAM PALACE.** The following unsolicited testimonial is one out of many hundreds weekly:—  
 "April 29, 1896. Dear Sir,— Accept my thanks for the tents, safely received to-day. I am very pleased with them."  
 "F. H. HILL, Duddingston Park, Portobello, Miolothian."  
**ANDREW MITCHELL, Melbourne Works, Wolverhampton.**

New Potting Material. **JADOO** New Potting Material.  
**FOR SEEDS, CUTTINGS, VINES, &c.**  
 3s. 6d. per bush., 8s. per 3 bush. sack. Illustrated pamphlet, full details, 6d., post free. Obtainable through any Nurseryman, or of **JADOO (Lim.), EXETER.**

**"FRIGI DOMO"**  
 (REGISTERED TRADE MARK)  
**CANVAS.**  
 To be obtained of all Nurserymen and Florists.  
 The Best and Cheapest Protection for Glass and Plants.

**CHEAP CLOTH**  
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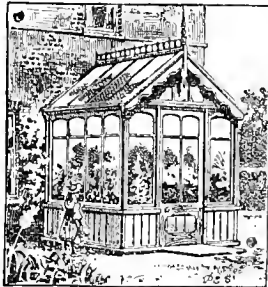
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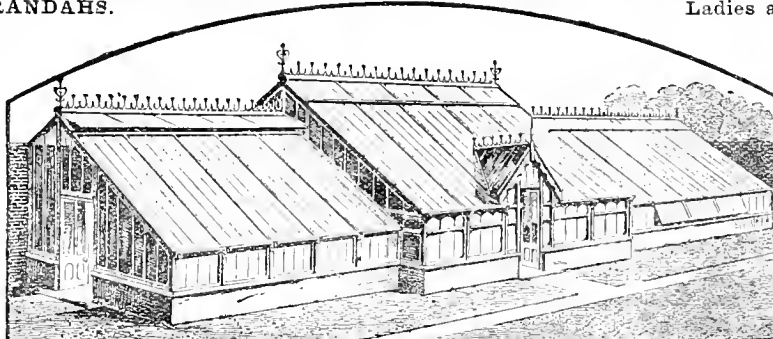
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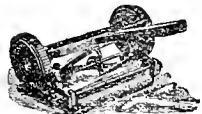
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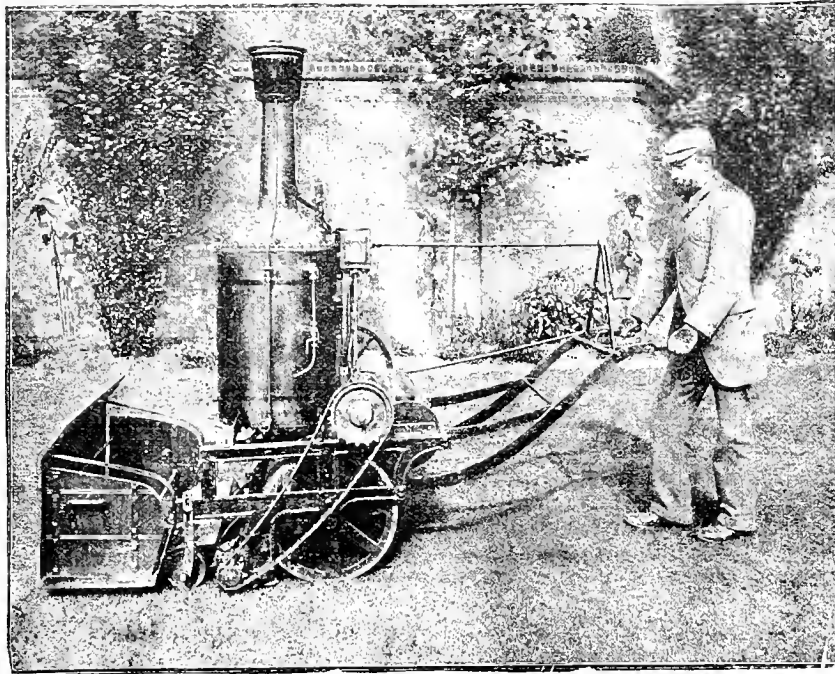
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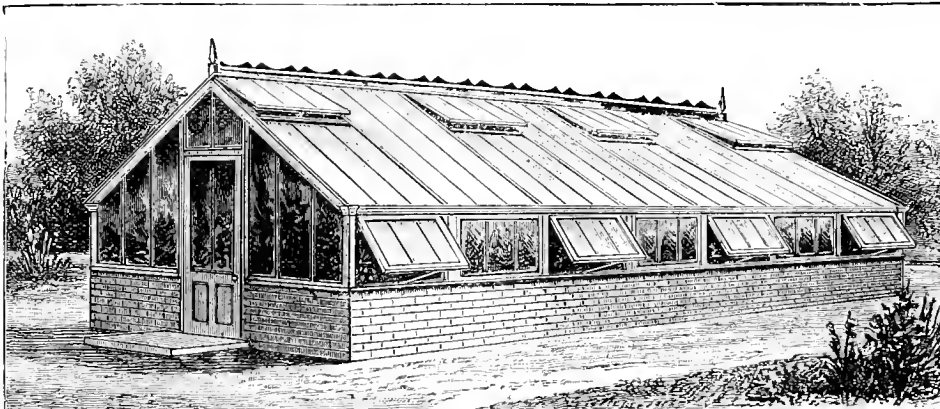
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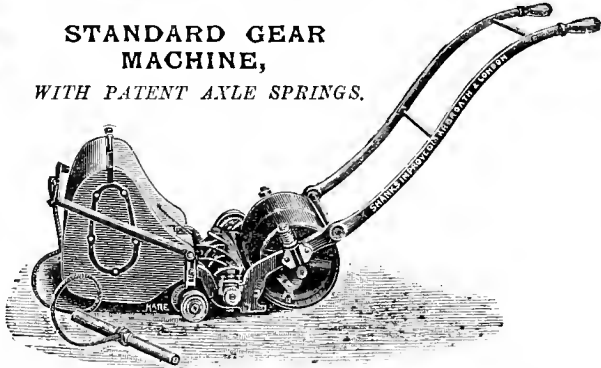
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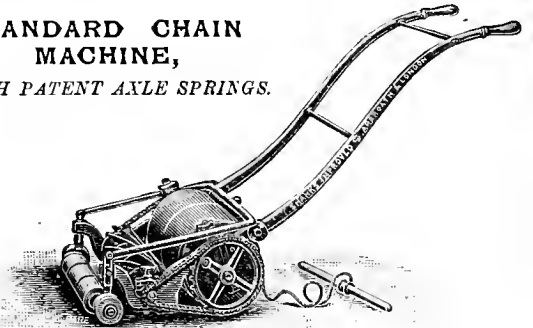
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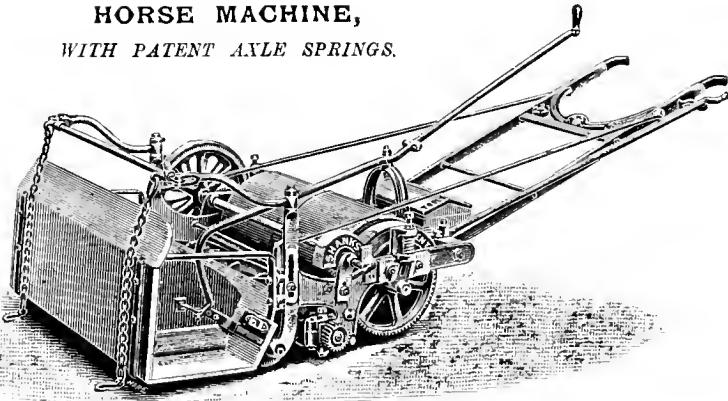
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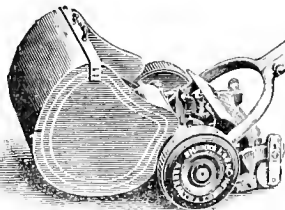
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Hurlingham Club, Fulham, June 13, 1895.  
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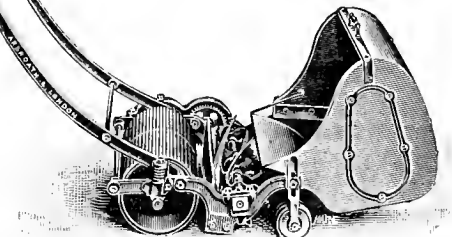
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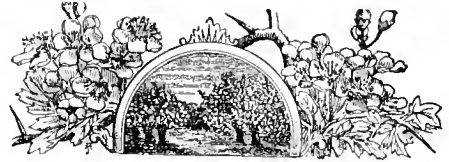
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# The Gardeners' Chronicle.

SATURDAY, MAY 16, 1896.

## FRUIT DRYING.

IN 1891, and again in the following year, some interesting demonstrations of fruit-drying by evaporation were given at the Royal Horticultural Gardens, which we fully described and commented on at the time. Since then the "American" evaporator has been in operation in various parts of this country, though only on a limited scale, but with results quite confirming its usefulness and practicability. But notwithstanding, it has not yet become naturalised in England; while on the other hand its popularity in America, Germany, and Austria has greatly extended. The most recent statistics respecting the production of evaporated fruit in the United States show that in California alone, according to a report by the chairman of the State Board of Horticulture to the State Board of Trade, the shipments in 1895 were as follows: Fresh fruits, 132,508,000 lb.; dried fruits (chiefly those dried by evaporation), 102,652,000 lb.; canned fruits, 62,590,000 lb. In comparison with these figures, to show the changes that have occurred, we will quote those for 1893 and 1871, namely, fresh fruits, 159,905,000 lb. (1893), as against 1,832,310 lb. (1871); dried fruits, 82,486,000 lb. (1893), in 1871 none; in 1875 (the first year in which any shipments of importance were made), 548,227 lb.; canned fruits, 58,681,400 lb. (1893) as against 182,090 lb. (1871). Or to put the matter in another way, the exports of Californian fruits in 1871, before the evaporator came into general use, realised only £10,240, while in 1895 their value increased to £3,334,152. We quote these figures from a speech made by Captain J. Addison Smith, a Californian fruit-evaporator, at the Society of Arts on the 29th ultimo, at a meeting when Mr. Edward W. Badger, F.R.H.S., of Birmingham, read a paper on "Fruit and Vegetable Drying," which he had prepared at the request of the Council. We have no means of testing Captain Addison Smith's figures, but he gave them on the authority of a State official, and assuming them to be reliable, it would certainly appear that our American cousins produce and find a market for an enormous quantity of fruit, and that since 1893 each class of fruit has changed its position, for the shipments of unmanipulated fruits have fallen off nearly 20 per cent., dried fruits have increased 40 per cent., while canned fruits have increased only 6 per cent.

Our object in printing these figures is to show English fruit-growers that American fruit-growers having fully tested the evaporator, are yearly extending its use, and that a very considerable quantity of the dried fruit produced by them finds its way into this country, where it is now regularly on sale at stores, grocers' shops, and elsewhere. Such being an undoubted fact, it seems to us that it behoves English fruit and vegetable growers to look at the matter in a business-like fashion; and we recommend them to make a thorough investi-



gation, and find out for themselves whether a process which is so universal and successful in the United States cannot be advantageously used here. If the answer should be in the affirmative, then fruit and vegetable evaporating should become one of our recognised industries, and be carried on with skill and economy, so as to produce the best results at the lowest possible cost.

We are inclined to think that prejudice and want of knowledge account for much of the apathy with which this subject has hitherto been treated. We have heard of cases where an evaporator has been purchased, tried for a time, and then put on one side as useless. But—and we have some positive knowledge of the capabilities and possibilities of the evaporator—is it quite certain that it is not the operator that is in fault? At the meeting of the Society of Arts, to which we have alluded, there was a display of dried fruits from many countries, including some Californian evaporated fruits, and another display of English produce; and no one could compare the two without being convinced that the English was, in all respects, the better one. A Californian expert present at the meeting expressed the opinion that he had never seen better evaporated products than those exhibited on that occasion by Mr. Trotter of Ledbury, and that such fruit would undoubtedly fetch the highest price obtainable in America. We think we are right in saying that Mr. Trotter did not commence evaporating until after the 1891 demonstration at Chiswick, and now he is probably the most expert operator in the United Kingdom. Those who wish to know what his experiences and opinions are cannot do better than consult Mr. Badger's paper which (with the description that followed the reading of it) is printed in full in the *Journal of the Society of Arts* issued on the 1st inst. Mr. Badger's paper describes the construction of the evaporator and how it is manipulated, and gives a good deal of information about the kind of work it can do. It also contains a number of practical questions which he asked Mr. Trotter, and that gentleman's replies. We commend a careful perusal of them. It is to be hoped that the day is not far off when the evaporator will be manufactured in this country, for it has been intimated that no patent rights, so far as England is concerned, now stand in the way of any enterprising firm who may be disposed to supply his countrymen with this useful apparatus.

### THE "VIOLA."

The "Viola" may be deemed an unpretentious flower, when compared with the Carnation, the Lily, or the Rose; yet it has great capabilities for garden-decoration. For this special reason, it has of late years achieved a marvellous popularity, much of which it undoubtedly owes to the writings of the late Mr. W. Dean, of Birmingham, who may be said without exaggeration to have popularised this flower; Mr. Wm. Cuthbertson, of Rothesay, chief partner in the eminent firm of Dobbie & Co., who has raised some of the finest of existing varieties; Mr. McLeod, of Chingford, and Mr. William Robinson, who conferred upon Violas (Mr. Dean and others asserting that it was only partially expressive), the name of "Tuted Pansies." Doubtless, there are varieties that may be thus described; but at the same time there are many to whose nature and habit this title does not apply. Violas

were Mr. W. Dean's favourite study—his interest in them was not that of an ordinary cultivator; he regarded them with something of that tender interest wherewith a parent watches over his children.

I have always been accustomed to regard the Viola as essentially a Scottish flower; for there can be no question that it succeeds best in Scotland. But it is now largely and successfully cultivated in England; a fact which has of late years been emphasized by the formation of a London Viola and Pansy Association. I am gratified to learn from Dr. Stuart, of Chirnside in Berwickshire, a great raiser of Violas, that at the Crystal Palace show of 1895, his Florizel, as exhibited by Mr. Pye, of Catterall, Garstang, was awarded both the Gold Medal and the President's Prize—an enviable distinction. Dr. Stuart, who has given us an *Aquilegia* of remarkable merit, A. Stnarti (accurately described by the Messrs. Veitch, by whom it is largely cultivated as "a hybrid between A. Glandulosa and A. Witmanni")—was the raiser of the famous race of miniature rayless Violas, of which the first and the finest was *Violetta*, an inestimable gem of purest ray serene, or rather, as I have indicated, one destitute of rays. One of its most charming attributes is its fragrance, which rivals that of *Viola odorata*; it is also very precious for its purity and productiveness. Another of Dr. Stuart's creations of equal merit and fascination is the cream-coloured *Sylvia*, whose flowers are produced in the greatest profusion.

Among other highly distinguished raisers are Mr. James Grieve, who may be regarded as a great Viola specialist; Mr. William Cuthbertson, to whom we are indebted for many varieties of the loftiest distinction, among which are *Iona* and the *Prince of Orange*; Mr. Baxter, of Daldowie in Perthshire, whose name is inseparably associated with the *White Duchess* and *Duchess of Fife*, which though notable illustrations of the law of variation, derive their form and their fragrance from the venerable *Ardwell Gem*.

Besides those already enumerated incidentally, the following are the Violas I have cultivated most, and can chiefly recommend, viz., *Blush Queen*, *Countess of Wharnccliffe*, *Countess of Kintore*, *Crimson King*, *Duchess of Sutherland*, *Edina*, *H. M. Stanley*, *Marginata*, *Blue Gown*, and *True Blue* (the two finest of this special colour); *Peter Barr*, described by Mr. William Cuthbertson as "the most distinct Viola ever introduced;" *Queen of Scots*, expressive of beauty and sad vicissitudes; *Ravenswood*, which reminds us of Sir Walter Scott and his grandest tragic romance, the *Bride of Lammermoor*—a most distinctive variety, of dark velvety hue. There are many others, of even more recent introduction, some of which I may hereafter be in a better position to characterise, after I have adequately tested in my garden their various capabilities. Of the varieties I have recorded, my supreme favourites are *Violetta* and *Countess of Wharnccliffe*, valuable alike for their beauty, their graceful habit, their delightful perfume, and extreme floriferousness; *Iona*, and *Prince of Orange*, both coming from Rothesay, and highly outdowed; *Florizel*, *Sylvia*, *Countess of Kintore*, *Ravenswood*, and *Duchess of Fife*. I would very cheerfully, if I had no other alternative, confine myself to these. But at the same time I am always glad to welcome and assiduously cultivate the latest introductions, and especially those which have the merit of distinctiveness.

I have learned from experience—that most reliable of all teachers, the only one that may

be regarded as perfectly infallible—that *Violas* should, especially in their primary stages of development, be assigned comparatively shaded borders, where, in a sultry, and therefore, for them, exacting season, they are shrouded from the rays of the sun. Under other conditions than those I have just spoken of as essential to their growth, such varieties as the distinct-coloured *Duchess of Fife*, and the fragrant, satiny-white *Countess of Wharnccliffe*, are almost certain to be annihilated. If for not less than several weeks after being planted in moderately fertile soil, they are remorselessly disbudded, they will grow much more vigorously, and bloom more luxuriantly; and this salutary process, however self-sacrificing on the part of the cultivator, who looks to the future rather than to the present, will ensure for them also considerably longer lives. It is on the same principle that young fruit trees are deprived by such pomologists as Mr. Rivers and Mr. Bunyard of their fruiting-spurs, that they may tower through such sacrifice into greater height and nobler strength. Youth in any form, if vigorously healthy, has invariably a tendency to attempt too much, especially in the dangerous direction of premature production; and whatever tends towards exuberance must therefore be counteracted, otherwise our finest fruit trees will degenerate; our fairest *Roses* for exhibition will become "flowers of the forest;" our noblest garden treasures the wild woodland parents from which they were derived. Of superfluous, wasteful, weakening growth, the result is degeneration; this is the law of physical and of vegetative life. *David R. Williamson.*

### NEW OR NOTEWORTHY PLANTS.

#### SOBRALIA BRANDTIIÆ, Krzl.\*

The plant resembles at first sight a medium-sized *Sobralia macrantha*. The sheaths of the leaves do not show the black bristles like the other species of this section, but only very minute blackish spots. The bracts are very small, and cover only the base of the flower. The sepals and the somewhat broader petals are linear, or linear-oblong, pale rose-coloured outside, and intensely rose-purplish inside. The lip is rather larger than the petals, convolute over the column, and obscurely four-lobed. The two side-lobes are reduced to blunt angles; the middle one is very broad, and on its anterior part divided into two diverging rather acute lobes. The disc of the lip is orange-coloured; the margin is wavy like in many other *Sobralias*. The emergences on the disc are reduced to five small scarcely elevated lines; the column is slender as usually, but it has on both sides of the anther-bed a long recurved horn, longer and more curved than in any other species I know. I have pointed out all the peculiarities of this species interesting in first line to the botanists, the number of similar species being a rather large one to-day; and I have to add some remarks to the subdivisions made by Dr. Lindley in the *Folia Orchidaceæ*, January 21,

\* *Sobralia Brandtiiæ*, Krzl.—Caulibus ad 1 m. altis, foliis distichis arcto vaginantibus, vaginis levibus, laminis lanceolatis acuminatissimis ad 20 cm. longis, medio 4-5 cm. latis, satis firmis quinque-nerviis; floribus heterochromis, bracteis brevibus foris basin tantum amplexantibus, 3 cm. longis (expansis), 6 mm. latis; sepalis linearibus, petalis duplo latioribus, linear-oblongis 6-7 cm. longis, sepalis 1 cm., petalis 1.8-2 cm. latis; labello ad 9 cm. longo e basi anguste emittente antice valde dilatato utrinque obtusangulo antice in lobulis 2 acutiusculis paulum divergentibus extenso, venis 5 in disco medio fere usque vix prominulis mox evanescentibus, margine labello inclutato-crispo; gynostemio gracili apice utrinque cornu in aximo reflexo subtus excavato instructo, antheram multo superante, maximo ad huc in genere!—Flores purpureæ, labellum intensius coloratum discus labelli aurantiacus.

Habitat? Introductus Fred. Sander, v. cl. Verulamensis. Domina Idæ Brandt Toricensis de cultura. Orchidacearum hinc temporibus optime merito grato animo dicavit autor.

1854. "The division, § C.:—Flowers in a cone-like head, or naked, is divided in series—1, lip with crested veins;" and 2, "lip with naked veins. Both divisions are subdivided thus "leaf-sheaths or bracts, hispid, with black hairs and leaf-sheaths, or bracts naked. This scheme was regarded as the only legitimate one up to our days, and indeed it was sufficient for all the species we received from Southern America since the days of Lindley. The new species I publish to-day destroys not only the two divisions, but also the two subdivisions. The sheaths of the leaves are not provided with black hairs properly speaking, but with black points, and we must regard from the morphological point of view these black points as rudiments of hairs; secondly, the lip has five elevated lines, too deep to be regarded as simple lines, too

in front is Leeds Castle and its beautiful park, which greatly add to the scenic features of Elsfield. Once in summer time Mr. Laurence's grounds and glass-houses are thrown open to the inspection of the public, which is during the flower show, of which he is the president, the show being held in front of Elsfield House.

One of the illustrations (fig. 97) represents a tree-shaded walk in the gardens, with various species of Ferns planted in a bed and in the border to the right-hand of the picture, where, doubtless owing to the shade and drip, but few other plants would thrive. The other view (fig. 98, p. 611), shows a sunlit bed, or extremity of a shrubbery, filled with herbaceous perennial plants, evidently exactly suited to the soil and surrounding conditions. A conservatory joins the house,



FIG. 97.—A SHADY WALK WITH FERNS, IN THE GARDENS OF W. LAURENCE, ESQ., ELSFIELD HOUSE, MAIDSTONE.

small to be called crested veins. For the moment the new plant may be placed between *Sobralia violacea* and *S. macrantha*; afterwards, a new subdivision of this tribe of *Sobralias* will be unavoidable.

It is undoubtedly a charming plant, not so big as *Sobralia macrantha*, and, as far as I can judge from my material, freely flowering for several weeks. The flowers rise from the cone-like head of the stalk one by one. *F. Kränlin*.

#### ELSFIELD HOUSE, MAIDSTONE.

AMONG the many pretty gardens in Mid-Kent is the subject of this note, belonging to W. Laurence, Esq., J.P., and situated about 4 miles from the county town, on the high road to Ashford. The mansion stands in a fine park, on one side of which lies the village of Hollingbourne, on the other the village of Leeds, dating back hundreds of years, and

which contains the usual kinds of flowering and foliage-plants; and in the season a great display is made therein with *Chrysanthemums*, of which Mr. Robinson, the gardener, is an excellent cultivator and successful exhibitor, a fact well illustrated by his having taken nearly 500 prizes during the last ten years, many of them at the Aquarium and Crystal Palace shows. The other glass structures consist of four vineries, three Peach-houses of large dimensions, a stove, together with houses and pits for the cultivation of Melons, Tomatos, Cucumbers, &c.

The kitchen garden is a very good one, although not of large extent, and the soil a light sandy loam of considerable depth, needing, as a matter of course, copious applications of water to wall trees and growing crops. Provision is made for this by means of a large tank placed in the middle of the garden, into which water is forced from the river that runs through the park.

## ORCHID NOTES AND GLEANINGS.

### ORCHIDS AT CASTLETON HOUSE, CLIFTON.

CLOSE to the Clifton Down Station, and seemingly in a very unlikely quarter to find several houses of well-grown Orchids, and many of them rare plants, the eye of the passer is attracted by a fine show of Orchids in the window of a dwelling-house in an ordinary row of houses, and here are the quarters of our old correspondent A. H. Milton, Esq., who by the number of specimens he has sent, and the questions he has asked, has evinced one of the best evidences that he intended to succeed in the culture of his plants. Inspection amply proves that his endeavours were not futile. The pretty group in the window alluded to was made up of a fine specimen of *Cattleya Schroderæ*, with ten flowers; a richly-coloured *G. Trianaei*, with three blooms; a splendid specimen of *Dendrobium thyrsiflorum*, with several spikes; some good examples of *Odontoglossum crispum* and *O. maculatum*, and some brilliant scarlet *Sophrontis*, all artistically arranged by the ladies of the house, and forming a display pleasant to behold, both from the inside of the house and from the road.

Passing to the Orchid-houses, which may be said to cover the greater part of an ordinary back garden, and which is built in on every side, we found a neat block filled with a general collection, all in fine condition, and affording yet another instance of the adaptability of Orchids to circumstances; for here, where neither *Fuchsias*, *Pelargoniums*, nor any other of the common plants would thrive so well, these exotics were growing and flowering satisfactorily, under the care of the members of the family, only with the assistance of Mr. Murrell, a gardener who attends two or three days a week.

In the house in which the rarer plants are kept were some sixty plants of *Cattleya aurea*, and of small size a good number of seedlings of *C. aurea* crossed with various species; a fine plant of *C. × Hardyana*, with two leading growths; some good examples of *Cattleya Trianaei alba* and *C. Mossiæ Wagneri*; seven splendid plants of *Cattleya Rex*, and two very strong *C. × O'Brieniana*, *C. Skinneri alba* in several examples, *C. Schroderæ alba*, and six plants of *Dendrobium Wardianum album*, together with other rare things. In one intermediate-house was a very good show of *Cattleya Schroderæ*, *C. intermedia*, *C. Walkeriana*, *Oncidium sarcodes*, and other *Oncidiums*; *Miltonia Roezlii*, and *M. R. alba*; *Cymbidium Lowianum*, and the different species of showy *Dendrobiums*, among which the *D. Phalænopsis Schroderianum* were remarkable for their vigour.

In the *Cypripedium*-house some rarities were noted, such as *C. × Chas. Richman*, some of which were in flower; especially noteworthy was a charming variety of *C. exul*, with almost wholly yellow and pure white flowers, the chocolate-coloured spots being almost suppressed. Here, too, were the brightly-coloured *Epidendrum × O'Brienianum*, and a few other *Epidendrums* and *Oncidiums* in flower. In the cool-houses there were in flower several plants of *Odontoglossum crispum*, one a very handsome blotched form; a magnificent variety of *O. Hallii xanthoglossum*, *O. Andersonianum*, *O. cordatum*, *O. maculatum*, *O. Pescatorei*, and other species.

### THE TREATMENT OF BRAZILIAN ORCHIDS.

IN reply to a question asked by a correspondent, we gladly publish the following remarks on the subject of the treatment of Brazilian Orchids by Mr. Jas. Douglas. The questions to which replies were asked were—1. What is the lowest temperature they will grow in? 2. By what means are they made to attach themselves anew to tree branches?—should a layer of mould be put on the branch, and the Orchid roots tied on until they get a hold? The Orchids come from the neighbourhood of Pernambuco.

"First, as to temperature. I will assume they are *Cattleyas* and *Lelias*, for which Southern Brazil is the home, although none is found in the immediate neighbourhood of Pernambuco, and doubtless the plants were sent north from the Bahia district, or

even from the district near Rio de Janeiro. The *Lælias* and *Cattleyas* found nearest to Pernambuco are *L. grandis*, *L. xanthina*, *C. Aclandiae*, *C. Schilleriana*, *C. guttata*, and these are met with as far south as Serra Grande, all of which must be classed with these genera, found more than usually difficult to cultivate; and they certainly ought not to have a lower temperature, even in winter, than 55°. There is, however, an enormous extent of country between Rio grande, where *C. Loddigesii* is found, and Bahia the more northern point, and the habitats of *L. grandis* and *L. xanthina*; but this and the diversity of climate notwithstanding, all the *Cattleyas* and *Lælias* from this region may well be grown in one and the same house, affording the plants a minimum temperature of 55° between October and April, gradually increasing the night temperature to 65° by midsummer, and again lowering it after the end of the month of August, that is, when cold nights in this country set in. The day temperature is dull or cloudy weather may generally be about 5° higher, and in sunshine as much as 15° to 20° higher.

As regards the second question, the plants, as is well known, attach themselves to tree branches or on to rocks, or to whatever supports the dust-like seeds are carried by the wind; indeed, the plants are sometimes found in very exposed places; but they are kept in health by the humidity of the climate, which is principally due to the moisture coming inland from the South Atlantic Ocean on the wings of the trade winds. In this matter it is no use trying to imitate nature, and *Cattleyas* and *Lælias* cannot be kept in good health in our hothouses when attached to branches of trees, unless very great attention be afforded. All the tall and large-growing species should be planted in pots in a mixture of Orchid-peat and sphagnum-moss. Taking the Brazilian species requiring this kind of treatment, they are *C. Loddigesii*, *C. purpurata*, *C. guttata*, *C. labiata*, *C. I. Warneri*, *C. intermedia*, *C. crispata*, *L. lobata*, *L. xanthina*, *L. grandis*, *C. Schilleriana*, *L. Perrini*, *L. elegans*. Of the species requiring, or, at least, that would succeed best in baskets of teak-wood or in pans suspended from the roof of the house, in such a position that the tips of the leaves would be within a few inches of the glass, the following may be named:—*L. pumila*, *L. Dormaniana*, *L. cinnabarina*, *L. flava*, *C. Walkeriana*, *L. harpophylla*, *C. Aclandiae*, and *L. Jongheana*. In pot culture, fill the pots half full of crocks, so that the drainage may be thorough, and pot the plants in a mixture of good fibrous Orchid-peat and sphagnum intermingled with crocks. The same sort of materials are used for the smaller *Cattleyas* and *Lælias* that are put into teak-baskets or pans. *J. D.*"

## TREES AND SHRUBS.

### PRUNUS PADUS.

The common Bird-Cherry is a valuable flowering tree, especially adapted for planting in woods, intermingled with other trees. For the garden proper, however, there are other Cherries and Plums of greater beauty, and, where space is at all limited, these might well have the preference. There is now in blossom at Kew a double-flowered form whose superiority to the type is so marked that it is well deserving of a place in any garden. The racemes are 6 to 8 inches long, and the individual flowers close on three-quarters of an inch across. Not only are they larger than those of the ordinary Bird-Cherry, but also they last longer in beauty. This variety is apparently new, and is of continental origin.

*Prunus Padus* is widely spread over the northern parts of the Old World, being found not only in North and Central Europe, but in Manchuria and Japan. The Manchurian form of this species has recently flowered at Kew. It is remarkable for its earliness to blossom, its flowers being long past before those of its European fellows have expanded. It has the additional merit of producing larger flowers and racemes. It came into cultivation by way of the St. Petersburg Botanic Garden, and is figured in *Garden and Forest*,

1888, p. 295. [The Himalayan form, *P. cornuta*, is remarkable for its red leaf-stalks, and for the circumstance that its fruits are horn-shaped, as in the so-called Bladder Plums. Ed.]

### PRUNUS JACQUEMONTI.

This charming dwarf bush is flowering this season with exceptional freedom. It is a native of the North-western Himalaya, Thibet, and Afghanistan, where it is found at altitudes ranging from 6000 to 12,000 feet. It is one of the numerous plants which first became known to European cultivators through Dr. Aitchison, who sent to Kew, in 1879, seed of it, which he had collected in the Kurruum valley. It is described as attaining a height of 6 to 10 feet when fully grown, but the largest bushes at Kew are about 4 feet high. The leaves are from 1 to 2 inches long, and ovate-lanceolate; the flowers three-quarters of an inch in diameter, and of a bright rosy-pink, are produced thickly on the thin, wiry shoots made last year. It is a very desirable shrub, and is especially well adapted for occupying the front of a shrubbery, its branches feathering to the ground.

### PRUNUS HUMILIS.

As this is closely allied to the preceding species, and is often mistaken for it, it may be worth while to here point out the distinguishing characters. It is, in the first place, a native of China, a country which *P. Jacquemonti* does not reach. The flowers of both are about the same in size and colour, but *P. humilis* blooms a little later in the season than the Afghan species. The characters on which botanists most rely are the comparative length of the tube and lobes of the calyx, and the differences in the stipules. With regard to the calyx of *P. humilis*, the lobes are as long as the tube, and are nearly erect, but in *P. Jacquemonti* they are not half the length of the calyx-tube and are reflexed. The stipules of *P. humilis* are glandular-ciliate; those of its ally lacinate. *P. humilis* has been known to science since 1733, in which year an account of it was given to the Academy of Sciences in Paris by a French missionary named Parnin.

### CRATEGUS MOLLIS.

The earliest of all the American Thorns to burst into flower is *Crategus mollis*, and just now it is at its best, some of the trees at Kew being masses of blossom from the top to the bottom. It is curious that this tree, although by no means uncommon in gardens and nurseries, obtains no mention in the standard works of reference. The reason is, that until recently (probably until the publication of Professor Sargent's *Silva of North America*), it has been confused with *C. coccinea*. Both are natives of North America, and are closely related, but *C. mollis* is the superior tree. It reaches occasionally a height of 30 feet, and if allowed sufficient space, well furnished down to the ground. Every twig bears its flat corymb of flowers, measuring 4 inches or more across, a single flower being as much as 1½ inches in diameter, pure white, but with a circular patch of red in the centre. The leaves are 4 to 5 inches across, and soft to the touch, being always covered with a fine pubescence. *C. coccinea*, on the other hand, has perfectly glabrous, smaller leaves; its flowers, too, are smaller, and appear a week or ten days later than those of *C. mollis*. *W. J. B.*

## MARKET CUCUMBERS.

In one of the gigantic market establishments on the north side of London, may be seen some 120 houses, each 150 feet long, devoted exclusively to Cucumber production. This is, indeed, Cucumber-growing under glass by the acre. No wonder that the product annually is enormous, the fruits numbering hundreds of thousands. The entire range is planted with but one variety, that now famous one, known as Rochford's. The fruits are spiny, a feature much appreciated in the market. They have short necks, are of a dark green colour, and average 15 inches in length. Numerous hands seem to be perpetually employed

during the season in cutting and packing the fruits. The sale is governed by the dozen. On the door-post is marked the product of each house daily, and thus an exact record is kept of the numbers of fruits produced. The plants are all grown on the ground level, and where houses run side by side by scores, there is rarely any dividing wall. The intervening gutter is broad enough to admit of all water being carried away, and have a wooden stop somewhat raised running throughout the centre of each gutter, with a continuous ventilator 6 inches wide, down which air passes. The root-run is limited to areas about 20 inches wide, and from 6 to 7 inches deep. As wood-lice once gave much trouble, circular wire troughs about 12 inches across, and having in the centre a space for the stem 6 inches over, are placed at suitable intervals, and the plants put out into the soil in these central spaces. The soil is brought up to the rims of the troughs, and these are half-filled with water. Wood-lice never cross this styx and live, as they are inevitably drowned. The Cucumber-soil is in the proportion of about three-fourths turfy loam and one of decayed manure, and liberal feedings with guano or other artificial manure, or else with mulchings of animal manure, are furnished during a long-bearing season.

## KEW NOTES.

*AMHERSTIA NOBILIS*.—A large plant of this grand stove shrub has this year produced about fifty five racemes of flowers in one of the stoves (No. 1) at Kew. It is still in flower.

### BOUGAINVILLEA GLABRA SANDERIANA.

A large specimen trained against the roof glass in the porch of the Water Lily house at Kew is now a sheet of flowers (bracts). *B. spectabilis* is also in flower close by.

### ANTHURUM CHAMBERLAINI.

This rare and desirable species has, for the first time, matured a good crop of seeds at Kew.

## SUMMER BEDDING.

ALTHOUGH this form of summer flower-gardening has had during the past years to encounter much severe and wholesome criticism, still it survives, and is apparently as popular as ever, though in some respects changed in character, both in style and in material. It is hardly probable that a garden feature which has obtained so strong a hold on public estimation will be very quickly displaced. It has been with us fully half a century, for its commencement practically dates from the "forties," and amongst its earliest heroes were the once famous Tom Thumb Pelargonium, *Calceolaria amplicaulis*, blue and scarlet *Salvias*, *Heliotrope*, *Verbenas*, *Petunias*, *Fuchsias*, and various other plants. How much in some respects things have changed, and how much in some other respects has there been reversion to old material! To-day *Fuchsias* are very widely employed, though not quite in the crowded fashion they were fifty years since. *Heliotropes* are again in much favour, though of richer-coloured and better-habited forms. *Verbenas* have again come into vogue, though chiefly as mixed seedlings; and even blue *Salvias* and scarlet-flowered *Lobelia cardinalis* frequently overtop a base of some dwarf plants of neutral tint. In actual change of material, no doubt *Begonias* have produced the greatest change. The *Begonia* has leapt somewhat suddenly into the position of being the most popular bedding plant of the day. No doubt it is a well-merited position, because it gives us exceeding beauty—rich as well as refined soft tints in great variety, yet allied to much elegance, so long as the single-flowered forms are regarded.

As much also may be said of many of the small and wonderfully free doubles, of which we have so many, but which give their most beautiful effects only when seen in quantity. The big bunchy doubles are happily useless for outdoor bedding. But a very excellent feature of *Begonia* bedding now at least is that the

plants are put out thinly, not to produce a brilliant mass of colour, but to enable the special peculiarities of each plant to be seen. Then with a carpet of some dwarf-growing or creeping plant which covers the soil, the Begonias standing out boldly and individually, we have a feature in summer bedding that seems to be not merely beyond criticism, but is found to be generally attractive. But this feature in bedding is not confined to Begonias; we find that Fuchsias, now so happily resuscitated from a long period of comparative neglect, are similarly treated, and very beautiful they look when good plants and well-flowered. We find, too, that dark-flowered half-standard Heliotropes on a base of pink-flowered Ivy-leaf Pelargoniums, form another attractive mixture, neither being allowed to dominate; and in the same way silver and golden-leaved Pelargoniums harmonise very effectively with blue or purple Violas. These latter plants have been gradually growing into favour as bedders, and though sometimes harsh or gaudy if found in masses, are very charming indeed

private gardens find occasion to copy; and it has for its special furnishing a large selection of plants that could hardly be employed in gardens with any good effect in any other way. The primary elements are found in *Alternantheras*, succulents, and mossy plants, such as *Herniaria glabra*, *Sedums*, &c. These are plants that are singularly amenable to design-working, and to-day still we see them largely employed, the beds, when well filled, proving to be as attractive as ever, and seeming likely to long continue so. Nothing could be more unfortunate in what may be termed the decorative art in gardening than that it should all run in one groove, or be all of one model. We cannot well have much that is diverse in our fruit or vegetable gardens, or even in our plant or fruit-houses. There from year to year things have to be grown in much the same fashion. It is in the pleasure or flower-garden so termed that we may well look for variation. It may be that the Italian style, with its prim Box edgings, and coloured brick or gravel spaces, once so much in evidence at South Kensington,

did. It is in this respect very largely that hardy plants too have again become so popular. They have been enormously added to, and in that way have furnished attractive material that could not be denied, and we have perhaps learned to understand them, how to group them, how to cultivate and appreciate them. Thus it is that in every way summer bedding as a great gardening feature has been the gainer. *A. D.*

## FOREIGN CORRESPONDENCE.

*La Mortola*.—The fault of *Juniperus drupacea* in the early loss of the lower branches noticed by your correspondent in your issue of 25th ult., does not apply here, provided sufficient space be given. I have a male plant at least twenty-five years old, clothed to the ground, and beautiful in form and growth; it is 21 feet high, the greatest diameter is 14 feet, and the girth of the stem at its base is 40 inches; unfortunately, my garden does not possess a specimen of the other sex, so I have never seen the fruit. When on Mount Hermon in 1839, I searched in vain for this Juniper, though I believe it is to be found there. *Agave ferox*, a very splendid specimen, is about to flower here. *Pittosporum eriocarpum* in *Bot. Mag.*, pl. 7473, is now in full flower; this is a plant that should be tried in the open air in the south of England, its growth is most vigorous, and the scent of the blossoms is agreeable, less so perhaps than *P. multiflora*, which is the most fragrant of the genus.

The drought on the Riviera is becoming most serious, and threatens disastrous consequences, unless some timely showers fall between now and the middle of June, when the customary summer heat sets in with severity, unbroken as it usually is by any thunderstorms. The total rainfall in this garden since December 24, is only 1.14 inch; the smaller springs have already run dry. Olive trees appear to be too deficient in strength to produce their blossoms, and the Lemon trees present a shrivelled appearance where not irrigated, and altogether I do not recollect a more gloomy outlook for the peasants who are dependent on their crops. *T. Hanbury, La Mortola, Ventimiglia.*

## FLORISTS' FLOWERS.

### NEW VARIETIES OF GOLD-LACED POLYANTHUS.

DR. STUART, of Chermiside, N.B., is mindful of the gold-laced *Polyanthus*, notwithstanding his devotion to the rayless-flowered and miniature section of *Violas*. He has just sent me two bunches of his two new varieties—*Border Maid* and *Cooper O'Fogo*. The former of these is a black-ground flower in the way of *George IV.*, large, stout, and handsome, and evidently a vigorous grower; the lacing, perhaps, a little paler than the gold in the centre. The latter is of a dark-reddish ground, the centre bright gold, but the lacing is too broad to make it a refined variety; still, it may be the progenitor of something better. The gold-laced *Polyanthus* has been seen in much better condition during this spring than for a few years past, and it is pleasing to note there is a marked revival of this pet of the florists of the old school. At Didsbury, Mr. William Brockbank has in bloom some fine named seedlings of his own raising, and it is reported that the gold-laced varieties were finer at the Northern Primula Show than they have been for a few years past. *R. D.*

## COLONIAL NOTES.

### ROYAL GARDENS, TRINIDAD.

THE annual report of the Royal Botanic Gardens, Trinidad, for 1895, has lately been issued by Mr. J. H. Hart, the Superintendent. It contains the usual account of work done, plants cultivated, received and exchanged, and notes on experiments made with Sugar-cane and its enemies. It is pleasing to learn



FIG. 98.—A HERBACEOUS BORDER, IN THE GARDENS AT ELSFIELD HOUSE.

(SEE P. 609.)

when employed in mixtures. Another reversion of ancient date is found in the combination or mixed beds, in which not two, but perhaps twenty, diverse plants find representation. It is not possible to enumerate these, but whilst needing some judgment in planting, so that none shall dominate, all are distinctly pleasing when there is good balance in colour and in habit. The undoubted tendency of modern taste in bedding has been towards the elimination of mere masses of gaudy colours, big clumps of scarlet, yellow, blue, &c., and to replace them by combinations, that in no case override other beds by their gaudiness, as big masses of scarlet *Pelargoniums* where seen still do. In many cases beds are either far too large or too flat. It is in these especially that the introduction of dwarf or dot-plants, such as *Grevilleas*, *Dracenas*, *Abutilons*, &c., prove to be so valuable. The now almost old forms of carpet-bedding still remain with us. The late Mr. Rogers of Battersea, and Mr. Wildsmith of Heckfield, were of the earliest apostles of this form of bedding; and, in spite of severe, and no doubt much correct denunciation, it still survives. That is due, perhaps, to two causes. It is a style that is still very popular with the masses who frequent public parks and gardens, from whence, too, so many

is, to our more natural tastes, an abomination, and yet it is hard to complain if but one or two examples be still here and there found. Neither can we for a moment object if here and there are still to be found some striking illustrations of the Dutch style of decorative gardening, once so popular and so adapted to suit the tastes, which prevailed 100 years ago. Not now for a moment would any one plant a garden and severely trim it as this style requires, but being with us we may well be grateful that such living examples exist as they make us familiar with the garden tastes of our progenitors as well as of the old Dutch gardeners. It is for these reasons that we may well be glad. Carpet-beds, and, indeed, somewhere examples of all the bedding tastes of the last half-century are found. It is in so much variation that gardening finds its charm. It is a vocation that is after all, perhaps, less influenced by fashion than many other things which enter into our pleasures. Flower gardening has varied more because of the varied forms of plants introduced into it from time to time than from any other cause, and if now we do find a good deal of reversion to ancient kinds of bedding plants, it is because we have learned how to utilise them more gracefully than our predecessors



that the circulation of the *Bulletin* is steadily increasing, thus proving its practical utility and interest to cultivators.

#### AGRI-HORTICULTURAL SOCIETY OF MADRAS.

The *Proceedings* of this Society from October to December, 1895, are now to hand, and include in addition to the usual reports on the work done during the quarter, brief notes on *Araujia albens*, *Albizzia molucana* as a Coffee-shade in Zanzibar, Rice for unirrigated lands, Palm-beetle, and similar subjects.

## THE WEEK'S WORK.

### FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**THE EARLY VINERY.**—Where Grapes are now ripe, the air of the vinery should be kept comparatively dry and cool, sufficient artificial heat being employed to prevent the temperature falling below 60°, and always with air admitted. The inside border, if found on examination to be deficient of moisture, should be afforded water somewhat copiously, followed by a thick mulch of spent Mushroom-bed dung, or similar material, to check evaporation, and keep the soil in a moderately moist state till the crop of fruit is consumed. The cultivator should bear in mind that Vines on which a crop of ripe fruit is hanging in June and July will require more moisture at the root than would be necessary or desirable during the autumn months. The application of water should be carried out in the early part of the morning. A moderate degree of extension of the lateral shoot may be permitted at this season, so that root-growth may still be maintained, and the premature ripening of the foliage prevented. In later vineries, where the berries are rapidly swelling, the required degree of warmth should be maintained with but a small use of artificial heat, and with this intent the vinery should be closed early in the afternoon, but admitting air at the top towards the evening in moderate amount by the upper ventilators, which should be afforded during the night as soon as the colouring of the fruit commences. At this date a good mulch of fresh cow-manure may be applied to the outside Vine-border, which will be of great benefit in dry soils and warm localities, as will also copious applications of water. If the drainage of a border is in proper order, Vines in full bearing require large quantities of water to keep them in health, and this is seldom done in dry summers.

**YOUNG VINES.**—Vines which were planted a short time ago and are growing with freedom, should also have proper attention paid them in respect to watering, &c., while as yet the roots can have taken no great hold of the soil. If the Vines were planted in the inside borders, and near to the hot-water pipes, a mulch of half-rotten manure will be of much benefit. If Vines are planted temporarily at intervals, with the intention of taking a crop from them next year, all the laterals should be stopped at the second leaf, and all growths forming subsequently at one leaf, the leader not being allowed to make more than 4 or 10 feet of growth before having the point nipped off.

**EARLY POT FIGS.**—Trees with ripening fruit must have a reduced quantity of water at the root, sufficient being, however, afforded to keep the leaves healthy; syringing must be discontinued, and a small quantity of ventilation afforded constantly at the top of the house, for a Fig to be well-flavoured must be ripened in dry, warm, buoyant air. As soon as the first crop is gathered, the trees should be encouraged to make a second growth by copious applications of liquid-manure, and a daily syringing; and when the second crop of fruit is forming, thin freely the fruits betimes, a moderate crop of well-flavoured fruit being preferred to a larger crop of inferior fruits. Trees which are planted out should have their shoots stopped at about the sixth leaf, and weak or superfluous ones removed, so as to admit light and air to the fruit. Syringe the trees twice daily, and afford plenty of water to the roots, and weak guano-water or other liquid-manure to those growing in small or confined borders. When the first crop on these trees show signs of ripening, treat as advised above for pot-trees. To be in the best condition, the fruits should be allowed to ripen on the trees. Later trees should be attended to in the matter of disbudding, stopping, and tying, being careful not to overcrowd the young growths.

### PLANTS UNDER GLASS.

By Jno. McINTYRE, *Gardener, Woodside, Darlington.*

**ACHIMENES.**—In these we have a class of plants not so largely grown as they were formerly, which are alike useful in indoor decorative work, and for filling baskets of open wire-work and suspending in the stove, intermediate-house, or conservatory during the summer. Planted in 5 and 6-inch pots, they form suitable subjects for filling vases, and in other methods of decorating apartments. The plants which were started some few weeks ago and transferred to pots or baskets, will require support from small sticks, and to be removed into a house or pit having a lower degree of warmth than that hitherto afforded; and this should always be done preparatory to taking the plants to a cool conservatory, greenhouse, or other comparatively cool structure.

**PROPAGATION OF STOVE PLANTS.**—If plants of *Oplismenus Burmani variegatus* (Panicum), and potsful of *Selaginella* are wanted in considerable number for various purposes, preparations should be made at this season. *Selaginellas* should be divided, and five small tufts put on to 4-inch pots filled with soil, and pegged down, make pretty plants in a few weeks. The soil employed should consist of leaf-mould, with a moderate amount of silver-sand added. Where there is a good stock of *Oplismenus*, plenty of well-coloured cuttings will now be obtainable, which, if rooted at this season, will be found to be of great use in the autumn and winter. Many other species of stove plants, if required in the autumn and later, are the better for being propagated in the month of May, as they retain their freshness and colour of leaf to a greater length of time than plants raised earlier in the year.

**THE CONSERVATORY.**—The present affords a suitable season to put the larger-sized plants in the conservatory in good order. Palms which may have been used in the stove to assist the spring display, or induce early growth, may be safely placed in the conservatory for the summer; tree Ferns not being tropical species may also be placed therein. The conservatory forms a good place for *Cattleyas* if it be suitable as regards lighting and ventilation; and the plants if in bloom form charming subjects to dot about amongst the more permanent inmates. If care be taken to keep the material about the roots on the dry rather than the moist side, they will do much to enliven the scene.

**LAPAGERIAS.**—When planted out *Lapageria rosea*, and the white-flowered variety of it, are allowed to commingle, a fine effect is produced. *Lapageria rosea* is a plant sometimes found difficult to manage, even under the best kind of treatment, but some of these failures may be traceable to a bad method of planting or potting, as the case may be, or to the compost used. The plant dislikes heavy soils, however good in themselves. It must have perfect drainage, or it soon gets into ill health. The kind of compost I have often recommended consists, for large plants in pots or borders, of two parts good turfy loam roughly broken up, one part good leaf soil, one part peat roughly broken in pieces, one part sandstone broken of Walnut size, and one part charcoal. In this kind of soil the plants thrive so long as the drainage remains in good order. Copious applications of water are essential to rapid growth, and the plant does best in a cool temperature and partial shade. Specimen balloons should be grown in the *Erica*-house. Much attention is necessary when the plants are making growth to regulate the shoots betimes, that is before they become entwined; afterwards this cannot be done without damaging the shoots.

### THE ORCHID HOUSES.

By W. H. WATTS, *Orchid Grower, Burford, Dorset.*

**TEMPERATURES.**—During the warm sunshine and cold north-easterly winds which are prevalent at this season, much care is necessary to prevent great fluctuation in the temperature of the houses. In the warm-houses very little ventilation will be required by night, but just a crevice at the top should be left open, so that the superfluous moisture may escape. The cool-houses should be well ventilated through the bottom-lights, but if there is any likelihood of the flowers becoming spotted through excess of moisture, air should be admitted at the top, always using the ventilators that are on the sheltered side of the house. Inexperienced cultivators are apt in early morning to damp the houses if they appear the least degree dry, whether the temperature is right or not, and immediately the sun shines upon the house to open the ventilators, and in a short time afterwards to

pull down the shading. More often than not, if the ventilation is not reduced when the blinds are pulled down, the atmosphere being at nearly saturation-point, the temperature will fall considerably. Such practice is one of the principal causes of spot and disease. It is, therefore, of the greatest importance that no damping-down should be done until the following temperatures in the separate divisions are obtained. The East-Indian house should be about 70°, *Cattleya* and Mexican, 65°; intermediate, 60°; and the cool-house a trifle above 50°. It is not always safe to increase the ventilation immediately after damping-down, because, as a rule, the sudden rise in the thermometer is caused by the evaporation of moisture unavoidably thrown on the hot-water-pipes. After this has passed away, and the temperature commences to ascend again, air should then be gradually admitted, but when it is necessary to shade the plants, the thermometer should again be consulted. If it is inclined to fall, the air must be admitted in less amount, until the temperature again rises.

**PHALANOPSIS** generally commence their growth in spring, and many of them are now sending up fresh leaves, and rooting freely. All plants which are not in bloom should be examined to ascertain if fresh material is necessary, or greater space required for root-extension. They may be grown in pots, baskets, or cylinders, which should be filled to three-fourths of their depth with new crocks, the plant placed in the centre, with the collar well above the rim of the pot, &c., the roots spread out, and carefully working in amongst the latter sphagnum-moss and finely broken crocks, pressing it moderately firm around the base of the plant, then cover the whole with freshly-gathered sphagnum-moss. Previous to using the moss it is advisable to thoroughly examine it for slugs. Newly-imported plants should not be allowed to remain long on blocks, or the plants will eventually deteriorate. It is best to carefully take them off immediately growth or root-action commences, and place them singly in small pots or baskets. If the plants are thoroughly well-rooted upon the imported blocks, they should be dipped in tepid water for a few minutes, so that the roots may be detached from the wood with as little damage as possible. For the first few weeks after root-disturbance these plants require very careful watering. Instead of the usual dipping it is safer to sprinkle with water from a fine rose watering-can, the surface moss and the sides of the basket, taking every precaution not to allow the water to get into the centre of the plants, or the latter will decay. When firmly re-established and the young leaves are advancing in growth, the potting material should be kept moist. *Phalanopsis* grow naturally in an atmosphere that is nearly always at saturation point, therefore this should be imitated as closely as possible. Where no separate house is provided for their cultivation, the best position for them is on the shady side of the East Indian-house, or the ordinary plant-stove. Freshly-imported plants, and sometimes those that have been disturbed by re-basking, now and then send up flower-spikes, and if these are allowed to flower before the plant is firmly rooted, its constitution will be considerably weakened. Moreover, a careful periodical sponging of the leaves with soft water is advisable, cleanliness being one of the principal points in their cultivation.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Drapmore, Meidenhead.*

**SEAKALE.**—The shoots of the earliest-planted Seakale, being now well above the ground, should have the superfluous ones removed, leaving one only to each root, which should, of course, be the strongest. After this thinning is done, and the shoots cleared away, a small quantity of salt should be sprinkled between the rows, and the soil stirred with the Dutch-hoe, which will bury the salt and prevent the surface from cracking by heat and drought. Very little attention is needed by Seakale after this thinning has been done, beyond keeping the land free from weeds. Where a plantation is allowed to stand for a period of three or more years, and it is forced with stable-manure and tree leaves, or simply covered with some blanching materials for furnishing the last supplies, any covering now remaining should be removed, and the shoots still left on the crowns taken, together with half an inch of the latter. Vacancies should be filled up, and the soil dug over a few inches, having first afforded a dressing of rotten manure.

**CELERY.**—The most forward batch of plants will be now fit for planting in the trenches, and no time should be lost in performing the job. The usual

method is to plant two rows in trenches made 2 feet wide, and 4 to 5 feet apart, the soil being dug out of the trenches to the depth of one spit, and banked up at the side with a good batter, and made smooth with the spade. The soil at the bottom of the trench should be well broken up, and a layer 4 inches thick of rich rotten dung dug in, and in light soils a liberal dressing of salt may also be dug in with the latter. The manure should be buried just so deep as will bring it within reach of the roots as soon as the plants begin to grow. The dug ground in the trenches should be made quite firm before the planting takes place. The plants should be set out at a distance of 9 to 12 inches apart, the plants being intermediate in one row with those in the other. To obtain extra large heads, plant one row to a trench, at 1 foot apart.

**BROCCOLI, ETC.**—Seed of such late varieties as Model, Late Queen, and Methven's June should now be sown, also another small sowing of the Leamington, one of the best mid-season varieties. Further sowings of Savoys may likewise be made, a late sowing of the Drumhead Savoy furnishing heads in mid-winter, and later. This large-growing variety, when sown at this date, and planted on rather poor ground, loses much of its coarseness, withstands severe weather, and affords a good supply for the servants' table.

**SPINACH.**—Sowings should continue to be made according to requirements on cool, moist land. The spring-sown plants, and those which have stood the winter, are affording plentiful gatherings, but they ought not to remain on the land longer than is absolutely necessary. It is good practice to dig in the plants when done with.

**NEW ZEALAND SPINACH,** as a substitute for ordinary Spinach, in the event of a very dry summer, should always be sown in small quantity in heat, the plants being put out in the open quarter when large enough. The seeds may be sown to the number of three in 4-inch pots, placed in a Melon-pit or similar structure; and when the seedlings appear they should be reduced to one in each pot. When a few inches high, the plants should be gradually hardened off, and finally planted out at 3 feet apart. From twelve to twenty plants, according to the size of the establishment, will meet all likely requirements.

**ONIONS.**—The weather having been very trying for all recently-transplanted subjects, applications of water will have been necessary to enable the Onion plants to become established, and will continue to be necessary during the prevalence of dry weather. The Onions sown in the open quarters have braided well, and the plants are now strong, but they are greatly in need of rain. The ground between the rows should be stirred with a Dutch-hoe, and weeds growing in the lines pulled up. Thinning the plants should be deferred till rain comes. If dry weather continues, it will be advisable to occasionally spray the Onion-beds towards the evening with a solution of soap-suds and petroleum, to ward off attacks of the Onion-fly. A wine-glassful of petroleum to 3 gallons of soft-water, with just enough soap to make the oil mix freely, will be strong enough, and will do no harm if it be kept well agitated whilst being used.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**RASPBERRIES.**—Suckers grow abundantly at this season, and all those springing up in the alleys should be pulled up as soon as ever they are tall enough to be seized by the hand; and of those which spring up in the rows or around the stools, the weakest should be taken away, leaving from six to eight of the strongest to form canes for next year's fruiting. Blackberries require a similar kind of treatment, and as many of the strongest shoots or suckers growing nearest the stem saved for replacing the fruiting-canecan of the present season. A fair number of these growths to leave on a plant is from four to six for tall varieties, such as *Rubus laciniatus*, and six to eight for dwarfier ones, such as *R. Wilson*, *Junior*. The long canes of *R. laciniatus* soon get crowded with young shoots, and if fine fruits are looked for, these should now be reduced in number by removing the weaker; and those that remain should not be less than 6 inches apart. One or two good waterings with manure-water afforded at this season strengthen the shoots and increase the size of the fruits.

**OUTDOOR VINES.**—These plants, now starting into growth, should have all superfluous eyes rubbed

off; and it adds to the productiveness of the Vines to lay-in some strong young canes annually, and cut away a corresponding number of the old ones in the autumn, after the bunches are gathered. These young canes should be strong ones which have their origin on the upper side of the old rods, for the sake of convenience in laying-in. These young shoots will need regular attention in the matter of laying-in, or many of them will be broken off by the wind.

**PEACHES, NECTARINES, ETC.**—With frosts more or less severe nearly every night, the average being about 4°, trees not furnished with much foliage should still be covered at night. Up to the time of writing, very little damage has been done by frost, owing doubtless to the dryness of the air and the soil; another reason may be that the frosts have always passed off before daybreak, with the exception of sheltered places and low-lying grounds.

**WATERING.**—Trees, young and old, which were planted or lifted in the autumn and winter, especially such as are situated against walls having a south or west aspect, and in situations much exposed to wind and sun, will be benefited by the soil being afforded a copious watering, and the tops a daily syringing early in the afternoon for some time to come.

**INSECTS.**—If any of the Apple trees are infested with American blight, *Aphis lamigera*, the floccose patches should be dabbled with a small brush dipped in petroleum, or methylated spirits, which will at once destroy the aphid hiding therein.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**SPRING BEDDING.**—Now that the plants are on the wane, notes should be made of desirable improvements in the arrangements of the flowers for another year. Beds that are getting unsightly should be at once cleared of their plants and prepared for the reception of the summer bedding-plants. In lifting the various kinds of bulbs, the foliage should be kept uninjured if the bulbs are to be planted in the wild garden, or used for other purposes another year. Lay the roots in a light airy shed to mature before storing them. Polyanthuses, Primulas, and similar plants, of which a stock is usually raised by division of the roots, should be carefully lifted, divided, and re-planted in the reserve garden, affording them water copiously at the time and whenever the soil gets dry.

**HARDY ANNUALS.**—Seed may still be sown for succession, and those sowings which are advancing in growth should be thinned out before over-crowding has begun, otherwise weak weedy growth will result. Afford the plants water frequently in dry weather, doing so in the afternoon.

**SHRUBS, ETC.**, planted during the past season will need much care in the matter of affording water and syringing the heads, or many failures will occur from the parching character of the season.

**THE WILD GARDEN.**—Bulbs and other spring plants here or growing in patches on the lawns should not have their foliage cut down till it is of a yellow colour, unless expense be not studied and plantings are annually made.

**MIXED BORDERS** may shortly be planted with a variety of plants for the summer, and the planting-out of these will dispense with much labour in keeping the plants in boxes, frames, &c. These consist of Ten-week and other Stocks, Zinnias, Marigolds, Larkspurs, Scabious, Hollyhocks, Verbenas, scented-leaved Pelargoniums, and many other species, which may be used to advantage in these borders; besides, odd plants of almost every description may be used.

**BEDDING-OUT.**—A beginning should be made of the planting out of all plants used in beds, excepting the more tender ones. It may be here remarked that the style of bedding adopted should be in harmony with the surroundings generally, and distinct styles of bedding adopted in various parts, if the grounds are of great extent and will admit of it being done. Masses of colour look best in large beds situated at good distance from the windows of the house, the tastes of the family being, of course, studied in bedding-out. When a number of beds have been planted, some protective material should be put in readiness for use in shading from sunshine or protecting from frosts, of which last we are still likely to have an experience.

**BEGONIAS** of the tuberous-rooted section are some of our best bedding plants, and although they appear

to the greatest advantage when planted in masses together, yet by way of a change they may be used in other ways; as, for instance, planted in a fairly large bed alternately with *Fuchsias*, tall plants of *Heliotrope* or Ivy-leaved *Pelargoniums*, the ground under them being carpeted with *Harrison's Musk*, *Lysimachia Nummularia aurea*, or *Alternantheras*. This mixture makes a pleasing and effective bed.

**LAWNS, GRASS VERGES.**—Will require to be frequently mown with the machine, and this kind of work, together with the cutting out of corners and around trees and shrubs, which cannot be reached by the machine-mower, will now entail much labour. Lawns which may have been sown with grass-seeds, or turf which has been relaid this season, should have a thorough application of water if the soil or the new-laid turves show cracks or shrinking, and no very close mowing done for a time, the grass itself forming a partial shade to the roots.

### THE APIARY.

By EXPERT

**HONEY GATHERING AND SWARMING.**—This month promises to be a very good one for the bees, fruit trees being so heavily-laden with bloom, and the weather so mild, has enabled them to make a very good start, and with the opening of May, the swarming season will have commenced, and of course, by this time feeding will have been discontinued in most districts. And all bee-keepers should be prepared for a busy time, and have the hives ready to receive swarms, if they wish to increase their stock, or if not have their customers ready to whom they may dispose of them; on the other hand, if a large quantity of honey is wanted, the queen should be taken away, and the swarm returned to the parent stock, the queen being either sold or transferred to one of the old stocks which has an old or infertile queen, which if left in the hive is a source of great disappointment. After taking a swarm which, as a rule, issues from the hive from 11 a.m. till 2 p.m., and sometimes later, secure them in a clean skep, rubbed with a little syrup and elder leaves, as a precaution against their forsaking it. If the bees are flying very high and do not look very likely to settle, syringe them with an ordinary garden-syringe, which will induce them at once to cluster. You can either return the swarm at once, or better still, I think, leave them till the evening, and then return them, which is easily done by placing a board (clean paste-board will do), on a slight incline towards the entrance of the hive, as bees travel much better up-hill than down; also raise each side of the hive a little to allow the bees more room to enter. Gently smoke and sprinkle them with a little flour or weak peppermint and water, they will not swarm again for about six or seven days; and to prevent this altogether cut out the queen cells, and it is also a good plan to keep the drone comb cut out. I would advise all beginners to use a veil, but not gloves if possible, as they are very clumsy, and very much interfere with the work, but if one is nervous and has to use them, they will soon find, as confidence is gained, that they may be discarded. All the manipulation of the apiary should be done very gently, taking care not to knock the hive more than possible, as it induces them to sting. Stings, as we know, are dreadfully painful, but I think if pure ammonia be used at once, very little pain will be felt; if this be not at hand, a little common soda wetted and rubbed on the sting will afford relief.

**FOUL BROOD.**—It is as well to look through hives now, as foul brood can be very easily discovered before the bees have fairly commenced working. I am sorry to say this disease is getting very prevalent in most parts of England, and if not checked at once, will seriously interfere with the honey production of this country.

**SELLING PRODUCE.**—All who are interested in bees should find out which is most marketable in their district, bottled honey or comb in sections, and work their hives accordingly; if for run honey, use shallow frames, or if for section, fill mostly with 1 lb. sections, taking care to always purchase good foundation, which the bees take to very readily.

**"CULTURE DES CHRYSANTHÈMES."**—The above is the title of a French book recently published. The authors are Messrs. G. CHABAUNE and A. CHOULET of Lyons. The subjects dealt with are more suitable for Continental cultivators than English. Messrs. RIVOIRE & SONS of Rue de l'Algérie, Lyons, are the publishers.

## APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY,	MAY 19	Great Show of the Royal Horticultural Society in the Temple Gardens (3 days). Devon Agr. Soc. Sh. at Plymouth (3 days).
THURSDAY,	MAY 21	
FRIDAY,	MAY 22	Whitsuntide Exhibition at the Manchester Botanic Gardens. Roy. Bot. Soc. Lecture.
<b>SALES.</b>		
MONDAY,	MAY 18	Special Sale of Orchids in Flower and Bud, at Protheroe & Morris' Rooms.
THURSDAY,	MAY 21	Unreserved Sale of Bedding Plants, at Point House, Blackheath Hill, by Protheroe & Morris.
FRIDAY,	MAY 22	Orchids, from Messrs. Sandier & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—55°5'.

In the current number of the *Orchid Review* Mr. CHAMBERLAIN finds time to protest against the present state of anarchy as regards the nomenclature of garden Orchids. Botanists do not agree at all points upon questions of this sort, but, at least, they act on some definite principle, and it is easy to consult their records and become acquainted with the methods of individuals. It was hoped that when the Nomenclature Committee issued its code that horticulturists also would adopt the rules, and that there would be less reason for protests such as Mr. CHAMBERLAIN now makes. Unfortunately, things go on as before, if not worse. The Orchid Committee is blamed for this state of things, and, to some extent it is doubtless responsible. It must, however, be borne in mind that the ordinary meetings of the committee afford no more fitting opportunities for the discussion of intricate points of affinity or nomenclature than the House of Commons does for the consideration of the racial differences between Boers and Kaffirs, Tentons, and Britons, or the limitations geographic and otherwise between Venezuela, Guiana, and Brazil. One way out of the difficulty is to appoint a committee of experts to determine the general points at issue, and arrive at some conclusion, arbitrary or otherwise, on points of detail as they arise. This, as has been stated, has already been done, so far as generalities are concerned—but who pays heed to the enactments? Who is to enforce them? The rules for nomenclature, with one or two exceptions, where commercial bias was allowed to over-ride scientific interests, are very good as they stand, and if people would only follow them there would not be much to complain of.

The special point raised by Mr. CHAMBERLAIN is as to the nomenclature of crosses and reversed crosses. Thus, there is a cross between *Masdevallia Shuttleworthii* and *M. Harryana* recognised as *M. Shuttleworthiana* ×. When Mr. CHAMBERLAIN sent an example from the same parentage, but reversed, namely, *M. Harryana* × *Shuttleworthii*, he—note the he—proposed to name it *Chamberlainiana*. The Orchid Committee, it appears, declined to recognise this name, and called it *M. Shuttleworthiana*, Chamberlain's variety. Naturally, Mr. CHAMBERLAIN doubts if he shall have sufficient patience to use so lengthy an epithet. Mr. CHAMBERLAIN goes on to accuse the Committee of various inconsistencies and anomalies, and we have no doubt that in the main the verdict must be in accordance with the prosecutor's charge.

These difficulties afford an illustration of a point, that it is very difficult to get committees, and specially amateurs, to appreciate—and that is, that it is, as a rule, not desirable to apply

to a plant a name descriptive of its peculiarities or indicative of its history. They do not realise that a name should be a name, and nothing else. It should not be a description, still less should it be a detached fragment of history. Nothing but confusion arises from the attempt to blend nomenclature with description, and specially with the history of the plant. This is hard to realise at first, but those whose business it is to work out monographs and descriptions, soon find out the inconvenience which arises from using for other purposes a tool intended for one usage only.

In the case of garden hybrids, obverse or inverse, we are strongly of opinion that the Latin system of nomenclature adopted by botanists, should not be followed, but that the practice of the florists should be adopted. If a plant, cross, or reverse-cross, is good enough and distinct enough, from a garden point of view, to have a name, let a name be given, irrespective of the history of the plant. Let the name be of such a character as not to be liable to be confounded with the Latin or Latinised specific names used by botanists. When a Latin name is used by a botanist, it is, or may be assumed to be, applied *secundum artem*. There is, that is to say, at least some guarantee that the plant has been carefully studied, described, and comparison made with allied plants. When a plant comes before the Orchid or the Floral Committee, the object is not to illustrate its botanical history, but to ascertain whether, in the judgment of that committee, the particular plant is, or is not, worthy of commendation for cultural or decorative purposes. If it is not, it may still get a "Botanical Certificate!" a distinction which the committee as a body is not competent to give, because unable for the most part to assign a reason for the award. A botanical certificate should take precedence of all, but in practice it is the least regarded.

Assuming that a name should be given, who should give that name? So far as botanical points are concerned, there is, of course, no difficulty in answering that question; but in the case of a plant of garden origin, whose interest is of a commercial or purely decorative character, we may still ask—Who should give the name? The owner, the raiser, the importer, the exhibitor, or the committee? Mr. CHAMBERLAIN, as we have seen, named his own plant, and we do not see who can deny him that right if he chooses to exert it, but no one else is bound to accept it. It would however, be a matter of little consequence who gave the name if the committee did its duty. The main function of the committee is to select the best from its point of view, to adopt the name given, no matter by whom, provided it is not pre-occupied or incorrect, and that there is no other objection to its use, and to pass over all others.

To make the Orchid or the Floral Committees into Nomenclature Committees is to attempt the impossible. Whether a special sub-committee to investigate and report on doubtful points as they arose could be established, is another thing. We should like to see it done.

Mr. CHAMBERLAIN goes on to suggest that the Royal Horticultural Society should affix a hall-mark to such Orchids as are exhibited before it, and which are deemed worthy of such distinction. This seems to us pretty much what the Society does already. A plant to which a First-class Certificate is awarded has a label affixed to it, as Mr. CHAMBERLAIN suggests. This gives the plant a money-value greater than attaches to one not so differentiated. Still, for

all that, we should recommend the "prudent collector" to follow Mr. CHAMBERLAIN'S advice, and cease to buy varieties "till he has seen them in flower."

The Temple Show.

RUMOUR has it that this show is to be larger and bigger than ever.

Such rumours always obtain currency before the event, and therefore we do not attach to them any special significance. We do, however, earnestly hope that the favourable opportunity this show offers will no longer be thrown away, but that some means will be taken to group the plants more effectively, to limit the numbers shown, and to place trade-labels where they may be seen, but where they do not interfere with the view of the plants. There may be serious difficulties as to the first point, there need be none as to the second and third. In former years, whether they were Orchids or whether they were herbaceous plants, they were so packed and jammed together that it was difficult to see them at all, and all attempts to distinguish the peculiarities of individual plants were in vain; at the same time Messrs. So & So's obtrusive labels were well calculated to conceal what people wanted to see. These defects need surely not be perpetuated. We plead also for a separate tent, or a separate table at least for novelties and plants of special interest. These to experts constitute the most important part of the whole exhibition; the rest is a mere show, such as may be seen at York one day, at Shrewsbury another, and of which a visit to the nearest nurseryman or florist, or to Covent Garden Market, will generally give a sufficient idea.

**ROYAL HORTICULTURAL SOCIETY.**—The ninth great annual flower show of this society, held in the Inner Temple Gardens, will open on Tuesday, May 19, and it promises to be quite equal to the usual standard of excellence obtaining at these shows. On Wednesday, May 20, the Great Western Railway will run cheap trains from Cardiff, Newport, Chepstow, Lydney, Newham, and Stroud to Loudon, and gardeners may prolong their stay in London if they wish until as late as the 25th inst. The London, Brighton, & South Coast Railway are also running cheap trains to London Bridge and Victoria on the same date. At 10.30 a.m., May 19, the appointed judges will meet at the secretary's tent, and at 11 a.m. the Fruit, Floral, and Orchid Committees will also assemble. Owing to the great pressure upon the society's officials, any plants, &c., intended to be shown for Certificates cannot be entered on the morning of the show. *John Wethers, Assistant Secretary.*

**"INDEX KEWENSIS."**—The manuscript of this monumental work has been preserved. It occupies 128 thick folio volumes, in addition to eight volumes containing names which, for one reason or another, have been omitted from the printed text. For garden purposes this manuscript list will be valuable as containing references to names not otherwise easily accessible.

**THE ROYAL SOCIETY.**—Of the fifteen candidates recommended for election this year, not one is a botanist or horticulturist.

**TULIP SAMUEL BARLOW.**—Our raiser of Tulips having striven for years to obtain flowers from which the objectionable dark stain present in nearly all of the older varieties of Border Tulips is eliminated, are happy in having met with success; and we now possess rectified flowers of English origin—bybloemen, rose, and bizarre—with a stainless yellow or white ground at the base. We illustrate (fig. 99, p. 615) one of Mr. STORER'S raising, called after that fine old florist, Mr. SAMUEL BARLOW, which was shown at the meeting of the Royal Horticultural Society on May 5 by Messrs. P. BARR & SONS. It is a well-formed flower, with broad, almost circular segments, a ground-colour of yellow, streaked with an intense shade of purplish-crimson; anthers blackish-crimson, and stigma and ovary of a pale green colour.

**THE PRESENTATION OF THE VEITCH MEDALS.**  
—Sir J. TREVOR LAWRENCE, the president of the Royal Horticultural Society, has undertaken to present the medals at the Drill Hall, Westminster,

**EXPRESS POSTAL DELIVERY SERVICE.**—The special attention of merchants, salesmen, and others in the London markets is directed to the advantages which the Express Delivery Service affords to them

an express fee of 3*d.* in stamps in addition to the ordinary postage, are sent out by special messenger immediately after receipt at the office of delivery in London, during such hours as the markets are open, instead of being kept for delivery by the postmen on their ordinary rounds. For example: An express letter from Grimsby addressed to Billingsgate Market, or one from Liverpool addressed to Smithfield Market, reaching London by the night mails, would be delivered soon after 5.0 A.M., whereas ordinary letters arriving by the same mails would not be delivered until about 8.0 A.M. An express parcel for Covent Garden Market sent from the West of England by the night mail would be delivered at from 5.15 to 6.15 A.M., but an ordinary parcel would not be delivered until an hour and a quarter later. Express letters, &c., reaching London by day mails are delivered by special messenger from one to two hours earlier than if they were taken out by the postmen in the ordinary way. Salesmen, &c., desiring to take advantage of the system, so as to obtain their orders, advices, &c., early, should request their correspondents to write the words "Express Delivery" boldly and legibly above the address on the left-hand corner of the cover of the particular letter or parcel intended for delivery by special messenger, and to affix to each article an express fee of 3*d.* in stamps in addition to the ordinary postage. The covers of express letters should also be marked with a broad line from top to bottom, both on front and back. Express mail letters may be posted in any letter-box; but where possible it is better, in order to prevent risk of delay, to hand them in at a post-office. Letters, &c., arriving in London by the ordinary inland or foreign mails, and which have not been marked for Express Delivery by the senders, can be delivered at any address in this district by special messenger, either occasionally or regularly, at the request of the addressee, about half an hour earlier than they would be if included in the ordinary delivery by postmen, on payment of an express fee of 3*d.*, and 1*d.* for every ten or less number of additional letters, &c. beyond the first. The addressee must fill up a form of application, which can be obtained at any post-office, and send it by hand or by post to the postmaster of the district in which the address is situated. Further particulars of the Express Service can be obtained at any post office, or on reference to pages 17 and 326 of the *Post Office Guide* (published at 6*d.*), or to page 32 of the *Post Office Handbook* (published at 1*d.*).

**ROSE SHOW FIXTURES IN 1896.**—The following additional dates of Rose shows are sent by Mr. EDWD. MAWLEY, viz., July 1 (Wednesday), Faringham; 2nd (Thursday), Bath; 9th (Thursday), Woodbridge.

**GEORGE PRINCE MEMORIAL PRIZE FUND.**—The following additional subscriptions have been received: Messrs. W. & H. Burch, 1*l.*; Rev. George Jeans, 5*s.*; The Rev. Th. N. Flintoff, 1*l.* 1*s.*; Mr. Geo. Mount, 10*s.* 6*d.*; Dr. Seaton, 10*s.*; Mr. Geo. Moulès, 5*s.*; Captain Christy, 1*l.*; Col. Pitt, 2*l.* 2*s.*; J. H. Arkwright, Esq., 1*l.*; Conway Jones, Esq., 10*s.*; Messrs. Harkness & Sons, 1*l.* 1*s.*; A. Tate, Esq., 1*l.* 1*s.*; Messrs. D. & W. Croll, 1*l.* 1*s.*; F. Dennison, Esq., 10*s.* 6*d.*; Mrs. Dundas, 5*s.*

**FATHER DELAVAY.**—We had recently to announce the death of this intrepid explorer. We allude to the circumstance again to show how much remains to be done and known in systematic botany. By some people it is considered that this department is so nearly worked out that little or nothing remains to be done. The record of Father DELAVAY's discoveries in Yunnan may do something to dispel that notion. According to the *Bulletin of the Botanical Society of France*, Father DELAVAY, a Savoyard and a mountaineer by birth, explored the difficult mountain regions of Yunnan to such purpose that he discovered more than fifty new species of Rhododendrons, as many species of Pedicularis, forty new Gentians, and as many Primulas. On the whole, he has sent to the Herbarium of the Jardin des Plantes about 4,000 species, half of them new!



FIG. 99.—TULIP SAMUEL BARLOW. (SEE P. 614.)

on Tuesday, June 9, at 3 P.M. The recipients this year are M. H. DE VILMORIN, Paris; Prof. SARGENT, Boston; Mr. M. DUNN, Dalkeith; and Mr. F. W. BURBIDGE, Dublin.

for obtaining important letters and parcels, &c., much earlier than in the ordinary course of post, more particularly in the morning. Letters and parcels marked "Express Delivery," and bearing



"BOTANICAL MAGAZINE."—The plants figured in the current number are the following :

*Ostrya magnifica*, Regel.—A hardy perennial Campanulaceous plant of imposing appearance (figured in *Gardeners' Chronicle*, 1888, ii., p. 65, f. 6) ; t. 7472.

*Pittosporum cricocarpum*, Royle.—A West-Himalayan shrub, with stalked oblong acute leaves, with white nerves on a deep-green ground (according to the figure). The flowers are yellow and borne in panicles. The plant was figured from the Marquis HANBURY'S garden, Mentone ; t. 7473.

*Cochlidia Neesliana*, Rolfe.—A Peruvian Orchid with the habit of *Odontoglossum*, and bearing racemes of reddish flowers (see *Gardeners' Chronicle*, 1894, ii., p. 71, f. 11) ; t. 7474.

*Coffea stenophylla*, G. Don.—A native of Sierra Leone, with lanceolate acuminate leaves, and clusters of white, six to ten-lobed flowers. It yields as freely as the Liberian Coffee, but is somewhat longer coming into bearing. It is said to have a superior flavour to the species last mentioned. Botanically it may be only a variety of *C. arabica*. Mr. SCOTT ELLIOT says it is more frequently cultivated in Sierra Leone than *C. liberica*, and, moreover, that it is wild in the hills (see *Kew Bulletin*, 1893, p. 167) ; t. 7475.

*Masdevallia corniculata*, var. *inflata*.—A yellow-flowered species, the solitary leaf and scape of which are enclosed within a loose inflated basal sheath ; t. 7476.

**SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.**—For seven years past this society has been doing a steady but useful work in the horticultural world, and the time is not far distant when its influence will be recognised as universal. Many of the young French, Belgian, and Swiss gardeners who come to England to complete their business education, take up posts as professors, directors of botanical gardens, or large nurseries, and gardeners in large private establishments, all over the world. One of the most useful features of the society's work is the interchange of situations in England and France between young gardeners of both nationalities, and the founders of the society have in this branch contributed to a large extent to promote good feeling on both sides of the Channel. The *Annual Bulletin* just published shows a distinct advance on those of previous years, both in size and in quantity of literary matter presented, and will interest many others than the members. It contains the report for the past year, the rules, the lists of members of various grades, condensed reports of the monthly meetings, a very full account of the annual dinner held in January last, with verbatim reports of the speeches on that occasion, and the financial statement for 1895. A catalogue of the botanical and horticultural books in the library is also given. A large portion of the *Bulletin* is devoted to reports and papers read at the meetings by members, and these as usual, are varied and diverse in their extent. It is pleasing to note among the lists of members that many celebrated horticulturists on both sides of the Channel are supporters of the Society, which in no small degree owes its success to the indefatigable efforts of its genial President, Mr. GEORGE SCHNEIDER, whose labours in promoting good feeling between English and Continental gardeners and others, has recently been very properly recognised by the French Government conferring upon him the Order of the Mérite Agricole. Mr. LOUIS GENIL, of Clifton Hou e, 12, Ashburnham Road, Chelsea, London, S.W., is the Secretary.

**STOCK-TAKING: APRIL**—Considering the difference in the atmospheric conditions which ruled in April of last year, and those which obtained in the past month, a larger increase in the value and quantity of both imports and exports might have been expected ; but as the Trade and Navigation Returns just issued bear witness, the actual achievements are satisfactory, and—the political outlook being a clear one—give promise of even better things to come in the near future. The imports for the past month show a gain as compared with the same period last year of some £1,467,442, distributed over most

sections; the figures for the four months coming out £12,949,312 in excess of those for the same period in 1895—equivalent to over three millions sterling per month. Our usual record is to the following effect :—

IMPORTS.	1895.	1896.	Difference
Total value of imports	£ 34,341,358	£ 35,808,809	+1,467,442
(A) Articles of food and drink—duty free ... ..	11,385,692	10,377,028	-1,008,664
(B) Articles of food and drink—dutiable	1,871,632	1,886,232	+14,600
Raw materials for textile manufactures ... ..	7,092,876	7,911,840	+818,964
Raw materials for sundry industries and manufactures	3,005,206	3,324,050	+318,784
(A) Miscellaneous articles ... ..	1,241,123	1,291,680	+50,552
(B) Parcel Post ... ..	97,011	74,301	-22,710

In addition, it is shown that live stock have gained £293,375 over April in last year ; Tobacco, £48,688 ; metals, £331,418 ; chemicals, &c., have decreased by £43,410 ; oils have gone down in value to the extent of £35,734. Interesting as are always the figures connected with fruits, roots, and vegetables, those subjoined, to the initiated, are of more than usual importance :—

IMPORTS.	1895.	1896.	Difference.
Fruits, raw :—			
Apples ... bush	221,229	93,294	-127,935
Cherries ... ..	—	—	—
Plums ... ..	—	—	—
Pears ... ..	4,051	209	-3,842
Grapes ... ..	1,881	2,303	+422
Unenumerated ... ..	34,854	51,290	+16,406
Onions ... ..	470,437	359,680	-110,757
Potatoes ... cwt	778,671	63,439	-715,232
Vegetables, raw, unenumerated ... .. value	£86,250	£103,359	+£17,109

**THE EXPORTS**

for the past month show an increase over those for the same period last year, amounting to £1,174,388, and in the period under notice there was a decrease in only one section, i.e., raw material, £37,886. Amongst the "increases" the following are to be found : Live animals, £26,496 ; articles of food and drink, £29,526 ; yarns and textile fabrics, £394,474 ; metals and articles manufactured therefrom, except machinery, £484,452 ; machinery and mill-work, £97,541 ; apparel and articles of personal use, £105,043 ; chemicals, &c., £39,698. It continues to astonish some folk to learn that our customers abroad have ideas of their own as to taste and quality of goods—apart from the price thereof. Some of our consular agents repeatedly protest against the idea that purchasers will take just what we offer them. Germany and Switzerland have recently shown that they will make just what is ordered from them, and so we have lost the trade. We are not above sending abroad, as commercial travellers, men who may have plenty of "go" in them, but who are quite ignorant of the language and weights and measures of the country into which they have adventured. It may be plucky, but it is—well, not prudent or profitable. Of course, the great majority of our travellers are good linguists, with a fine style of work about them, and they are well supported by manufacturers in style and quality of exports.

**A NEW CHRYSANTHEMUM CATALOGUE.**—Mr. O. DE MEULENAERE, the well-known Chrysanthemum grower of Ghent, who published a very comprehensive Catalogue of Chrysanthemums and a supplement thereto a few years ago, has just brought out a second supplement containing all the novelties distributed between the years 1894—1896. The method adopted by Mr. DE MEULENAERE is similar to that in directories and kindred publications, the surname appearing first. Instead of the reader looking for a well-known variety like *Mdlle. Thérèse Rey* under the letter *M*, he would have to turn in Mr. DE MEULENAERE'S work

to *R*, where it appears as *Rey—Mdlle. Thérèse*. The advantage of this is obvious, for many exhibitors are quite indifferent as to whether they write surnames with their proper prefixes of *M.*, *Madame*, or *Mdlle.* Journalists, reporters, and others, who do horticultural literary work, will find Mr. DE MEULENAERE'S Catalogues of great service ; for, in addition to the ordinary description of each variety, he adds raisers' names and dates.

**A NEW FRENCH GARDENING PAPER.**—Gardening papers are not by any means so plentiful in France as in England. We have just received the first number of a new one, called *Nord-Horticulteur*, a little well-printed monthly periodical, that emanates from Lille. Among the principal contributors we notice the names of M. CHAS. BALTET, M. OTTO BAILLIF, M. PAUL HARIOT, Mr. HARMAN PAYNE, M. F. CAYEUX, &c. The Editor is M. V. BÉRAT, and the offices, 19, Rue de Pas, Lille (Nord), France.

**CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The usual fortnightly meeting of this Society was held on Thursday, May 7, in the Iron Hall, Wormley. H. NORTH BUSHEY, Esq., presided, and he was supported by Messrs. J. ROCHFORD, NIEL MACKENZIE, W. H. MILES, and WM. L. YATES, Secretary. Over 100 were present, and Mr. JOHN WRIGHT, F.R.H.S., delivered an excellent lecture, entitled "Grapes, from the beginning to the end." Mr. ALEXANDER DEAN then addressed the meeting, and, illustrated by diagrams, described the composition of borders, growth of Vines, roots, varieties of Grapes, stopping, thinning, pot Vines, &c. At the close, a hearty vote of thanks was accorded to Mr. WRIGHT and Mr. DEAN, on the motion of Mr. ROCHFORD, and seconded by Mr. N. MACKENZIE. At the next meeting, to be held on May 21, Mr. WM. L. YATES will read a paper entitled "The Culture and Varieties of the Gladiolus."

**THE AMERICAN FLORIST CO.'S DIRECTORY.**—A valuable handbook is this for those whose interests are connected with American horticulture. The Directory is not merely a list of the names and addresses of florists, nurserymen, and seedsmen of the United States and Canada, but mentions the national and local trade organisations, the leading parks and cemeteries, and trade statistics of those countries. There are also lists of the more usual florists' flowers and plants, with descriptions of the varieties, and cultural hints for all seasons. The whole is cast into a book of handy size, and issued from the offices of the American Florist Co., 322, Dearborn Street, Chicago.

**MANCHESTER WHITSUNTIDE SHOW.**—We are informed that the annual exhibition of the Manchester Royal Botanic and Horticultural Society, to be held at the Botanic Gardens, Old Trafford, will be opened by the Earl of DERBY on Thursday, May 21.

**TECHNICAL EDUCATION IN ABERDEENSHIRE.**—The scheme for the promotion of technical education carried on under the auspices of the Aberdeen County Council has, so far, been highly successful. Last year, the sum expended in this direction in Aberdeenshire was £1805, and about 700 pupils received instruction on various useful subjects. Another proposal will be brought before the next meeting of the Council, that the Technical Instruction Committee and the Secondary Education Committee of the county should be united as one body. Much might be said in favour of the suggestion, but the advantages to be derived from one administrative body being charged with the great work on hand are sufficiently obvious.

— Mr. JAMES HENDRICK, B.Sc., recently lecturer on agricultural chemistry at the Glasgow and West of Scotland Technical College, who has been appointed to the lectureship on Agricultural Chemistry in Aberdeen University, has commenced his work at Marischal College, Aberdeen. There was no formal introduction, matters being yet in their

initiation stages. Such students as come forward will receive instruction, but it is expected that it will be the winter session before a full start is made.

**A NATURALISTS' CLUB.**—It is proposed to establish a club upon the ordinary lines of a social club, limited to those interested in natural history, and offering to its membership, in addition to the advantages of an ordinary social club, the special advantages of a complete library and a museum of natural history, monthly meetings, general and sectional. Those interested in the matter should communicate with E. SCHENK, Esq., 1, Great College Street, Westminster, S.W.

**SCILLA VERNA.**—A flower of this has been sent to us from Central Scotland, nearly fifty miles from the sea on either side. The records give it as a coast-plant. Can any correspondent say how far from the sea the plant has been found? Possibly the bulb may have been introduced accidentally from a nursery.

**YORKSHIRE NATURALISTS' UNION.**—The one hundred and twenty-third meeting of this body of naturalists will be held at Hellfield, in connection with a four days' excursion, from Saturday, May 23 to Whit-Tuesday, May 26, for the investigation of Bowland. It will facilitate the secretaries' arrangements for conveyances, firstly, if as many members as can possibly manage it will attend the excursion; and secondly, if they will keep the local hon. sec. (Mr. Peake) promptly informed of their intentions. An additional reason for there being a good muster is that the district is not only rich and picturesque, but so far almost unexplored by naturalists. Newton-in-Bowland will be the centre for naturalists; Whitewell for geologists. Mr. R. H. Tiddeman, M.A., F.G.S., will take the leadership of the geological party, and the naturalists will have the benefit of the assistance of Mr. J. F. Pickard, Mr. W. Thistlethwaite, Mr. Thomas Altham, Mr. Marshall Demain, and Mr. T. Hartley; while the Rev. R. L. Jones, Vicar of Slaidburn, and other local gentlemen are taking interest in the visit. The single day's excursion will be on Whit-Tuesday. The various railways which have booking arrangements for Clitheroe, Hellfield, or Clapham, give the usual facilities to members and associates of the Yorkshire Naturalists' Union. The district is remarkably good for wild flowers, and great numbers of plants have been found within the last few years which were not noticed before. *Dunnow Cliff and Wood*, between Slaidburn and Newton, have a large variety of limestone plants, such as *Helianthemum vulgare*, *Potentilla verna*, *Viola hirsuta*, *Rhamnus catharticus*, *Euonymus*, *Scabiosa columbaria*, *Agrimonia eupatoria*, *Gentiana autumnalis*, *Paris*, *Convallaria*, *Cystopteris*, *Scopolendrium*, &c. In marshy places near the river, *Hypericum quadrangulum*, *Myosotis repens*, *Potentilla palustris*, *Sparanium simplex*; and along the river banks *Myosotis sylvatica*, *Iris pseudacorus*, *Trollius*, *Saxifraga granulata*, and *Thalictrum flavum*. Most of the moist meadows and pastures yield *Primula farinosa*, *Valeriana dioica*, *Pinguicula*, *Triglochin*, *Habenaria conopsea*, *Sagina*, *Pedicularis sylvatica*, and *Equisetum sylvaticum*. On the moors and in mountain glens and woods may be found *Trientalis*, *Andromeda*, *Vaccinium oxycoccus* and *V. Vitis Idæa*, *Empetrum nigrum*, *Viola palustris*, *Hypericum elodes*, *Limosella aquatica*, *Pedicularis palustris*, *Sanicula europæa*, *Ribes alpinum*, *Menyanthes trifoliata*, *Saxifraga Geum*, *Veronica scutellata*, *Polypodium phegopteris*, *P. dryopteris*, *Allosorus crispus*, and *Lycopodium Selago*. In the lanes, &c., near Newton, *Tanacetum*, *Veronica montana*, *Prunus Padus*, *Sedum acre*, *Chrysosplenium alternifolium*, *Geranium pratense*, *Viburnum opulus*, *Cardus heterophyllus*, *Trifolium medium*, *Asplenium ruta-muraria*, and *A. Trichomanes*. By the road to Lancaster, near the Trough of Bowland, are *Campanula hederacea*, *Drosera rotundifolia*, *Hypericum humifusum* and *Narthecium ossifragum*. *Ophioglossum* is abundant, and *Botrychium* occasional in the meadows. Furze and Broom are uncommon, at any rate near Newton. The moors between the Trough and Whitendale and Newton and Waddington Fells are rich in moor and bog plants.

**NEW PUBLICATIONS.**—*Die Zuckerribe und ihr Anbau (Sugar Beet)*, VON EMIL DOERING, Breslau, Trewendt.—*Flora von Nieder Österreich (Flora of Lower Austria)*, Von Dr. Gunther Ritter Beck, von Maunagetta, Wien; Carl Gerold's Sohne.

## GRAPE CULTURE IN ITS COMMERCIAL ASPECT.\*

THE present remarks are confined to the Vine as grown under glass for producing Grapes for market purposes, although they in some respects might apply to general culture.

We have, no doubt, many times been bewildered by the advice and suggestions offered on the subject of the Vine, and many of us have seen measures of success in its cultivation under conditions most opposite—indeed, I think that the Vine itself is constitutionally adapted to endure widely different environments. But though there are often failures that perplex us, and, I must own it, great successes that astonish us, still they only lead the ardent grower to try and discover a definite method of practice that approaches his ideal of perfection. In considering the culture of the Vine from its commercial aspect we add a different view to the subject, for although growers might all somewhat agree as to methods of culture, and indeed all might be more or less successful, still when the laws of commerce are applied to measure the result I would make bold to say that such a thing as a living wage or profit would be often absent.

There is a very sharp distinction between a gardener—and he may be a very able and successful one—and a market gardener. The fact is, that when the rules and necessities of business enter the arena, then nearly all our cherished notions have to be squared with stern matters of fact. I shall never forget the first impressions and lessons I gained in Vine growing, in perhaps one of the most noted establishments. There everything was done in a manner that inspired awe, reverence, and mystery—the Vines were looked on as almost sacred, not to be handled by any but the most experienced man, and then only under the personal supervision of a still more learned foreman of the fruit department.

When I supposed myself to have had sufficient experience in that establishment, I came to a real market-growing place near London, then owned by one of the best growers and one of the best of men; but the practical experience I at once had there was of the opposite character, for I was the very first day put to tie down Hamburgh Vines, standing on an empty glass-box. This appeared to me to be profane; but I soon found that the commercial aspect of Grape-growing was altogether different in its methods from those prevalent in dual establishments.

There has been a wonderful revolution during the last few years in Grape-growing for market, not only as regards prices, but in methods; and if some of our forefathers could see now the large places that have developed from the foundations they laid, they would probably be astonished.

While speaking of the older generation, I would like to remark that, taking into account the difficulties with which they had to contend, I believe that they over and over again obtained results that we now-a-days with what we deem more scientific ways, and certainly greater advantages, often fail to equal.

All Grape growers of, say, fifteen to twenty years' standing, can tell tales of 20s. and even 25s. per pound for Grapes, and such prices as 5s. and 10s. were quite ordinary. Now-a-days, the prices obtained vary from 6d. to 5s., and yet during those times there were hardly any who launched out into building, or seemed to have had any idea of developing the industry. One can trace easily the evolution of the business to its present proportions.

What has especially tended during the last few years to increase Grape-growing is the popularity of the Tomato, for growers now can erect glass, at once growing Tomatoes, and thus having the houses in

profit, instead of, as in the old days, depending on other crops to tide them over till the Vines came into bearing. This advantage, of being able to have glass immediately in some amount of profit, would seem to point to a state of things that must tend to make the margin of profit on Grapes grow less and less—indeed, during the last three years, the fall in prices has been very marked, and as commerce is without sentiment or consideration, it leads only into paths where the fittest will survive.

There is no doubt that Grape-growing as an industry in the past, whatever may have been the cultural methods, has, from a commercial point of view, been carried on in a very homely, and, in many cases, uncommercial spirit. By this I mean that places have been added to from time to time, as means allowed, and that profits have been considered as the surplus over and above ordinary expenses, and no notice has been taken of depreciation.

The fact is, that while the Vines are young, say from five to ten years old, the produce both in quality and in quantity is much better than ever afterwards, and that in reality such good years recoup part of the actual capital, and unless considered as such the property becomes by natural depreciation of less value year by year, so that it is wise, as well as right in principle, that when one commences a Grape-growing establishment a proper system should be adopted in order to guard against what are only appearances of profit being counted as real profits. Such profits can only be known when the cash capital is guarded from loss. So that in speaking of a Grape-producing establishment of the present time, we have to deal with the circumstances as they now are, and only have the sweets of memory in regard to the past and palmy days.

The great change in the industry has been brought about principally by the enterprise of growers themselves, together with perhaps, during the last few years, a lessened spending power of the would-be consumer. The particular occupation of producing Grapes, or indeed any fruit under glass, with the exception of Pine-apples, is not under the ban of foreign competition so much as most other producing industries.

Indeed, the foreign fruit has probably prevented a greater fall in prices than has occurred, because its cheapness makes it as if there were a preparatory pioneer for the undoubtedly superior English produce, and by thus immensely enlarging the consumption of fruit, educating the consumer towards appreciation of the better article. Here I may remark that the grower who sets a high ideal of quality before him will be the best off in the end, as the prices obtained for the best goods is double that obtained for even second rate.

But to come to some more definite statements with regard to the practical procedure towards establishing and carrying on a place for the growth of Grapes for market purposes. In the very first place, I mention the choice of situation, taking carefully into account its accessibility to markets.

Much of the success of a Grape grower for profit lies within the plain ring of common sense, and that points to the immense advantage that a grower must start with if he, in every possible respect, enlists Nature and circumstances on his side.

That land would be best that has soil 2 to 3 feet deep, resting upon a subsoil easily drained. There should be ample means for obtaining abundance of water, and equally ample means for getting rid of the same. Whether the land is pasture or arable, is not vital, but of course preferably pasture; then its closeness to means of communication, especially with regard to fuel and carriage of produce to market, and these things may vary so much in different localities that, with all the best conditions appertaining to it, an acre may be cheap at £300, where in another locality it would be dear at £100.

Certainly, a most important point must always be the system of tenure. Whether the tenure is freehold, or long leasehold with an option to purchase at a fixed price, does not much matter, and in many cases, provided fixity of tenure is made the first consideration, and the increment of value in the land is

\* Paper read by Mr. Peter Kay, Clugmar Vineyard, Finchley, at a meeting of the Horticultural Club on May 5.

protected to the tenant by a fixed purchase sum, the leasehold will be preferable, as the capital can then be used to erect the necessary buildings rather than in being tied up in a less productive form.

Other things being equal with regard to the fitness of Vine-growing for profit, it is wise to give preference to land likely to improve into building-land; and further, it is better that such land as frontages, or other parts of a different value, not immediately necessary for the business, should be conveyed separately, thus not overweighting the enterprise with unnecessary charge, and also thus separating the eggs into different baskets.

We will suppose that the enterprising grower has secured land that he thinks suitable for the purpose, then he will proceed towards the erection of the vineries. Early autumn would probably be the best time to begin, so that the houses might be glazed in readiness for the early spring. The first glass that it is right to build is a propagating-house furnished with bottom-heat. Then the grower will be thinking of the sorts of Vines to grow—whether Hamburg, Alicante, Gros Colman, Muscat of Alexandria, and, if he is of a speculative turn, Canon Hall. These varieties are nearly the only ones that a commercial grower ought to go in for. The other varieties that are grown in less quantities are Madresfield Court and Gros Maroc. Appley Towers and other new sorts remain to be proved; but the beginner must not experiment too much, but grow tested sorts. In my opinion, the Alicante, taken as a whole, has been the most profitable variety to grow, not even excepting Muscat of Alexandria and Canon Hall.

It is a Grape of a very uncertain and risky nature, both on account of its constitution, and the great difficulty of fertilising it with any certainty. My own experience is, that taking houses of equal size, one planted with Alicante, one with Colman, and one with Canon Hall, and taking, say, five years' result of sales, the Alicante would come out best, the Colman next, then the Muscat of Alexandria, and last, the Canon Hall. This is against the general belief, but is true in my experience, for Muscats hardly make up for the lesser weight obtained from them, together with the extra waste in marketing, and their special liability to spider and shanking. The grower of Vines for profit must erect his glasshouse with the greatest economy, and with no further idea than that of covering in the greatest area with glass upon the simplest system, consistently with strength and practical usefulness, not looking to them lasting beyond the commercial life of the Vine, as replanting in the same structure is too expensive to pay.

(To be continued.)

## TULIPS IN PHILIPS PARK, MANCHESTER.

At this season, when the foliage is at its best, an oasis is found at Philips Park, amidst brickfields, factory chimneys, and the densely-packed habitations of the working population. The fresh foliage of the Poplar trees, enhanced by the green verdure of the lawns, makes it a veritable spot of beauty, compared with its surroundings. On entering the gate you are met with brilliant beds of Tulips, encouraging you to enter and admire. This was my experience a day or two ago, and very much to my surprise and delight a sight awaited me in the valley that I have not hitherto seen equalled in any public park in the provinces. Here you have a blending of colours with beds large and small, comprising about 100,000 Tulip bulbs, principally of the following varieties:—Artus, scarlet; Cottage Maid, rose and white; Crimson King, deep red; Dussart, vermilion scarlet; Joost van Vondel, deep crimson; La Reine, white with rosy tints; Potter, violet; Rosa Mundi, delicate rose; Yellow Prince, golden yellow. It is worth the trouble of every citizen to go and inspect what is a boon to the population of this barren district; to spend his or her leisure hours amongst such a galaxy of beauty. Taking the entire area of the park, its present condition reflects great credit upon the Parks Com-

mittee for the forethought shown in providing the public with such opportunities of enjoyment, and to the superintendent for the excellent condition in which it is kept. *R. R. T., in Manchester City News, May 9.*

## METHODS OF PROPAGATION.

(Continued from p. 580.)

APPLE GRAFTING.—The origin of the garden Apple is shrouded in the mists of ages, but I am inclined to think that when our remote ancestors painted themselves blue, and wore skin dress-coats with the tails hanging down behind, the boys of the period climbed the Crab-trees in search of the fruit, and got it—not unfrequently followed by the stomach-ache. It seems hard to believe, but is no doubt true, that our delicious varieties of to-day came from such very unpromising parentage, but there is little doubt that, by natural and artificial selection, we have arrived at our wholesome and appetising culinary and dessert Apples. Probably some Gilbert White of those remote ages noted a particular tree that yielded larger and sweeter fruit than ordinary, and still following up his observations, may have seen where two approximating branches of a Crab-tree had, by contact and abrasion, caused by the wind, united into one branch, suggesting "contact grafting" or inarching, and afterwards the ordinary process as we know it now.

Gardeners are well aware that if they sow the pips of a first-class Apple, the progeny may not be so good as the parent; but, on the other hand, there may be one marked exception. Naturally, this one distinct and superior fruit they desire to perpetuate by propagation; and to compass this they resort to budding and grafting. In Norfolk, and perhaps other counties of England, fresh trees are raised from "burr-knots," a local name for those gouty swellings seen on some kinds of Apple trees. These are caused by insect agency, though occasionally they result from fungoid growth. These ligneous tumours [masses of dormant buds. Ed.], as they may be called, are sawn off and planted just under the surface of the soil. Next year a number of thin shoots ("suckers") come up, and are allowed to grow till the autumn, when the burr is dug up, divided between the shoots, which, being quartered out in the garden, are ready in a year or two to plant out in garden or orchard. The well-known Dr. Harvey, so named from its raiser, is frequently increased in this manner, as are many of the cider Apples in Devonshire and Herefordshire.

The Crab (*Pyrus Malus acerba*) is the stock chiefly employed in nurseries to raise standard or orchard-trees, and also for some kinds to form bush, or pyramidal, and espalier trees. The fruit of this handsome native tree was used, among other purposes, to make a primitive kind of vinegar, called verjuice, a name embalmed in that common expression, "as sour as verjuice." But now it is put to make nothing worse than cider, though I have failed to discover where the verjuice ends and the cider begins, in much of this beverage sold in many country places, where I have been persuaded to "take a cup." The grafting process is very easy in the Apple, the bark being thick and tough, and not so easily bruised as some in other fruit-trees.

The best time to operate is early in April, but the scions required should be taken off in February, selecting only the stout, free shoots of previous year's growth, and laying these in the ground to the depth of 3 or 4 inches, till wanted. The process is the same as that for the Pear, and the stock is selected according to the kind of tree required. If to furnish the cordon, pyramidal, or espalier form of tree, the Paradise stock is the most suitable, but it should be the English or Nonsuch variety, as the French is only adapted for raising trees for pot-culture in orchard-houses, and is not hardy enough for outside work in Britain. There is an intermediate stock called on the Continent "Doucin," a variety of the Paradise Apple, called also Split Apple, but I fail to see the utility of it except that it produces few suckers, for though it aids the nur-

seryman to turn out trees of a saleable size rapidly, such trees in many cases are sacrificed eventually by the scion—or bud growing more rapidly than the stock, causing a club-like protuberance at the point of junction, and not infrequently the final severance of the scion from its stock.

The Crab stock, on the other hand, induces free strong growth from either bud or graft, and this growth is generally sappy and does not ripen, so the production of fruit-buds is rare, while the growth is in every way adapted to form the erect columnar bole or stem of the future Apple-tree; therefore this is the stock for standard trees to plant in orchards. Such trees sold by nurserymen are from three to five years old, and are stopped, as it is called, at about 5½ to 6 feet from the ground line, as soon as they are high enough, causing them to throw out lateral branches at the top, and so forming the young tree. The training of pyramidal, bush, and espalier or cordon trees is a much more complicated affair, but it is not the intention of these articles to deal with this. *Experience.*

(To be continued.)

## DAFFODILS AT BROOKFIELD, HATHERSAGE.

THE residence of G. H. Cammell, Esq., J.P., lies in a valley, surrounded by beautiful scenery, for which this part of Derbyshire is celebrated. A drive a mile or so in length connects the house with the village of Hathersage. I had the pleasure of visiting these gardens on April 22, my object being to see in flower the Narcissi, which are so numerous here, but especially to see the effect made by those which have been planted in the grass, upon the lawn, and elsewhere. I may now say that in no garden have I seen such a delightful effect made with Daffodils as I saw at Brookfield. The bulbs are planted in large numbers on the outskirts of the lawn in an informal manner. I noticed a charming effect made by a number that had been planted around a large Yew seven years ago. In a rock garden, near to the stem of a big Pine, was a mass of flower of that lovely variety Queen of Spain, the colour of which is so effective. So lovely are Daffodils when grown in the grass, that the system should be much more generally practised. Mr. Cammell says that the bulbs should be placed beneath the cuts made in raising the turf, as he has noticed that when this precaution is not taken, the bulbs lie dormant. This might easily be obviated by pulling the sods to pieces, and then laying them down. Mr. Cammell also says that the bulbs take three years to become established; the first season after planting they bloom well, the second season only poorly, but the third year they become established, and will then last for a century.

The flowers of Daffodils grown in the grass are not perhaps quite so large as those obtained from beds or borders, but size does not constitute beauty in a Narcissus flower. In the kitchen garden at Brookfield, a large number of choice varieties is grown in a border beneath a wall. These were producing as fine a lot of flowers as it is possible to see. Manure is not withheld from them in the least. I believe a quantity is worked into the soil some time previous to planting, and a good coating is applied as a mulch also.

Mr. Cammell has raised a quantity of seedlings, one or two of which, at the time of my visit, appeared to have merit, but the good points in a Narcissus hybrid do not show themselves the first season of blooming. There are many other choice hardy plants in these gardens, amongst which might be mentioned a variety of *Alstromeria aurantiaca*, which received an Award of Merit from the Royal Horticultural Society in 1893. Mr. Cammell also holds a Medal from the same Society for a collection of Daffodils. *Aster diplosiphoides*, a beautiful Himalayan species, very difficult of cultivation in many gardens, grows here in luxuriance.

Near the back portion of the house, is a pretty wild garden, through which the Hoodbrook (of Robin Hood fame) flows. Here were Aconites, Delphiniums, Peonies, and many other plants growing with great vigour. This garden is a fine addition to the place. Both Mrs. and Mr. Cammell have a great love for hardy flowers, so that my visit was a most pleasant and interesting one. *W. Harvey.*

### THE ORCHID HOUSE AT WEXHAM PARK, SLOUGH.

We have often afforded our readers views of houses in which Orchids are grouped when these have presented some especial commendable feature, or visible evidences of superior culture. In the present illustration (fig. 100) of the house in Sir Charles Pigott's garden, which was taken in the past winter, there are representations of fine plants of *Coelogyne cristata*—one with 400 blooms, *Cypripediums*, *Cattleyas*, &c.

seventy-nine stocks of Turnips, which again it may be desirable to repeat largely in the autumn. What is determined in reference to these vegetables may, in these double trials, suffice for several years, as novelties do not come very frequently. Beets, again, number no less than eighty stocks, and, no doubt, comprise most well-known varieties. Happily these too, do not come in novelty form frequently, so that the one trial may settle the proper classification and nomenclature of these roots for some time. Of Peas, of which there is a present prospect of a good trial, there are sixty-four assumed diverse, though happily

their way to Chiswick. Very likely some raisers are unselfish enough to believe that their putting their novelties into prominence may benefit humanity; but there must always be just a mild suspicion that if got into commerce as well, the pocket may be benefited. There is one special word of commendation, however, in relation to Tomatos at Chiswick, that must not be withheld. They have in the past invariably been grown in first-class form, and in that form have elicited from the committee warm approval; and there can be no doubt, in so important a garden cultural practice bids fair to be con-



FIG. 100.—THE ORCHID HOUSE IN SIR CHARLES PIGOTT'S GARDEN, WEXHAM PARK, SLOUGH.

### HOME CORRESPONDENCE.

**VEGETABLE TRIALS AT CHISWICK.**—Judging by what is being prepared by sowings at Chiswick, there is every prospect that the services of the Fruit and Vegetable Committee of the Royal Horticultural Society will be in considerable request during the ensuing season. There is being specially conducted a large trial of Strawberries, the success of which is entirely dependent on the weather, which at this moment is none too favourable, though that may soon improve. There have been sown thirty-four stocks, not all necessarily dissimilar, of Spinach, and as the plants are well forward, the product may be ready with the Strawberries. It is proposed to repeat this trial of Spinach in the autumn. There, just coming through, though, too, needing rain, is a trial of some

not all new varieties. But Peas increase rapidly, far too much so, and we could willingly do with what we have for a few years at least. The same may be said of Potatos, of which seventy-four assumed diverse varieties have been planted, for there are of so called novelties ever legion. These tubers are now such a drug in the market that a little rest in variety production would do no harm. Lastly come the Tomatos, of which again there are great numbers growing in pots, and in fine condition. The committee may well believe that, if capable of solving the great Tomato problem satisfactorily, and it yearly becomes a more arduous task, then will that body have succeeded in crossing its *pons asinorum*. But raisers of these products are in myriads, for every one who grows them is more or less a raiser, and seems always to hold that something he has is better than the general, hence so many so-called new varieties find

tionous, and that Tomatos will this summer be found in the highest excellence. Even what has been here enumerated may not constitute all the interesting subjects likely to attract the committee's attention. To ensure now the needful relatively large attendance of eleven members, to enable full awards to be made to meritorious subjects, it is desirable henceforth that as long notices of the Chiswick meetings as is possible should be given. Of course, it is difficult to say long beforehand when certain crops may be at their best; but from seven to ten days' notice at least may be found possible. Chiswick is emphatically at present the national trial-ground, where everything in the shape of trade interest or bias is kept outside. It may not be all that can be wished for, but it is generally a long way better than some will admit. The ensuing season bids fair to add to its usefulness. A. D.



**APPLE ANNIE ELIZABETH.**—This variety at Conington is a splendid cropper, and last season there were gathered from one tree, and that not a large one, nearly 40 stones of good sound fruit, and this after the rough winds had blown off a good many. Many of the fruits were more than 1 lb. in weight, and most were of splendid colour. It is an Apple not to be beaten for long keeping. The other trees of this variety were well cropped, and they have been so for several seasons in succession, although the soil of the garden is not considered to be good for fruit, being near the fens. *A. G. Galland, Conington Castle Gardens.*

**THE ROYAL HORTICULTURAL SOCIETY'S CODE OF JUDGING.**—On p. 590 "A. D." says, "No doubt it is to some an amusing (?) occupation to poke a dog with a long stick, in the hope of arousing his anger, but if the animal is dignified and cool of temper, he refuses to be drawn." Adding, "it is very much so with the members of the committee!" I may say, on the contrary, the "dignified and cool-tempered" animal referred to would certainly resent the treatment described by "A. D.," while a dog of an opposite description would probably refuse to be "drawn," i.e., to defend his position. But to come to the point. That portion of the numerous readers of the *Gardeners' Chronicle* who annually attend the exhibitions as exhibitors or judges, have a right to expect and receive answers to the points raised by our correspondent in the *Gard. Chron.* of April 4, p. 436, from "A. D." or his co-members of the Code of Judging committee. What exhibiting and judging horticulturists would like to elicit an opinion from members of the code of judging committee upon the positions of the four collections, two of fruit and two of vegetables, which appear in parallel columns at p. 436, and which, according to the Royal Horticultural Society's code of judging, are respectively adjudged of equal merit. What we require and are entitled to expect is an expression of approval or disapproval from some prominent member of the committee—"A. D." or somebody who may be able and willing to give the desired information before the summer shows are upon us. *Hortus.*

**SUMNER'S STEAM LAWN-MOWER.**—Some gardeners seem to think steam lawn-mowers should not be tolerated on any private place. I think if they were to see one of Sumner's patent steam lawn-mowers at work they would soon ask their employer's permission to buy one. I have a 25-inch machine at work here, and I am thoroughly satisfied with it. After steam is got up, there is no visible smoke and very little steam; just a little is seen escaping from the safety-valve, and it makes no more noise than a hand lawn-mower. It travels at about 4 miles an hour, is easily turned, and can be stopped instantly when required. Horses take no more notice of it than they do of a hand-mower. We find, as a rule, that it takes twelve minutes to get up steam. Being of a good weight it rolls the lawn, making the turf much smoother than when a horse or hand-machine is used. Should any gardener wish to see the steam-mower at work, I shall be pleased to show it at work at any time. *Jas. Hamilton, Eyckley Gardens, Burton-on-Trent.*

**SELF-PROPELLED LAWN-MOWERS.**—It is plain from the letters which have appeared in these pages from time to time lately, that considerable misapprehension exists as to what a self-propelled lawn-mower really is. The one most likely to come into use is not a steam-machine at all. The flame of a petroleum lamp suffices to start the motor, which afterwards works automatically; no smoke, no steam, no "ciuderheaps" are connected with its working. It is not intended for use on lawns where ordinary small machines are sufficient, but on those of large extent, where its efficiency and economy would be shown to great advantage. Having myself examined and driven one, I can say that the objections raised against the use of this kind of lawn-mower and roller are without foundation. *G. Don, Hawkhurst.*

**BERRIED AUCUBAS.**—It is just possible, that arising from the fine weather which prevailed at the blooming time last spring, pollen from male plants was unusually abundant and volatile, and that in consequence female flowers were set in such great profusion. Most persons have observed the wonderful abundance of berries seen on bushes this season, and to many not familiar with the fruit-producing properties of the Aucuba, their berry productiveness has come as a revelation. No doubt as a result we shall see male plants far more widely dispersed than hitherto. Still, we may not ignore the fact that very

fine springs have much to do with this free setting of bloom and consequent berry production. Then we have also to thank the very mild winter that has just passed, for had severe weather been experienced and birds hard driven for food, doubtless most of these beautiful berries would have disappeared long since [but do birds eat these berries? Ed.]. With the female bushes carrying such heavy crops now, is there not a probability that the strain thus created by the great fruit crop will lead to comparative barrenness next season? Shrubs of this sort can hardly have more of stamina than ordinary fruit trees that rarely carry heavy crops of fruit two years in succession. But there is yet another thing in relation to Aucubas that may well make us ask whether this abundant fruiting, beautiful as it is, may be an unalloyed good. We have long enjoyed the Aucuba as a luxuriant-growing and very handsome decorative shrub. Can young ones that expend their energies in frequent berry production ever develop into such fine specimens as the earlier ones did prior to the introduction of the male variety? So far this heavy fruiting seems to be starving the female shrubs. What may be others' experience? *A. D.*

**THE SALERNIAN SCHOOL OF MEDICINE.**—Mr. Hemsley, in his interesting article on the book entitled *De Conservanda Bona Valitudine Opusculum Scholæ Salernitanæ ad Regem Angliæ* (*Gardeners' Chronicle*, May 9, p. 579), says that, according to Meyer, the first edition was published in 1545; but the Marchese Hanbury lately put in my hands a small volume dated 1506. This contained the *Regimen Sanitatis Salerni*, and also the *De Herbarum Viribus* of Macer Floridus. The former of these works consists of 350 lines, divided into sections with commentaries thereon. It ends with a reference to Galeu's work on bleeding.\* It has no illustrations. The latter work begins as follows:—"Herbarum varias quivis cognoscere vires, Macerated, discis, quoduce, doctus eris. Macer Floridus, de Viribus herbarum. Hic suo libello dat initium." Macer Floridus wrote his book in the twelfth century (1140); the *editio princeps* was printed at Naples in 1487. The volume I had the opportunity of examining through the kindness of the Marchese Hanbury is illustrated with several woodcuts, very crude, as may be imagined; and as leaves were often considered of more importance than flowers, the resemblance to that of the real plant is often vague.† The illustrations, as stated, are confined to Macer Floridus' work, but cannot always be trusted, even when they bear an undoubted resemblance to some particular plant. Thus, *Cyperus* is illustrated by *Calendula*; *Nepta* (recognised as *Nepeta cataria*) is represented by a thick rhizome with ensiform leaves, without flowers, but evidently an *Iris*. The figure of *Eleborus albus* is that of the Solomon's Seal; while that of *E. niger* has three spikes from a common base, thickly covered with subulate bracts, and terminated by a bud. *Salvia* is represented by a bough bearing stipulate leaves. *Satureia* in Greek *Timbra* (Thymbra, L.), is interesting, being represented as branching above; it has narrow, opposite leaves, with buds in their axils. Now, according to the learned Jewish rabbins, it was a requisite that the "hyssop" used in their ceremonies should carry three branches; and this appears to be a habit of Thymbra. This plant has, therefore, been recognised as the true Hyssop of Scripture. *Ysopus* and *Menta* are also figured as single stems with opposite leaves. Macer Floridus gives the derivation of the names in some cases; thus of *Apium* he adds:—

"Est Apium dictum, quod apex hauc ferre solebat  
Victoris veterum, fieret dum more triumphii.  
Ipse sibi talem prior imposuisse coronam  
Dicitur Alcides, morum tenuisse sequentes."

*Arthemisia*, he tells us, is so called because Diana first discovered the use, and it became especially useful in the diseases of women. *Lolium* (pre-

\* Some pages of a MS. volume in my possession, of the fourteenth century, also treats of the same subject, beginning as follows:—"Here techith Galien, the goudic leche, of metze and dryke and tyme of bleding."

† This is one cause of the confusion of names in old herbars. Thus, e.g., "Chickweede" was given to members of other orders besides *Caryophyllæ*: Under *Albine*, Gerard figures species of the modern genus, *Stellaria*, *Silene*, *Albine*, *Lanium*, *Veronica*, and *Anagallis tenella*. This last links "Albine" with "Pimpernell," under which he figures *Anagallis arvensis* and *cœrulea*, as well as *Lysimachia nemorum*; while *Water Pimpernell* is represented by *Veronica Beccabunga* and *V. Anagallis*. Now, all these agree in having opposite leaves—i.e., they are all "Pimpernells," a word derived from bi-pinella, from bi-pennis, or "double-winged." Tracing the history, we find it said, "Ipsi major is pimpernell" *Aggregator Practicus de Simplicibus*, circ. 1480. "Chickweede" in Latin *Albine*, of some of the ancients is called *Hippia*. (*Ger. Herb.*, p. 491, A. B., 1567). Hence results the combination of names.

sumably "Darnel") is recorded as being used for the same purposes as "Ergot" is now; hence, the probable origin of the poisonous character of this grass is traceable to an ergotised condition—perhaps that of the "sphacelia" stage, before the "ergot" is manifest. *George Henslow.*

**FEEDING ASPARAGUS; THE AGE OF BEDS.**—I have been very much interested in reading the notes on Asparagus feeding, by Mr. Wythes and "D. T. F.," in the last two numbers of the *Gardeners' Chronicle*, and would be pleased to read an article by "D. T. F.," on the treatment of Asparagus beds reputed to be 50 years old. There are in these gardens two beds each measuring 45 by 5 feet, which are said to be 100 years old, which annually produce heavy crops of very good heads. We have also two other beds known to be forty years old, which give equally good results. All of these beds are planted on the flat, the ground being perfectly level; and they are so situated that the sun scarcely strikes them during the winter, being bounded by a range of sheds and stabling on the south side. The beds run north-west to south-east. The soil is of an open sandy nature, 5 feet deep, with a gravelly subsoil, so that moisture drains quickly away. My practice is to lightly fork over the surface of the beds in the early spring before growth commences. As soon as the heads show well above the ground, I apply a dressing of salt, sufficient to whiten the surface, the same being several times repeated during the growing season. I occasionally deluge the beds with liquid-manure from a tank in the cow-yard, during summer and early autumn. As soon as cutting is stopped, a mulching of decayed farm-yard manure is applied, the remains of which are raked off when the stems are cut down in the autumn. The soil of the garden seems to suit Asparagus; and when I took charge of these gardens, strong seedling plants were scattered throughout the kitchen-garden. If any of the numerous readers of the *Gardeners' Chronicle* have tried the effect of dressings of nitrate of soda on Asparagus, will they kindly publish the results in these columns. *Robert Turnbull, Beachley Gardens, Chepstow.*

## SOCIETIES.

### ROYAL HORTICULTURAL Scientific Committee.

MAY 5.—*Present*: Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Mr. Douglas, Dr. Miller, Dr. Russell, Rev. G. H. Englehart, Rev. G. Henslow (Hoc. Sec.), and Prof. Zacharias, Director of the Botanic Garden, Hamburg (visitor).

*Primula auricula* × *Alpine var.*—Dr. Masters reported upon the two abnormal specimens brought to the last meeting occurring among the seedling hybrids raised by Mr. Douglas. One had foliaceous flowers, the corolla, &c., being represented by minute green leaves. In the other the corolla-tube, as if from some check to growth, was only abnormally bent.

*Bardfield Oxlip.*—With reference to the statement by Mr. French that this species resisted being crossed by the Cowslip or Primrose, Mr. C. Wolley Dod sent specimens from his garden to show that there was reason to suppose that they were the result of the Bardfield Oxlip having been crossed by the Primrose. The foliage sent, however, agreed almost entirely with that of the Oxlip type, and in one kind only of the flowers was there a slight tendency to produce the inflated calyx tube and the crest or corona within the corolla tube, characteristic of *Pitarosces* and Cowslips, the total absence of this being a marked feature of the Oxlip.

*Raspberry-stem Borc.*—Mr. McLachlan remarked on a specimen sent by Mr. Pearson of Chilwell, that the injury resulted in the destruction of the buds, the eggs being hatched in the flower; but that it was difficult to suggest a remedy. Cart-grease smeared round the base of the canes, or kerosine emulsion washed round the stems, has been suggested as preventives. The grub was that of *Lampronia rubicula*, a small moth. It formed the prey of tomites.

*Primula auricula* ×.—Mr. Douglas exhibited plants of crosses between *Primula pubescens* (the pod-bearer) and an *Alpine Auricula*, and remarked upon the perseverance of humble-bees in visiting the *Auricula*; within a quarter of an hour he had observed that a bee visited 508 flowers, thus giving two seconds apiece, on the average, to each.

*Cineraria*, *Origin of*.—Mr. Douglas also exhibited several sprays of different shades of mauve, from seedlings raised from the plant at Kew of *Cineraria cruenta*. He called attention to the original illustration of this species, and of *C. lanata*, in the *Botanical Magazine*, and considered that the probabilities were in favour of *C. lanata*, or else a cross with this species being the source of the cultivated forms.

*Colouring of Flowers.*—Dr. Russell gave some details of a preliminary experiment with white Hyacinths, treated with various salts, to test the influence they might have upon the colouring of the flowers. The only bulbs obtainable were, unfortunately, very inferior in quality, as the experiment

was not proposed till too late in the season. On March 6 the bulbs were treated with the following solutions, all being grown in water:—Cobalt nitrate, copper sulphate, ferrous sulphate, manganese nitrate, nickel nitrate, chromium acetate, zinc nitrate, ammonium nitrate, urea, soluble Prussian blue, colli, and water alone distilled. All contained 15 grains to a pint of distilled water. As the liquids evaporated they were made up with a stronger solution of 50 grains to the pint. Two plants only indicated any colour in the flowers. The one treated with nickel nitrate on March 25 looked very bad, limp and yellow; the bud, which would naturally have been green, showed a distinctly pink colour. The one treated with ferrous sulphate blossomed, and had also a decidedly pink tinge. All the rest were either more or less arrested in growth, sickly or dead. As a preliminary experiment, and that with unsatisfactory materials, the result, so far as the above two were concerned, was interesting; but it was the general opinion that the solutions were too strong, and that this would probably account for the injurious effects upon the growth of the Hyacinths. It is proposed to try further experiments with white Pelargoniums.

*Narcissus, Crosses.*—Mr. Engleheart, in describing the various results of his experience in crossing the Narcissus during the last fifteen years, observed that the main cross was between the Trumpet Narcissi (as pod bearers) and *N. Poeticus*. This gave rise to the *Incomparabilis* section; but among the seedlings of the cross there would sometimes arise pure Poetics; the male was always more or less prepotent, but sometimes the offspring would show no trace of the female parent. Dr. Masters observed that the same result sometimes occurred in other plants. Dr. Zacharias alluded to the case of Strawberries ("False Crosses," *Gard. Chron.*, 1894, p. 568); and Mr. Henslow mentioned that when the *Rhododendron* "Monarch" (which contained the species *R. jasminiflorum*, twice, *R. javanicum*, *R. Lobbi*, and *R. Brookeanum* var. *gracile*) was crossed with *R. malayanum*, the result was almost pure *malayanum*.

*Larch Disease.*—Dr. Masters exhibited a specimen showing the fungus *Peziza Wilkommii* in the fruiting stage. It has attacked the stem to such an extent, that the whole of the wood has grown excentrically.

*Abies emabalis*.—He also exhibited a fine spray of this tree laden with many male catkins of a brilliant red and yellow colour. This had been previously described, from imperfect specimens, as bearing single catkins only.

## ROYAL BOTANIC.

MAY 13.—The annual summer exhibition of the Royal Botanic Society was held on Wednesday last in the gardens of the society at Regent's Park. It is with regret that we have to notice a continued decrease in the number of competitive exhibits at this show, and also that those of an honorary character do not compensate fully for such deficiencies. This state of things has been increasingly apparent for some years, but, on the occasion under notice, the whole of the specimen stove and greenhouse plants that have been associated with this society's exhibitions for so many years were absent. There is now no exhibition in London during the year at which plants of such a nature can be seen. The competitive exhibits on Wednesday last were included in about half-a-dozen classes. Yet the site is about the most suitable one for an exhibition that could be obtained anywhere.

Honorary exhibits were numerous, and many of them were of a first-rate character. A superb exhibit of cut Roses was made by Mr. Geo. Mount, The Rose Nurseries, Canterbury, which included large boxes full of each of the varieties Ulrich Brunner, La France, Capt. Hayward, Niphotos, and Mrs. Jno. Laing, all being very beautiful, in good condition and colour. Amongst the boxes containing mixed varieties, we noticed especially good flowers of Prince Arthur, Cleopatra, Mrs. Jno. Laing, Fisher Holmes, C. messo de Nadaille, Marie Finger, and others. The blooms staged with long stems and fine foliage attached were also very effective.

Messrs. Wm. Paul & Son, Waltham Cross Nurseries, Herts, staged a magnificent group of Roses in pots. All the plants were excellent in condition and well flowered. The standard plants arranged among the dwarfs gave a very pleasing effect. The group was faced by a belt of cut Roses in boxes, all of capital merit, and pleasing freshness.

A fine display of Peonia blooms was made by Messrs. Kelway & Son, Langport, Somerset. Particularly noticeable among the varieties included in this collection were Kelway's Florizel, a large white almost single-flower, marked prettily with rose from the centre outwards; Cerites, a very deep rose, semi-double variety. Mr. Chaplin, a dark crimson, almost maroon, single-flowered; Proslate, a rose-coloured double; and others equally good. A number of Hippocastanum flowers in boxes, singly, without the scape, created a poor show; but there were numerous varieties of Iris flowers, some fine sprays of Cannas, Lupins, Aquilegias, Pyrethrum roseum, and other flowers, which together made a very large collection.

Herbaceous Calceolarias were shown by Mr. Stuart, gr. to N. L. Cones, Esq., Englefield Green, and he had a very commendable group, the plants representing a good strain.

Messrs. Barr & Son, 12 and 13, King Street, Covent Garden, contributed a collection of hardy flowers, the principal constituents of which were the numerous Tulips. Many of the late-flowering section were very well shown

but the collection was especially rich in a class which has been termed English Tulips, consisting of varieties raised by the Lancashire growers during the last half century. The flowers are striped, like the old-fashioned Tulips, but the petals are less elongated, and more round at the apex. The base of most of them has been cleared in colour also.

Mr. P. Porty, gr. to J. C. Tasker, Esq., Middleton Hall, Brentwood, was the exhibitor of a group of Cannas in considerable variety. The plants were well grown, and the group had a good appearance.

An exhibit of new and rare plants from Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, contained *Richardia Elliottiana* in flower, the new *Maranta* major, *Phyllocactus Venus*, a very showy variety; also *P. inthe*, a less showy, but pretty rose-flesh coloured variety. Several of the dwarf, small-leaved species of *Caladiums* sent out last year, including the varieties *F. W. Moore*, *Tennyson*, *Ladas*, *Lord Rosebery*, *Duke of York*, *Duchess of York*, and *Chelsea Gem*, all of which are small-leaved dwarf varieties. Several hybrid *Cypripediums*, some *Gloxinias*, and an ornamental *Begonia* named *B. acerifolia*, obtained from a cross between *B. Burkei* and *B. decora*.

An exhibit of *Daphne Nerium* was made by Mr. Arthur Knowles, Horsell Birch Nursery, near Woking, Surrey.

Messrs. T. F. Rivers & Son, Sawbridgeworth, exhibited about eighteen beautiful Nectarine trees in fruit, carrying an excellent crop, as is usual in the case of trees from this nursery. A number of gathered fruits and all of the Nectarine trees represented the new variety, Cardinal, which is said to ripen ten days earlier than Early Rivers, and is recommended as an early forcing variety. The fruit is of good size, with melting flesh, and a particularly refined flavour.

Mr. Scott exhibited a group of miscellaneous plants of ordinary species.

A group of hardy *Rhododendrons* in flower, contributed by Messrs. Jno. Waterer & Sons, Bagshot, was very gay. The varieties were named ones, and such as *Jno. Waterer*, *Mrs. Jno. Penn*, *Princess of Wales*, *Concession*, *Cynthia*, and others, were very beautiful. A few varieties of Japanese Maples interspersed with the *Rhododendrons* were very effective.

Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, had a group of hardy plants, including *Anemone Narcissiflora*, with white flowers, several upon a stem like a *Polyanthus*. A fine pair of *Ranondia pyrenaica* in flower was shown, and the white-flowered *Habenaria dilatata*, and other plants.

## COMPETITIVE.

Orchids were only shown by Mr. Geo. Cragg, gr. to W. C. Walker, Esq., Percy Lodge, Winchmore Hill, who had a collection of twelve specimens. Among these was a large, well-flowered specimen of *Lodola purpurata*; and there were also good plants of *Cattleya Trianaei*, *Masdevallia Harryana*, *Oncidium Marshallianum*, and *Cymbidium Lowianum*, &c.

The 1st prize for six greenhouse Azaleas was taken by Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park, who also took a 2nd prize for a group of the same kind of plants. There was no competition in the latter case.

Mr. Thos. S. Ware staged an admirable group of hardy plants, showing good clumps of the different species, which gave a correct idea of their true character; *Lilium croceum*, and *L. Harrisii*, *Astilbes*, *Iris*, *Trollius*, *Geums*, and other things so shown, were admirable. The bright-flowered *Silene virginica*, the distinct *Dodecatheon Meadia alba*, and several species of *Orchis*, were included. Mr. Ware was also 1st for a group of twelve *Begonias*, and staged a collection worthy of much praise. Many new varieties of *Begonia* were also shown, some of which possessed considerable merit.

The 1st prize for a group of Roses was won by Mr. Wm. Rumsey, Joydings Nursery, Waltham Cross, who had a group of plants of considerable extent. These were well-flowered, and nice and fresh in appearance. The pink-flowered H.P. Mrs. Rumsey was also shown. It is a new variety, with splendid foliage, and is said to be absolutely proof against mildew. A large number of cut blooms were likewise from Mr. Rumsey. Mr. Rumsey was awarded a 2nd for a collection of nine Roses in pots.

## HERBACEOUS CALCEOLARIAS, ETC., AT HARROW WEALD HOUSE.

The showy varieties of herbaceous Calceolarias, that used to be considered indispensable in most greenhouses, have become less popular, or, at any rate, less common, in private gardens. It is seldom we see a good collection of plants of dwarf stature hidden by a multitude of flowers of as many varieties as there are plants; yet the display such a collection affords is a familiar one to most gardeners who have seen the rise and development of the tuberous *Begonias* as a greenhouse and bedding plant. Gardeners who are still acquiring their professional experience may not have seen them so often or so good. Generally, an excellent group of plants, representing the choicest strains, is exhibited at the Temple Show. A few days ago, we had the pleasure of inspecting a capital display in the gardens of G. Grinling, Esq., Harrow Weald House,

where at the present time the Calceolarias are the most attractive plants in flower. They are staged in a span-roof greenhouse, and are shaded from the hot sun in order to preserve the flowers as long as possible. It is not thus, however, that they are seen to their best advantage, and it was not until Mr. Rapley, the gardener, had caused the temporary blinds to be removed, that the full effect of the showy blossoms was manifest.

The gardener here in earlier years used to exhibit these plants, and in the collection under notice there is evidence of the same skilful treatment and care in details, that is necessary in the culture of all plants if they are to appear at their best. Most of them are in 7-inch pots, not quite so large in circumference as would be desirable were they for competitive exhibition, but sufficiently so for the purposes for which they are intended. They are dwarf, well clothed with foliage to the base, and their summit is a crown of flowers which hides the foliage as seen from above, and gives to each plant an appearance of exceptional floriferousness. As we have previously intimated, and as many of our readers know, the variations in the flowers are as multitudinous as are the plants in the collection. Some are pink, others are rose, or purple, or yellow, canary yellow, and the peculiar sulphur yellow being very distinctly represented. Then there are scarlet, and other bright colours and tints, and the whole of them are mottled, or reticulated, or spotted in ever-varying degree and variety. A plant with lemon-coloured flowers, with a few reddish spots, was one of the more beautiful; and another having purple flowers with curious markings in yellow, specially attracted attention. In addition to these, however, there are the self-coloured varieties, among which Cloth of Gold, a variety raised by Mr. Rapley, and certificated by the Royal Horticultural Society about fifteen years ago, is at once the most showy and most beautiful. The flowers of all the varieties are of capital substance, and will doubtless last a considerable time.

The reason that this section of Calceolaria is less cultivated than formerly, is probably due to the increased popularity of the *Begonia*, *Streptocarpus*, *Canna*, and other greenhouse plants we could name, and of which it is quite impossible to write except in the most favourable terms.

Nevertheless, it would appear that the Calceolaria is an excellent plant for small gardens, where the resources are not in proportion to the requirements of the owner, but probably less. The requisite cultivation is of the simplest character. A packet of seed should be obtained from the best source, because, if a good start is made, and it is the gardener's desire, he may use seed from his own plants in succeeding years, and according to his care and discernment in the selecting of such seed, so will his strain improve or deteriorate. The seed should be sown about mid-summer, or during July, in pans which have been filled with light sandy soil for the purpose. The same care that one would take if sowing *Begonia* seed should be given. Gently press the seed into the soil, and place a piece of glass over them. They may be stood in a shady place in a cool frame or a cool greenhouse, but as soon as the first leaves appear the glass must be gradually removed and the seedlings given an abundance of light, but not strong sun. The usual practice of pricking out seedlings when large enough, and keeping them in a suitable place until they are ready for 3-inch pots, should be followed. The plants will soon fill these pots with roots, and it will be then desirable to repot them into some about 5 inches in diameter, using a nice light compost such as that in which a *Fuchsia* would do well. In these pots they may remain during the winter, and the hardier they can be kept during that time the better for the plants. Any dry frost-proof frame will do, but on no account use much fire-heat—rather cover with mats in the event of frost.

Not later than the middle of February, the plants may be put into 7-inch pots (or larger if desired), and from this time they should be encouraged to make strong and sturdy growth. In the final potting nothing exceptional is needed in the compost, which may consist of fibrous loam, plenty of leaf-mould, and

a small quantity of sand. Add to this some spent Mushroom-bed manure, or better still, decayed sheep-droppings. The plants should commence to bloom about the end of April or beginning of May, and they will be a success in exactly the same proportion as the cultivator has attended to the details in the necessary culture, one of the most important items in which is to preserve the plants from the attacks of green-fly.

Reverting for a moment to the gardens already mentioned, we noticed there a nice collection of the more useful and showy Orchids. Among the plants in bloom were Dendrobium Falconeri in a very fine variety both in colour and form; and in the cool house an especially good variety of Odontoglossum nebulosum was noticed. The Orchids generally are well cultivated, and the excellent pans of Cologynes, also many of the Cattleyas, Lelias, and Calanthes are deserving of much praise. Cyclamens are well grown also, and there are numerous seedlings now growing apace. The Gloxinias are treated equally liberally, and in their season create a fine effect. Outside, the gardens and grounds are tidy and well kept, and there is a good tennis lawn. The private conservatory is a lofty structure, though of small area, and is suitable only for furnishing with Palms, Tree Ferns, and such plants. Much more pleasing and agreeable is a covered verandah on the west front, where there are Passifloras, and many other trailing and climbing plants. The dwelling-house itself is hidden almost everywhere by Jasmines and other plants, which have been encouraged to clothe it. The beauty of the gardens and grounds would have been greater had they been formed upon higher ground, the site where the house has been built being such a one that more than ordinary efforts are required in order to obtain the privacy and seclusion desirable in a country residence.

**THE PAST WEEK.**  
The following summary record of the weather throughout the British Islands for the week ending May 9, is furnished from the Meteorological Office:—

"The weather during this period was very fine and dry generally, with warm days and cold nights. Slight thunder and lightning were experienced, however, at some of the extreme southern stations on the 6th or 7th, as well as at Fort William.

"The temperature was a little below the normal in 'England, E.,' just equal to the mean over 'England, S.' and the 'Midland Counties,' but considerably in excess in the extreme north-east, north, and north-west. In 'Scotland, N.' and 'Ireland, N.' the excess was 5°, and in 'Scotland, E.' 6°. The highest of the maxima occurred during the latter part of the period, and ranged from 78° in 'Ireland, N.,' and 75° in 'Scotland, N.,' to 67° in 'England, N.E.,' and to 64° in the 'Channel Islands.' The lowest of the minima were recorded between the 3rd and 5th, when the sheltered thermometer fell to 28° both in 'England, N.E.' and 'England, S.W.,' to 29° in the 'Midland Counties,' and to between 30° and 34° in most other districts; in 'Ireland, S.,' however, the lowest reading was 35°, and that in the 'Channel Islands' 42°. Sharp ground-frosts were experienced very generally during the earlier days of the week.

"The rainfall was almost entirely absent from Great Britain, and much less than the mean in Ireland.

"The bright sunshine was very prevalent, and exceeded the mean in all districts; the percentage of the possible duration ranged from 69 in the 'Channel Islands,' and 68 in 'England, S.W.,' to 51 in 'England, E.,' and 47 in 'Ireland, N.'"

**VEGETABLES—AVERAGE WHOLESALE PRICES.**

s. d. s. d.		s. d. s. d.	
Asparagus, Worcester, 100 heads	1 0-1 3	Mushrooms, per lb.	0 6-0 7
Colchester, per bundle, do.	1 0-1 9	Peas, Channel Islands, per lb.	0 10-1 0
Beans, per lb.	1 0-—	Tomatoes, home-grown, smooth, per doz lbs.	10 0
Cucumbers, per doz.	2 0-3 0	Channel Islands, per lb.	0 6 0 7
Mint, per bunch	0 2-—	ordinary home-grown, per doz.	8 0
Onions, English, per cwt.	3 0-4 0		

**POTATOS.**

JERSEYS now arriving in larger quantities. Trade dull, and prices have a downward tendency. Flukes, 11s. to 12s.; Kidneys, 10s. 6d. to 11s. 6d.; Malta Kidneys, 10s. to 12s.; Teneriffe, 8s. to 9s.; do., small, 6s. to 7s. J. B. Thomas.

**SEEDS.**

LONDON: May 13.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that the present harmful and prolonged drought naturally stops sowing orders for seeds. Meantime, however, Clover and Trefoil seeds are receiving a considerable amount of attention from speculative buyers, and the opinion is largely held that the present low range of value, combined with poor crop prospects, offers attractive temptations for holding over. The trade for Tares continues slow. As regards Birdseeds there is no fresh feature. Peas and Haricots are held for more money. Holders of Pulse maintain that this dry weather must presently result in a scarcity of green vegetables. Buckwheat is 1s. higher. There is no alteration in either Mustard or Rapeseed.

**MARKETS.**

**COVENT GARDEN, MAY 14.**

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

**PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.**

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Genistas, per doz.	6 0-9 0
Arun lilies, pr. dz.	6 0-9 0	Hydrangea, various	—
Aspidistra, per doz.	12 0-30 0	per doz.	9 0-24 0
— specimen, each	5 0-15 0	Ivy Geraniums per	—
Cineraria, per doz.	6 0-9 0	dozen	5 0-8 0
Dielytra, per doz.	9 0-12 0	Lilium Harrisii, pr.	—
Dracena, each	1 0-7 6	dozen pots	15 0-24 0
— various, per doz.	12 0-24 0	Lobelia, per doz.	4 6-6 0
Ericas, various, per	—	Marguerites, pr. doz.	6 0-10 0
doz.	9 0-24 0	Mignonette, pr. doz.	6 0-9 0
Evergreen Shrubs,	—	Palms, various, ea.	2 0-10 0
in variety, doz.	6 0-24 0	— specimen, ea.	10 6-84 0
Ferns, small, doz.	1 0-2 0	Pelargoniums, doz.	9 0-15 0
Ferns, various, doz.	5 0-12 0	— Scarlet, pr. doz.	3 0-9 0
Ficus elastica, each	1 0-7 6	Spiraeas, per doz.	8 0-12 0
Foliage plants, doz.	12 0-36 0		

**ROOTS AND BEDDING PLANTS IN VARIETY.**

**CUT FLOWERS.—AVERAGE WHOLESALE PRICES.**

s. d. s. d.		s. d. s. d.	
Arums, p. 12 blooms	2 0-4 0	Narcissus, Various,	—
Azalea, 12 sprays	6 0-9 0	per 12 bunches	0 9-1 6
Bluebells, doz. bun.	1 0-1 6	Orchids—	—
Bouvardias, per bn.	0 6-1 9	Cattleya, 12 blms.	6 0-12 0
Carnations, 12 blms.	1 0-3 0	O'dontoglossum	—
Deutzia, per doz.	—	crispum, 12 bun.	3 0-6 0
bunches	2 0-4 0	Paeony, doz. blooms	1 0-2 0
Eucharis, per dozen	2 0-4 0	Pelargoniums, scar-	—
Forget-me-nots, p.	—	let, per 12 bun.	4 0-6 0
doz. bunches	1 6-3 0	— per 12 sprays	0 6-0 9
Gardenias, per doz.	12 0-4 0	Polyanthus, 12 bun.	12 0-4 0
Iris, various, per	—	Pyrethrums, 12 bu.	12 0-1 0
doz. bunches	4 0-9 0	Roses, Tea, per doz.	6 0-2 6
Lapageria, per doz.	—	— coloured, pr. doz.	2 0-4 0
blooms	6 0-1 6	— yellow (Mar-	—
Lilac, French, per	—	chal), per doz.	1 6-4 0
bunch	3 0-5 0	— red, per dozen	3 0-4 0
Lilium Harrisii, bu.	3 0-5 0	Saffron, p. doz.	1 6-2 0
Lily of the Valley,	—	Spiraea, doz. bun.	2 6-3 0
per doz. bunches	2 0 6 0	Stephanotis, 12 sps.	2 6-4 0
Maidenhair Fern,	—	Tuberose, 12 blms.	0 6-1 0
per 12 bunches	4 0-8 0	Tulips, various, doz.	0 2-0 6
Marguerites, per 12	—	Violets, 12 bunches	1 0-1 6
bunches	2 0-4 0	— Parma, French,	—
Mignonette, 12 bu.	4 0-6 0	per bunch	2 0-3 0
Narcissus, White,	—	— Czar, do.	2 0-2 6
12 bun.	2 6-4 0		

**ORCHID-BLOOM IN VARIETY.**

**FRUIT.—AVERAGE WHOLESALE PRICES.**

s. d. s. d.		s. d. s. d.	
Apples, Tasmanian,	—	Peaches, 1st size,	—
1st quality, p.	10 0-15 0	per doz.	10 0-12 0
bushel case	—	— 2nd do., doz.	6 0-8 0
— do., 2nd do.	9 0-16 0	— 3rd do., doz.	3 0 4 0
— do., inferior, do.	6 0 8 0	Nectarines, 1st size	—
Figs, per doz.	4 0-6 0	per doz.	12 0
Gooseberries, per	—	— 2nd do., doz.	6 0-8 0
half-sieve	5 0-6 0	Pine-apples, St. Mi-	—
Grapes, Belgian, lb.	1 3-1 6	chael, each	2 0-5 0
Muscats, p. lb.	4 0-5 0	Strawberries,	—
— Foster's Seed-	—	morning-gather-	—
ling, p. lb.	3 0-3 6	ed, Paxtons, per	4 0-5 0
Grapes, Hamburg,	—	— packed in bxs.	—
per lb.	2 0-2 6	per lb.	2 6-3 0
Melons, each	2 0-2 6	— seconds, per lb.	1 6-2 0



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.						
	ACCUMULATED.											
	Above (+) or below (—) the Mean for the week ending May 9.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.								
0	5	+	67	0	+ 116	— 209	6	— 95	22	1	57	22
1	6	+	69	0	+ 134	— 230	4	— 67	63	54	31	
2	1	+	44	2	+ 115	— 215	4	— 55	48	53	28	
3	1	—	50	7	+ 67	— 219	4	— 65	63	51	30	
4	aver.	65	10	+ 104	— 239	4	— 59	54	56	28		
5	aver.	60	0	+ 88	— 236	4	— 56	52	61	29		
6	4	+	75	0	+ 137	— 221	5	— 76	145	56	27	
7	2	+	65	0	+ 145	— 251	1	— 69	191	64	29	
8	2	+	68	0	+ 139	— 204	5	— 62	79	68	33	
9	5	+	78	0	+ 169	— 228	2	— 77	116	47	25	
10	3	+	77	0	+ 191	— 207	5	— 67	101	54	28	
*	2	+	77	0	+ 237	— 109	3	— 67	54	69	37	

The districts indicated by number in the first column are the following:—  
0, Scotland, N. Principal Wheat-producing Districts—  
1, Scotland, E.; 2, England, N.E.; 3, England, E.;  
4, Midland Counties; 5, England, including London, S.  
Principal Grain, &c., Districts—6, Scotland, W.;  
7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;  
10, Ireland, S.; \* Channel Islands.

**POTATOS.**

BOROUGH: May 12. Quotations for Old ranged from 30s. to 8s. per ton; and for New were from 1s. 6d. to 16s. per cwt.

SPITALFIELDS: May 12.—Quotations:—Old: Highlands, Bruce, 35s. to 50s.; Drones, 40s. to 50s.; Magnums, 35s. to 45s.; Blacklands, 20s. to 30s.; Scotch Bruce, 35s. to 50s.; Main Crop, 40s. to 55s.; Dunbars, 60s. to 75s. New: Jersey Kidneys, 10s. 6d. to 12s. per cwt.; Lisbons, 6s. to 7s. do.; Canary, 7s. to 8s. 6d. do.; Egypt, 8s. to 9s. do.

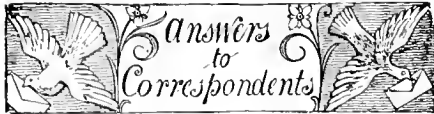
STRATFORD: May 12.—Quotations:—Dark soil, Bruces, 18s. to 20s.; light do., 20s. to 50s.; Reading Giants, 30s. to 50s.; Sutton's Abundance, 40s. to 60s.; Scotch Main Crop, 50s. to 70s.; Dunbar Magnums, 60s. to 80s. per ton.

FARRINGTON: May 14.—Quotations:—New: Jersey Flukes, 12s. to 18s.; Kidneys, 11s. to 12s. per cwt.; Old, 30s. to 70s. per ton.

LONDON AVERAGES: May 13.—Quotations:—New: Jersey, 12s. to 14s.; Guernsey, 12s. to 14s.; Maltesa, 8s. to 9s.; Lisbon, 6s. to 7s. per cwt. Old: Dunbar Main Crop, 65s. to 80s.; do. Bruce, 70s. to 80s.; English Main Crop, 45s. to 65s.; Imperateurs, 40s. to 90s.; Magnums, 30s. to 40s. per ton.

**CORN.**

Average.—Official statement of the average prices of British Corn, imperial measure (pr.) for the week ending May 9, and for the corresponding period last year:—1895: Wheat, 25s. 7d.; Barley, 21s.; Oats, 14s. 4d. 1896: Wheat, 22s. 4d.; Barley, 21s. 5d.; and Oats, 13s. 6d.



**CALCEOLARIA:** A. F. The general habit of your Calceolaria is strong and robust, and in the specimens sent we find no trace of organic disease. There must be some external cause for going off which we cannot determine from the portions sent. As we cannot guess the cause, we cannot suggest a remedy. M. C. C.

**CALCEOLARIAS ADVERTISED:** J. H. S. You should consult your solicitor.

**CUCUMBERS:** C. D. Kindly send specimens of stem, leaves, and fruits, for our inspection. Common garden soil is scarcely suitable. Use loam and rotten dung.

**FASCINATION:** Chose, W. M. Very common in Asparagus, less so in Ranunculus acris and Narcissus.

**INSECT ON WILLOWS:** Willow. The larvae on the Willow appear to be those of the Winter Moth (*Cheimatobia brumata*) so destructive to Apples, &c., but which will feed on almost any kind of tree. The remedies recommended in the case of fruit trees should answer equally well on Willow. If petroleum emulsion has failed try Paris Green [poison], the cost of which per acre we do not know. If the Willows are standards or pollards it would be well to use grease hands round the stems, near the ground in late autumn to catch the newly-emerged females, but this would hardly be practicable if they are ground ozers. R. M. L.

**MALFORMED NETTLE:** T. T. The distortion is caused by a fungus, *Aecidium Urticeae*, the yellow cups of which are beautifully developed. When spores of this same fungus are grown on *Carex hirta*, they assume a totally different character, which before the two forms were proved to be of the same species, was named *Puccinia caricis*.

**NAMES OF PLANTS:** Correspondents not answered in this issue are requested to be so good as to consult the following number.—A. B. C. *Amelanchier canadensis* (Snowy Mespilus).—W. O. 1, *Dendrobium capillipes*; 2, *D. Parishii*; 3, *Epidendrum Ottonis*; 4, approaches *Dendrobium nobile nobiliss*, but does not appear to be the right thing. Weakness of plant, or some accident in culture, however, may make the difference.—H. E. D. 1, *Cupressus Lawsoniana*; 2, *Thuja orientalis* var.; 3, you must have made a mistake. It is not likely this bears a white berry. Send again.—J. M.—*Amelanchier canadensis*.—F. Thompson. *Philodendron crassinervium*.—Constant Reader. *Antennaria margaritacea*.—Mells 1, *Berberis empetrifolia*; 2, the same, with double flowers; 3, *Piptanthus nepalensis*; 4, *Rubus roseifolius*.—A. J. K. *Diplacus glutinosus*.—J. G. Ordinary *Cattleya Mossiae*, of good size.—J. P. 1, *Weigela rosea* var.; 2, *Euonymus japonicus*, variegated form; 3, *Kerria japonica*; 4, *Dendrobium chrysanthum*.—E. F. 1, *Euphorbia pilosa*; 2, *Lychnis dioica*, double-fl.; 3, *Geranium pratense*; 4, *Centaurea montana alba*; 5, *Phlomis lanata*.—W. & B. *Holcus mollis*.—J. G. *Prunus Padus*. Such communications should be sent to the Editor, not to the Publisher.—W. R. *Pyrus intermedia*.—W. D. You are unreasonable in your demands on our time. Another time do not send more than six. 1, *Toxicophlaca spectabilis*; 2, *Adonis vernalis*; 3, *Gentiana lutea*; 4, *Veronica gentianoides*; 5, *Ornithogalum umbellatum*; 6, *Iberis corneifolia*; 7, *Scilla peruviana*; 8, *Asphodelus luteus*; 9, *A. Salvia*, not in flower; 10, *Centaurea montana*; 11, the same, white var.; 12, *Pulmonaria officinalis*; 13, *Phlox subulata*; 14, *Oxalis Bowiei*; 15, *Aubrietia deltoidea*; 16, *Gnaphalium* or *Antennaria margaritacea*; 17, *Euphorbia Lathyris* (Caper-Spurge); 18, not recognised.—Y. C. 1, *Muscari*, not recognised; 2, *M. comosum monstrosum*; 3, *M. comosum*.—Chose. *Dendrobium Devonianum*.—E. C. L. 3, *Crossandra undulata*.—H. *Akebia quinata*.—A. B. 1, *Paulownia imperialis*; 2, *Ceanothus azureus*; *Cattleya* roots not found.—J. C. 1, *Euonymus japonicus*; 2, *Podocarpus andina*; 3, *Smilax aspera*; 4, *Cassinia fulvida*; 5, *Kerria japonica variegata*.—H. H. D. 1, *Saxifraga (Megasea) cordifolia*; 2, *Caragana arborescens var. incernis*; 3, *Scilla campanulata*; 4, *Saxifraga (Megasea) crassifolia*; 5, *Euphorbia myrsinites*; 6 and 7, next week.

**NARCISSUS FASCIATED:** W. M. Many thanks; not uncommon.

**PEAR MARIE LOUISE:** J. A. B. The first cause of disease in the Pear trees is the common scab-mould, which affects the leaves and branches. On the dead twigs are other fungi, such as *Dothiora*, but these only attack the dead tissues. The destructive pest is the *Fusicladium pyrorum*, and this is common wherever Pear and Apple trees are cultivated. M. C. C.

**ROSE:** H. W. We cannot tell from a single bloom; perhaps it is W. A. Richardson.

**ROSES AT BACK OF VINERY:** C. D. Put the Roses in a position where they will obtain the fullest amount of sunlight; or let them run up to the top of the vinery, and spread out sideways, unimpeded by the Vines. The Roses get too much shade where they are.

**SCALE ON SHOOTS OF THE VINE:** Essex Hall. The insects sent are splendid specimens of a white woolly scale, allied to that which sometimes causes great havoc in plantations of Currants (*Pulvinaria ribesiae*), and known under the name of *P. vitis*. The woolly web contains numberless eggs, which hatch out in the web, becoming whitish or orange-coloured larvae. At this season, the only remedy which could be adopted would be to touch the scale with methylated spirits. In the autumn, white-washing the Vines with thick whitewash, to smother the insects, and after the lapse of a month removing this with water, and dressing with petroleum emulsion, or petroleum and soft-soap, according to the formula given on p. 589, in last week's issue, as against insects which suck. All infested shoots which can be removed should be burned.

**SCIENTIFIC GARDENING:** W. G. You should place the youth in a good botanical garden, or in an extensive nursery. He might then go to some big private gardens for several years.

**SPLIT CUCUMBER STEM:** C. B. & Co. The result of unequal growth, due probably to excess of food, and, perhaps, of water. You might mound up the stem with sandy loam, and thus get roots out of the former above the rupture.

**STRAWBERRIES ATTACKED BY OIDIUM SPS.** J. Geary. The white mould on Strawberries resembles the mildew of Turnips, *Oidium Balsami*, and has been called by the same name, but it is probably a distinct species. "The fungus makes its first attack on the leaves, and then speedily invades with increased vigour the flowers and footstalks, ultimately inducing the scorched appearance so well known in connection with the *Oidium* of the Vine." We can only suggest sulphur as a remedy, or anything which may have been found useful in checking the Vine disease. It is at first a superficial, or epiphytall mould, and as such is amenable to treatment, if it is taken in time. M. C. C.

**TARRED STAGING IN GREENHOUSE:** A. E. H. You will have to clear out the staging, or no plant will remain in health in the house.

**TULIP AND LILY:** G. E. Your Lilies and Tulips are evidently attacked by a fungus disease, and we have found no fruit in the specimens sent. It can only be suspected that the mould which causes the mischief is *Ovularia elliptica* (*Gardeners' Chronicle*, September 10, 1881). We can only suggest spraying with a copper solution. The disease will spread from plant to plant, unless checked or rooted out. M. C. C.

**COMMUNICATIONS RECEIVED.**—C. Y. M.—E.—W. D.—W. B.—W. C., next week. —R. A.—F. K., Berlin. —A. H. K.—W. W.—American Florist Co.—R. W.—T. B.—J. L.—Dr. Mottareale, Naples.—W. H., see present issue.—G. S., Barnet.—S. C.—Rev. G. H. E.—A. P.—J. G.—A. G.—E. U.—U. Ed., Hoogeveen.—C. D.—D. R. W.—W. L. A. Y.—R. T.—D. T. F.—F. Q. C.—H. M.—J. D.—J. B.—W. P. W.—C. Y. M.—A. C. P.—R. D.—A. D. W.—H. A. D (next week)

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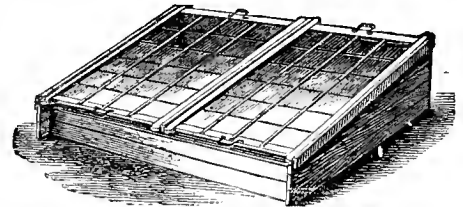
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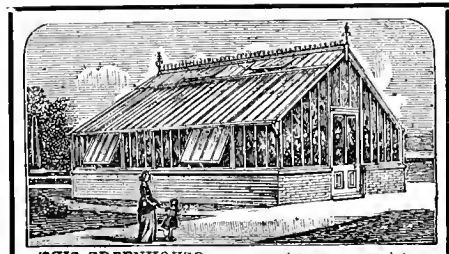
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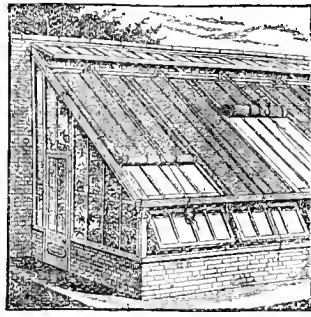
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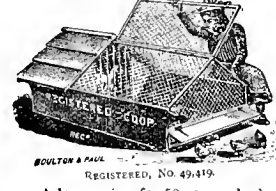
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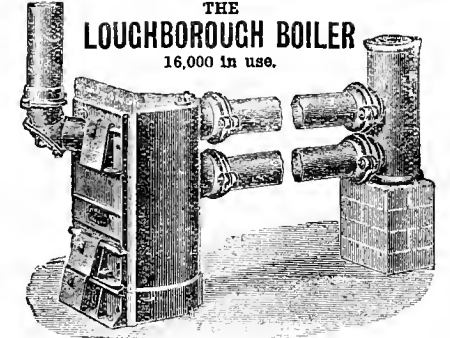
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**WANTED, UNDER GARDENER,** for an interesting garden of Hardy Plants and Rockwork, where considerable knowledge may be gained, a Youth who has had experience in propagating. Wages to begin at 15s. Address in own handwriting.—"T. H.," Messrs. Barr & Son, 12, King Street Covent Garden, London.

**WANTED, a GROWER.**—Vines, Cucumbers, Tomato Plants, and Cut Flowers. Also, MEN for Outside Work.—Apply, stating age, wages, and references, to J. FERGUSON, White Gate Lane Nursery, Blackpool.

**WANTED, PROPAGATOR,** well up in Roses, Clematis, Ivies, Conifers; knowledge of Budding, Grafting, Kufing, &c.—Apply, WILLIAM TRESEDEB, Nurseryman, Carlisle.

**WANTED, as PROPAGATOR,** a young MAN, well up in Grafting and Budding Hardy Trees, Shrubs, Conifers, &c.—Apply, stating experience and wages required, to CHARLES TURNER, The Royal Nurseries, Slough.

**WANTED, a young MAN, as GRAPE GROWER,** and quick at Potting, Watering in Plants.—W. A. TONGUE, Nurseries, Shooters Hill.

**WANTED, an active married MAN,** for Kitchen Garden work.—Apply to A. FRENCH, Ford Manor Gardens, Lingfield, Surrey.

**WANTED, as SECOND HAND,** one thoroughly up in Grape Thinning and Pot Culture.—The MANAGER, Calcot Gardens, near Reading.

**WANTED, a young MAN,** well acquainted with Garden and Greenhouse. Able to drive, and willing to help in the house work.—Apply by letter to R. L., 79, Turnmill Street, Farringdon Street, E.C.

**WANTED, a young MAN,** well up in Plant Growing and General Work, in a Gentleman's Establishment. Age not under 20. None need apply unless well recommended by present or previous Head Gardeners. Quiet country place.—ED. LAZENBY, Bradwell Grove Gardens, Burtford, Oxon.

**MARKET NURSERY.—WANTED, THREE** young MEN for Inside. Well up at Potting and Watering. Wages 18s.—State age and experience to TURNER BROS., Nurserymen, Oarstoe, Liverpool.

**WANTED, young Man as SECOND JOURNEYMAN Inside.**—Wages 14s. per week, bothy, milk, and vegetables.—Write, stating age and experience, to F. REYNOLDS, Oaklands Garden, St. Albans, Herts.

**WANTED, a single Man,** not under 25, to Work on Pleasure-grounds, and make Gas during winter. Must be used to Scythe and Machine. Wages, 14s., and bothy.—Apply to J. WILLIAMS, Foxley Gardens, near Hereford.

**WANTED, AT ONCE, young MAN** for Market Nursery Work; quick at Potting and Watering. North district man preferred. Also ONE for Market two days a week.—Wages to S. BALDWIN, Woodbine Nursery, Burley.

**WANTED, AT ONCE, young MAN,** as IMPROVER for Kitchen and Flower Garden, not under 18. Garden Pony to attend to. State wages expected, &c., with bothy and Potatoes.—J. HORNER, Myton, Helperry, York.

**WANTED, TWO MEN,** to work in Greenhouse. Wages 18s. per week.—Apply personally, ARTHUR WILSON, Home Nurseries, Enfield Highway.

**WANTED, AT ONCE, young MEN,** accustomed to Ferns. Wages, 15s. and overtime.—Apply, with particulars, YOUNG AND SON, Torr's Road, Lower Edmonston.

**WANTED, young MAN** for Kitchen and Fruit Garden. Must have had good practical experience, and be well recommended.—D. W., The Gardens, Ewell Castle, Surrey.

**WANTED, TWO young MEN,** for the Houses in Market Nursery. Wages, 18s. per week.—T. W. BUTCHER, Wright's Nursery, Turner Road, Lee.

**WANTED, TRAVELLER,** for Wholesale Seed House. Must know Trade.—Address No. 152, Keith & Co., Advertising Agents, Edinburgh.

**WANTED, a TRAVELLER,** for a Seed and Bulb House, thoroughly knowing London Markets, &c. Also TRAVELLER for South Coast. Salary must be moderate. State experience, age, salary, &c. Only energetic men need apply to PROGRESSIVE, 41, Wellington Street, Strand, W.C.

### Wholesale Seed Trade.

**WANTED, WAREHOUSE CLERK.**—State age, experience, and salary required, in confidence, to S. T., 41, Wellington Street, Strand, W.C.

**SHOPMAN and TRAVELER, REQUIRED** by a London firm.—Reply, giving experience, district covered, age, and salary expected, to A. B., 41, Wellington Street, Strand, W.C.

## WANT PLACES. TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

**F. SANDER AND CO.** can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—**F. SANDER AND CO., St. Albans.**

**RICHARD SMITH AND CO.** beg to announce that they are constantly receiving applications from Gardeners seeking situation, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

### Gardeners, Farm-Bailiffs, Foresters, &c.

**DICKSONS, Royal Nurseries, Chester,** are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

**GARDENER (HEAD).—H. PARR, Apley Park,** Bridgnorth, will be pleased to recommend his Foreman, E. GASCORNE, after five years with him, to any Lady or Gentleman requiring a good practical man. Address as above.

**GARDENER (HEAD).—Age 32;** thoroughly experienced in all branches. Leaving through Estate being sold. Good references.—F. WELLS, 1, Elm Cottages, Sandford Road, Bexley Heath, Kent.

**GARDENER (HEAD), or FOREMAN.**—Age 31, married, one child. Sixteen years' general experience in Plants, Fruits, Vegetables, House and Table Decorations. Excellent character.—HARRIS, Wheatheaf, West Malling, Kent.

**GARDENER (HEAD WORKING),** where more age kept; age 26.—Mr. MATTHEW, Gardener to Lord ABERCROMBY, wishes to recommend his Foreman as above. Well experienced in the profession.—H. MIDDLETON, The Gardens, Addington, Winstow, Rucks.

**GARDENER (HEAD WORKING).—Age 30,** married, one child; can be well recommended; experienced in all branches.—J. C., John Dowrie, 144, Priore's Street, Edinburgh.

**GARDENER (HEAD WORKING).—Age 34;** life experience in all branches of Gardening. Can be highly recommended. Good character from last and previous places.—W. LUFF, 23, Queen's Road, Clarewood Park, Leicester.

**GARDENER (HEAD WORKING).—Age 30;** fifteen years' practical experience. Inside and Out. Well recommended from good establishments.—G. STRICKLAND, 3, Heathside Cottages, Rom Hampton, Surrey.

**GARDENER (HEAD WORKING);** age 29.—Mr. WILLIAMS will be pleased to recommend WILLIAM HUGHAN, as above. First-class references from Brampton Bryan, Galloway House, Eaton Hall, and Bleheim Palace.—W. HUGHAN, Bleheim Gardens, Woodstock.

**GARDENER (HEAD WORKING, or good SINGLE-HANDED).** Age 35, married, no family.—A Gentleman wishes to highly recommend his late Gardener. Thoroughly experienced in all branches. Left through giving up.—W. PAYNE, The Lodge, Bournemouth, Hoveley, Surrey.

**GARDENER (HEAD WORKING),** age 42, married, seeks re-employment. Twenty-four years' thorough practical experience in all branches. Excellent Fruit, Plant, and Vegetable Grower. First-class references; abstainer.—C. SMITH, Chapel Street, Lower Hagley, near Stourbridge.

**GARDENER (HEAD, or good SINGLE-HANDED).**—Age 27, single; twelve years' experience in all branches. Can be well recommended by present employer.—H. FORTNALL, The Gardens, Marden Park, Catterham Valley, Surrey.

**GARDENER (SINGLE-HANDED, or otherwise).**—Age 24; eight and a half years' experience in nobleman's gardens, Inside and Out. Good references.—S. COBLEY, Rowell, Chudleigh, Devon.

**GARDENER (SINGLE-HANDED, or where one or two are kept)**—Age 29; well up in the cultivation of Fruit, Flowers, and Vegetables; Inside and Out. Well up in Cyclamens, Ferns, Pelargoniums, and Chrysanthemums. Highly recommended.—G. GREEN, Green Lane, Datchett.

**GARDENER (SINGLE-HANDED, or UNDER).**—Age 23; six years' good character, two and a half years previous. Strong and active.—J. FINCH, 149, Gladstone Road, Wimbledon, Surrey.

**GARDENER (SINGLE-HANDED, or SECOND of four),** age 24.—PROCTOR HOSON, Esq. (late) Oak Leigh, Stretford, highly recommends his Gardener to any Lady or Gentleman wanting a good man as above. Well experienced, Inside and Out.—F. WOOD, Firwood Avenue, Stretford, Manchester.

**GARDENER, where help is given, or SINGLE-HANDED.**—Age 38, single; well up in all his business. Two years' good character, five previous.—A. MEERE, Ruscombe, Reading.

**GARDENER (SECOND), or JOURNEYMAN,** Inside—Age 23; ten years' present situation. Can be well recommended. Abstainer.—S. JORDAN, The Gardens, Fanshawe, Hertford.

**GARDENER (SECOND), or JOURNEYMAN.**—Young Man, aged 25, single, seeks situation as above. Can be well recommended by present Head Gardener; Inside and Out. Three years in present place; one-and-a-half and two years Outside. Both preferred.—HENRY QUARTERMAIN, The Gardens, Stoneleigh, Ewell.

**GARDENER (UNDER).**—Age 23; six years' experience. Good references. Abstainer.—T. RISLEY, Barning Street, Godmanchester, Hants.

**GARDENER (UNDER), or JOURNEYMAN (Inside).**—Age 23. W. GOSS, Gardener to W. G. ROY, Esq., can very highly recommend W. HUNTER as above. Been with him two years. Both preferred.—W. GOSS, Byams, Marchwood, Southampton.

**GARDENER (UNDER).**—Age 19; four years' good character from present situation. Total abstainer.—JEFFREY, Mr. Freeman, West Street, Epsom.

**GARDENER (UNDER), or IMPROVER.**—Age 20; three and a half years in Nobleman's Garden; Inside and Out; both preferred.—W. ABRAHAMS, Waddon, Chudleigh, Devonshire.

**GARDENER (UNDER), Inside, or Inside and Out.**—Age 22. Eight years' experience. Three and a half years' character.—F., 44, Cherry Orchard Road, Croydon.

**GARDENER (UNDER).**—Young man, age 20; thoroughly experienced, Indoors and Out. Five years' reference from Brussels. Growing Ferns, Palms, Chrysanthemums, Tomatos, Grapes, Peaches, &c.; Forcing Strawberries, Beans, Lilac, Roses, and Lily of the Valley.—EDWARD VAN WAYENBERG, 48, Fitzroy Street, Fitzroy Square, W.

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**GRROOM-GARDENER** seeks situation and to make himself generally useful. Two and a half years' good references; four years previous. Age 30.—Apply to H. HATCHER, East Tytherley, near Stockbridge, Hants.

**MANAGER (WORKING).**—Thirty years' practical experience in Early and Late Forcing, Cucumbers, Tomatos, Grapes, Strawberries, Melons, Valley, Bulbs, Chrysanthemums, and general Nursery-stuff.—LUTMAN, North Street, Emsworth.

**MANAGER.**—Age 32; producer of first-quality Cut Flowers, Cucumbers, Tomatos, Strawberries, Fern, Foliage, Chrysanthemums, Forcing Bulbs, Valley; also growing and forcing hardy flowering Shrubs, Roots, Bulbs; and small Farm. Present charge, over 18 acres, with glass. Will bear inspection.—BORTOR, Hale, near Liverpool.

**MANAGER, or FOREMAN in Market Nursery.**—Married. Thoroughly understands Grapes, Peaches, Strawberries, Tomatos, Cucumbers, Ferns, Flowers, &c. Sixteen years' experience. Five years in last situation; 1½ acres of Glass. Good references.—J. YEATMAN, Kent Terrace, Meopham.

**GROWER.**—Age 23; seeks situation; well up in growing Fruit, Ferns, and Flowering Stuff for Market. Good references.—FLORIST, G. Ruel, Baker, Angle Road, Edmonton, N.

**GROWER.**—Age 22; eight years' experience in Cut Flowers, Plants, and Fruit Growing for Market. First-class references.—J. F., care of Mr. Older, West Ashling, Chichester.

**PROPAGATOR and GROWER.**—Age 28; Ferns, Carnations, Bouvardias, Double Primulas, Pelargoniums, Poinsettias, Eucharis, and general Market Stuff throughout for Pot or Cut, Tomatos, Chrysanthemums, &c. Good testimonials.—W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand.

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**PROPAGATOR (GENERAL), and WORKING FOREMAN; SALESMAN** if required.—Age 43; life experience in Rhododendrons, Conifers, Clematis, Roses, and all kinds of Shrubs, &c. Twenty years in present situation.—T. CRANHAM, Ottershaw Nurseries, Chertsey, Surrey.

**FOREMAN.**—Age 28; well up in Fruit and Plant Culture. Fourteen years' experience; nearly five years as Foreman in last place. Disengaged through breaking up of establishment.—F. DRABBLE, Harthill, Sheffield.

**FOREMAN.**—Age 23. E. BENNETT, The Gardens, Chilham Castle, Canterbury, will be pleased to recommend the Foreman; had been with him three years. Well up in the cultivation of Plants and Fruit, House and Table Decorations.

**FOREMAN (GENERAL), in really good gardens.**—Age 28; thoroughly efficient in all branches. Excellent testimonials, and highly recommended. Abstainer.—CHURCH, Ithen Stoke, Alresford, Hants.

**FOREMAN, in good establishment.**—Has been foreman for Mr. REID, Norbury Hall Gardens, for the last two years.—W. GALE, The Gardens, Norbury Hall, Ashbourne, Derby.

**FOREMAN, Inside and Out.**—Age 24; life experience in Stove and Greenhouse, Peaches, Melons, Vines, Chrysanthemums, Herbaceous, Bedding, &c.—A., care of Mr. Allman, Rowhill Wood, Wilmington, Dartford, Kent.

**FOREMAN or JOURNEYMAN (FIRST).**—Age 25; twelve years' experience in all branches; good references.—F. WOOD, South Cross, Musbury, Axminster, Devon.

**FOREMAN.**—H. M. MARKHAM, Mereworth Castle, Maidstone, will be pleased to recommend his present Foreman, T. HARRIS, who has been with him over two years, to any Gardener requiring a first-rate workman well up in Fruit Growing, &c.

**FOREMAN, in a good establishment.**—Age 27; thirteen years' experience in Nobleman's and Gentleman's places. Highest references and testimonials.—Apply, in first instance, to Mr. DAVIES, Head Gardener, Weybridge Park, Surrey.

**JOURNEYMAN, Inside, age 20.**—J. WADHAM, Gardener, Holmbury, Dorking, would be pleased to recommend E. NASIT to any Gardener requiring a trustworthy young Man. Leaving to better himself. Two and a half years in present situation.

**JOURNEYMAN.**—Mr. COOK, Compton Bassett Gardens, Calne, Wilts, will be pleased to recommend a young Man (age 24) as above. Ten years' experience. Total abstainer.

**JOURNEYMAN, in the Houses.**—Age 22; good character; three years in present situation, five previous.—J. BEAUCHAMPE, Cuesfield Gardens, Salisbury.

**JOURNEYMAN (FIRST).**—G. INGLEFIELD, Tedworth Gardens, Marlborough, can highly recommend a young Man as above. Eight and a half years' experience; two years' character here, and other good references.

**JOURNEYMAN (SECOND).**—Young Man, age 22, seeks situation as above in good establishment. Eight years' experience; good references.—R. FARVIS, 2, Grape Lane, Whitley, Yorks.

**JOURNEYMAN (FIRST), Inside.**—Age 23; has had good experience in Fruit and Plant-growing, House and Table Decoration.—F. HALL, 51, Porchester Terrace, Hyde Park, W.

**JOURNEYMAN, Inside, or Inside and Out.**—Age 22; five years' experience, and excellent character. Highly recommended by his present employer, J. HEATHCOAT-AMORY, Esq., Hensleigh, Tiverton, who will be pleased to answer any questions.

#### To Nurserymen or Others.

**JOURNEYMAN (FIRST).**—Age 24; ten years' experience in all branches, including Orchid. Good at Propagating. Excellent references. Well recommended. Further particulars can be had.—W. BATCHELOR, Gardener, Harefield Park, Middlesex.

**JOURNEYMAN, Inside.**—Age 20; with a good knowledge of Fruit and Plant Growing; excellent references; strong and active.—W. REDDEN, 70, Byrom Street, Bowdon, Altrincham.

**JOURNEYMAN, in the Houses.**—W. TOWNSEND, Gardener to Sir W. J. FARRER, Sandhurst Lodge, Sandhurst, Berks, wishes to obtain a situation for his son, age 19, who has had over four years' good experience in these Gardens.

**JOURNEYMAN, Inside, either Market Nursery or Private Gardens.**—Age 24; can be well recommended; five years in present place.—E. JONES, The Gardens, Taddington, Winchcombe, R.S.O., Gloucestershire.

**JOURNEYMAN, Inside, in a Private Establishment.**—Age 22; eight years' experience, three years as Journeyman. Good references.—A. H. ALFORD, The Boyces, Hanley Castle, Worcester.

**JOURNEYMAN (THIRD).**—Young Man, age 21, seeks situation as above. Six years' experience. Both preferred.—G. CONNOP, The Gardens, Darnhall Hall, Wensford, Cheshire.

**JOURNEYMAN (FIRST or SECOND).**—Mr. BUTCHER, Gardener, The Acacias, Reading, would be pleased to recommend a young man, age 22, as above. Six years' good reference.

**IMPROVER in Gentleman's Gardens.**—Age 20. Good character from last place. Been employed in small gardens.—L., Mrs. Edgington, Stoke D'Abernon, Cobham.

**IMPROVER.**—Age 18; two and a half years' experience under Glass. Both preferred.—W. M. REED, Debdon, Saffron Walden, Essex.

**IMPROVER.**—Young Man, age 20; six years' experience Outside, under good Gardeners. Wishful to Improve Inside; excellent references.—J. G. WALKER, Horse Road, Whitley, Yorks.

**IMPROVER, Inside and Out.**—Age 19; over four years in present situation. Can be well recommended. H. W. SHOEBRIDGE, Gardens, The Limps, Curchalton, Surrey.

**IMPROVER, age 19.**—G. GURNEY can thoroughly recommend an industrious young man, as above. Three years' experience.—Apply, Maesgwynne, Whitland, Carmarthenshire.

**IMPROVER in Garden.**—Four and a half years' good character.—H. DEAL, Bulmer Lodge, near Sudbury, Suffolk.

**IMPROVER, or JOURNEYMAN, in a Gentleman's Garden.**—Age 19; some experience. Strong and willing. Well recommended by present employer.—A. BRANCH, 11, Couthurst Road, Blackheath, S.E.

**IMPROVER, Inside, or Inside and Out.**—Age 19. Good reference.—J. DABON, Hill Cottage, Sunninghill, Ascot, Berks.

**IMPROVER.**—Young Man (age 19), in Garden Inside, or Inside and Out. Over three years' experience. Good character.—GARDENER, Millford House, Millford, Surrey.

**BELGIAN HORTICULTURIST, 19 years** old, four years' experience in Ghent, wants situation in England. Speaks French. Good references.—Apply to CHARLES MICHIELS, 109, Rue d'Anvers, Ghent (Belgium).

**TO GARDENERS.**—Young man (age 17), requires situation in the Gardens. Had four years' experience. Character if required.—W. ELAGDEN, 5, Hope Cottages, West Wickham.

**TO GARDENERS.**—Young man (age 19), requires situation in the Gardens, Inside and Out. Three years' experience. Recommended by Head Gardener.—JOLLEY, 37, New Town Road, Northampton.

**TO NURSERYMEN and OTHERS.**—Young Man, age 22; life experience in nursery work (inside); disengaged.—C., 2, Olive Villas, Swanley Village, Kent.

**TO NURSERYMEN.**—Young man (age 19), well up in Cucumbers, Tomatos, Pot Stuff, and general Nursery Work. Four years' experience. Good reference.—A. HOLDSTOCK, 47, Round Green, Luton, Beds.

**TO NURSERYMEN.**—Young Man (age 27) wants permanent situation in General Nursery. Twelve years' good Nursery experience.—W. HARTLEY, 109, Newland Road, Worthing.

**TO NURSERYMEN.**—Situation wanted, by respectable young man, age 19; five years' experience in old-established firm. Good character. Abstainer. Quick at Potting, Watering, &c. Cut Flowers.—W. WEST, The Gardens, West Leigh, Havant, Hants.

**TO NURSERYMEN.**—Wanted, situation where Flowers are grown for Market (Inside).—Age 23. Not afraid of work.—F. HALL, 51, Porchester Terrace, Hyde Park.

**CORN and SEED TRADE.**—Situation wanted by young Man in Shop or Warehouse. Good references; Abstainer.—W., 3, Drayton Road, Croydon.

**ROCKWORKER, FERNERY FITTER, &c.**—Knowledge of Ferns, Aquatics, Fish, &c. Good testimonials for recent work.—W. J. C., 125, Portobello Road, Bayswater, W.

**TO FLORISTS.**—Re-engagement wanted by a young Lady as ASSISTANT to Florist's Shop, with knowledge of Seed Business. Good references.—W., The Cottage, Bexley, Kent.



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The Winners of every Highest Prize in all cases of competition, and the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by— They are the first, foremost, and best in the world. HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions. HIS ROYAL HIGHNESS THE PRINCE OF WALES.



THE KING OF THE BELGIANS. The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA. And most of the NOBILITY, CLEROY, and GENTRY of the United Kingdom.

And most of the Horse Lawn Mowers having been in use here for upwards of thirty years; but combined with good workmanship is the further important recommendation that they are of very light and easy draught.

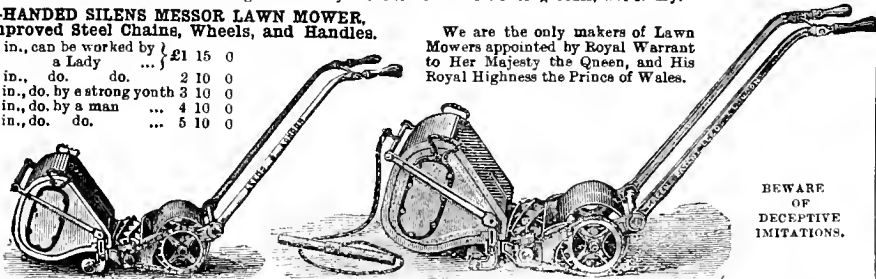
And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others. Upwards of 220,000 of these Machines have been Sold since they were first introduced in the year 1856.

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## SINGLE-HANDED SILENS MESSOR LAWN MOWER.

- With Improved Steel Chains, Wheels, and Handles.
- To cut 6 in., can be worked by a Lady ... £1 15 0
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  - To cut 10 in., do. by a strong youth ... 3 10 0
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We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

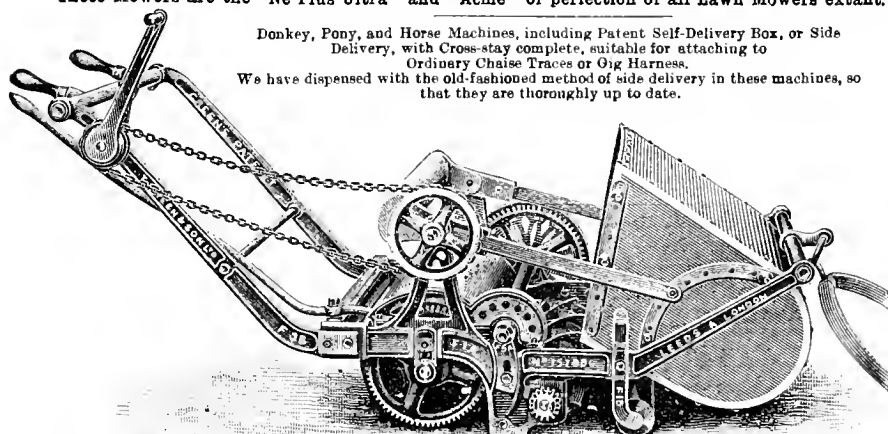


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## DOUBLE-HANDED LAWN MOWER.

- To cut 18 inches, can be worked by one man } £8 10 0
  - To cut 22 inches, can be worked by two men } £8 10 0
  - To cut 24 inches, do. do. ... 9 0 0
  - To cut 18 inches, do. man and boy ... 7 10 0
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- \* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.



Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Olg Harness. We have dispensed with the old-fashioned method of side delivery in these machines, so that they are thoroughly up to date.

## DONKEY AND PONY MACHINES.

- To cut 26 inches ... £14 0 0
- To cut 28 inches ... 18 0 0
- To cut 30 inches ... 18 0 0
- Leather Boots for Donkey ... 1 0 0
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The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

## HORSE MACHINES.

- To cut 30 inches ... £22 0 0
- To cut 36 inches ... 26 0 0
- To cut 42 inches ... 30 0 0
- To cut 48 inches ... 34 0 0
- Leather Boots for Horse ... 1 9 0

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The Best Marker made.

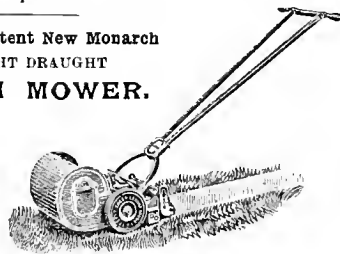
- 1st size, with 3 wheels, 14s.
- Large size for Clubs and Large Grounds, price 17s.



Small Bag of Marking Composition, 9d.

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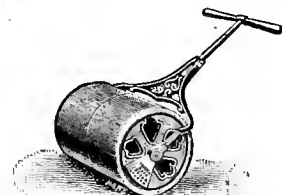
It is superior to any Mower of this class yet brought out. Very suitable for Small Lawns and Banks.



- SALE SIZES AND PRICES.
- To Cut ... 6 8 10 12 14 18 inches.
  - Without Grass Box 30s. 35s. 40s. 50s. 60s. 70s. each.
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- If fitted with a Long Handle for cutting banks, &c., 5s. extra. No charge for packing-cases, except for shipment.

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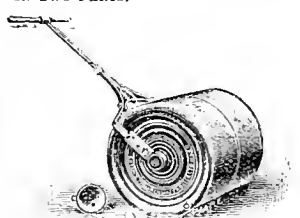
FOR Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths.



PRICES OF	wt. qr. lb.	Diam.	Length.	Reduced Prices
HAND ROLLERS.	3 0 0	18 in.	by 17 in.	£2 5 0
	5 2 0	20 in.	22 in.	3 0 0
	8 2 0	24 in.	26 in.	4 5 0
HAND ROLLERS.	6 2 0	26 in.	28 in.	5 10 0
	8 2 0	30 in.	32 in.	7 5 0

## GREEN'S IMPROVED WATER & SAND BALLAST ROLLERS.

They can have the weight regulated to suit the requirements of the ground, and also have it increased up to 45% on the empty weight of the Rollers. Delivered, Carriage Free, at all the principal Railway Stations and Shipping Ports in Great Britain.

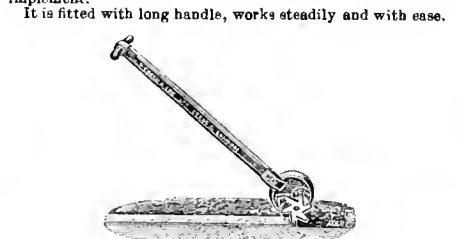


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# The GARDENERS' CHRONICLE

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## CONTENTS.

Alpine garden, the	643	Societies—	
Florists' flowers	640	Mancheſter Royal Botanical and Horticultural	659
Fruit experiments at Woburn	642	Royal Horticultural (Temple)	646-650
Garden varieties in plants, the production of	641	Royal National Tulip	657
Horticultural schools in Belgium	640	Strawberries in the province of Naples	637
Incisions in vegetable tissues, healing of	648	Temple show, the	646, 650
Nursery note—Garaway & Co., Bristol	658	Tomato culture	657
Euthera flowers, the opening of	648	Transpiration as a guide to cultivation	646
Orchid notes and gleanings—Cypripedium Chamberlainianum	640	Trees and Shrubs—Juniperus pachyphloea	641
Laelia purpurata	640	Magnolia Kobus	641
Peach-shoot thinning	658	Vegetable products of Persia some	649
Plants, new or noteworthy—Cenolophon vitellinum	638	Vegetables and Vegetarianism	667
Propagation, methods of Sawfly, the Giant	658	Week's work, the—Flower garden, the	644
		Fruits under glass	645
		Hardy fruit garden	644
		Kitchen garden, the	645
		Orchid houses, the	645
		Plants under glass	645

## ILLUSTRATIONS.

Maples, group of Japanese	633
Odonotoglossum crispum var. Augustum	649
Temple Show—Sander's group of Orchids	647
Sutton's group of Cucumbers, Tomatoes, Gloxinias, &c.	643, 651
Turner's, C., group of Roses	642
Veitch, J., & Son's group of Flowering Plants	655
Wills & Segar's group of Foliage Plants	638
Tree Peony var. Florizel	639

## NOTICE.

The present issue contains an EXTRA NUMBER of PAGES, and numerous ILLUSTRATIONS of exhibits at the TEMPLE SHOW. Some thousands of extra copies are printed. Next week we shall give several other illustrations, and shall also print additional copies. Advertisers will kindly take note.

### Plants for the Garden.

**H. CANNELL AND SON** have for a great number of years been known to possess the largest and completest stock of the above, and will be glad to quote or send their Floral Guide free, stating prices. Their Nurseries are now very beautiful. All lovers of good gardening are asked to "come and see." Pelargoniums are now a grand sight. **SWANLEY, KENT.**

**MORTIMER'S PRIZE MEDAL DAHLIAS.**—Strong, healthy plants of Show, Fancy, Cactus, and Pompon, in all the very best varieties, 4s. per dozen. CATALOGUES containing all the best novelties, on application. **S. MORTIMER, Swiss Nursery, Farnham.**

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**NOTICE.**—The American Plants at Knapp Hill are now in bloom, and may be seen daily, *Sundays excepted.*

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**CHARLES TURNER'S New Varieties of Dahlias.** Show, Pompon, and Cactus, were awarded Twenty-one First-class Certificates last year at the leading London Exhibitions. Catalogue free on application. **The Royal Nurseries, Slough.**

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**FOWLER'S MEALY-BUG DESTROYER.**—It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.—**CORRY & CO., Ltd., E.C. Sold by all Seedsmen.**

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**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulans, London." Telephone, No. 8728.

SALES BY AUCTION.

Thursday Next.

TRADE SALE OF IMPORTED ORCHIDS. By order of Mr. J. W. Moore, of Bradford.

Including— 500 Plants of CYPRIPEDIUM SPECIOSUM, M. M. MAGNIFICUM, C. SPECIOSA, very distinct; C. BELLATULUM ALBUM.

Also—

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A Collection of Rare and Curious ORCHIDS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 23, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Thursday Next.

A Collection of STOVE and GREENHOUSE PLANTS, including well-grown PALMS, choice CARNATIONS and other Plants from Ghent; a variety of JAPANESE LILiums, AMARYLLIS SPECIES, GLADIOLI, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 23, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Normandy, near Guildford, Surrey.

By order of the Trustees.

IMPORTANT SALE of a HIGH-CLASS FRUIT GARDEN and NURSERY, with Possession.

MESSRS. PROTHEROE and MORRIS in conjunction with Messrs. MUMFORD and BOND, will SELL by AUCTION, at the Mart, Tokenhouse Yard, London, E.C., on WEDNESDAY NEXT, May 27, at 2 o'clock, at a low reserve, to balance an Estate, by order of the Trustees of J. P. Parratt, deceased and Mr. Wm. Parratt, the productive MODEL FRUIT GARDEN and NURSERY, of 4 1/2 a. 3 r. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade, and in splendid condition; 16 modern Greenhouses, heated and fitted upon the best hot-water principles; ranges of newly built Stables, Coach-houses, Van, Cart, and Store Sheds, Piggeries, &c. The soil is of the best quality, and there are 1500 feet of frontage to existing roads. Particulars, Plan, and Conditions of the above, also the Farm and of the remainder of this Estate, may be had on the Premises; at the principal hotels in the neighbourhood; at the Mart; of Messrs. J. & T. PARRATT, Solicitors, Aylesbury; of Messrs. MUMFORD and BOND, Auctioneers, Brill, Bucks; and of Messrs. PROTHEROE and MORRIS, Auctioneers, Valuers, and Estate Agents, 67 & 68, Cheapside, London, E.C.

Wednesday Next, May 27.—Special Sale.

2000 TUBEROUS BEGONIAS, started into growth. This strain of Begonia is the finest in the country. During the past three years the collection has been shown at all the principal London and Provincial Exhibitions, and has gained upwards of sixty First Prizes, Awards of Merit, Diplomas, and Certificates, including three Gold Medals, Silver Cup, Silver-gilt, and Silver Medals.

1000 LILium PHILIPPINENSE, a recent importation of one of the most attractive and useful Lilies, a veritable pure white, long-flowered Lily, much in the style of L. Brownii, having long leaves, linear, light green, slender stems, growing about 2 feet high; found in the Philippine Islands at an altitude of 8000 feet. As easy of cultivation as L. Brownii or L. Harrisonii. Flowering Bulbs in splendid condition.

500 DAHLIAS, green plants, ready for immediate planting, of all the finest and most showy attractive varieties.

20 OBYSSANTHEMUMS, in fine condition, splendid exhibition varieties. A select lot of sorts.

CANNAS.—New, dwarf-growing, large-flowered varieties. Very showy, summer bedding varieties.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 27, at 12 o'clock. On view morning of Sale, and Catalogues had.

Wednesday Next.—American Roses.

A LARGE CONSIGNMENT of AMERICAN EVER-BLOOMING ROSES of the best varieties; same as used by the New York florists. Extra strong large plants, 2 1/2 to 3 feet high; very bushy, in five varieties, viz.,

- BRIDESMAID, BELLE SIEBRECHT, MADAME CUSINE, MRS. PIERPOINT MORGAN, AMERICAN BEAUTY

MESSRS. PROTHEROE and MORRIS will include the above in their SALE on WEDNESDAY NEXT, May 27, at 12 o'clock. On view morning of Sale, and Catalogues had.

Merstham, near Redhill.

25,000 BEDDING PLANTS, in immense variety; and 100 lots of choice STOVE and GREENHOUSE PLANTS, PALMS, &c. Third Great ANNUAL TRADE SALE. By order of Messrs. F. Rose & Co. Without reserve.

MESSRS. PROTHEROE and MORRIS will SELL the above by AUCTION, on the Premises, The Nurseries, Merstham, close to Merstham Station, and a mile and a quarter from Redhill Junction, on THURSDAY NEXT, May 23, at 2 o'clock.

May be viewed day prior and morning of Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next, May 29.

Another Property offered for the first time.

200 ROSE-COLOURED ARUM LILIES (Richardia Rehmanni). Warranted true.

This fine plant has handsome lanceolate leaves, spathes resembling those of the white Arum Lily, but tinged with soft rose colour, which in some of the specimens is rose-purple, especially on the outside on the spathe. It inhabits but one locality, so far as is at present known; and even there it is very scarce. In itself it is a valuable addition to our garden plants, and to the hybridist it will prove a grand plant on account of its novel tint and ornamental character. Plants from the same sander have flowered with the Hon. Walter Rothschild, and were of a pleasing soft pink colour.

MESSRS. PROTHEROE and MORRIS will include the above in their ORCHID SALE, on FRIDAY NEXT, May 29, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, May 29.

By order of Messrs. W. L. Lewis & Co., Southgate, N. SALE of choice IMPORTED ORCHIDS, amongst which will be found:—

ODONTOGLOSSUM MADRENSE, O. LONDESBOURGHIANUM, G. DOWIEANUM.

LÆLIA DAYANA, a grand lot; L. PEDUNCULARIS, CATLEYA SKINNERI, a very fine lot; C. CRISPA, C. WARNERI, and C. HARRISONIÆ VIOLACEA.

Also, by order of Mr. J. W. Moore, of Bradford.

- 200 CYPRIPEDIUM SPECIOSUM, 1 BELLATULUM ALBUM, 50 DENDROBIUM BENSONIÆ MAJUS, 50 FARMERI (true), 50 PARISHII, 50 FORMOSUM GIGANTEUM, 50 FITCHIANUM, 100 VANDA KIMBALLIANA, and 200 PANAMA HATS, received direct.

MESSRS. PROTHEROE and MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, May 29, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next May 29

MESSRS. PROTHEROE and MORRIS will include in their ORCHID SALE on FRIDAY NEXT, May 29, at half-past 12 o'clock, a small lot of exceedingly rare semi-established and fresh-collected Costa Rica Orchids, brought home by Mr. Richard Pfau, and including 24 MILTONIA ENDRESII (Odontoglossum Warszewiczii), with growth of M. vexillaria, and handsome white flowers, more nearly resembling M. x Bleviana; a few of the rare MILTONIA SCHROEDERIANA; some strong plants of the beautiful white EPIDENDRUM ENDRESII MAJOR, and healthy plants of Batemanis Burtii Wallichii; all of which are so difficult to import, as to render it necessary to bring them over and tend them; also, fine pieces of ODONTOGLOSSUM SCHLEPERIANUM, and three of the wholly yellow G. S. ATRIUM, ONCIDIUM AMPLIATUM MONSTRUM, BRASSIA BRACHIATA, the largest and rarest Brassia; Cattleya Downiens, Oncidium ansiferum, &c. Also, about 50 plants of a splendid strain of ODONTOGLOSSUM LUTEO-PURPUREUM (?) with magnificent flowers, gathered in a new district. On view morning of Sale, and Catalogues had.

DUMBAROTNSHIRE.

THE ARDDARROCH COLLECTION OF ESTABLISHED CATTLEYSAS and LÆLIAS.

So well known for the grand varieties contained. HIGHLY IMPORTANT SALE.

By order of R. Brooman White, Esq., Without Reserve, who is giving up the Cultivation of Hot-house Orchids.

MESSRS. PROTHEROE and MORRIS are instructed to SELL by AUCTION, on the Premises, Arddarroch, about 3 miles from Garelochhead Station on the West Highland Railway (freight boats leave Craigendorran Pier for Garelochhead Pier, which is about 3 miles from Arddarroch), on TUESDAY and WEDNESDAY, June 9 and 10, at half-past 12 o'clock precisely each day, entirely Without Reserve, the above valuable collection of ESTABLISHED CATTLEYSAS and LÆLIAS, together with about 100 ODONTOGLOSSUM ALEXANDRÆ, in Flower and Bud. Many plants have secured First-class Certificates and Awards of Merit, and have been specially mentioned in the leading horticultural papers and reviews. Amongst the principal plants the following may be mentioned:—

- Cattleya gigas purpurea: Hardyana, labiata varieties, Mendeli Bluntii, Kiln's variety, Empress of India, Whitei, Rajah, Wallichii, Mrs. Brooman White, superbissima, Sea-gull, Morganie type, J. O'Brien, Argus, Adonis, Eonchantress, Duchess of Montrose, Cook of the North, Mossie Wagnerii, Horsmanni, Rex, Trianae alba, 3 plants, 100 Plants of CATTLEYA AUREA, also about 150 Plants of ODONTOGLOSSUM ALEXANDRÆ in flower and bud.

May be viewed any day prior to the Sale on application to Mr. G. Roberts, the Gardener. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday, May 29, 1896.

MESSRS. PROTHEROE and MORRIS have received instructions from Messrs. F. Sander & Co. St. Albans to SELL by AUCTION in their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 29, at Half-past 12 o'clock.

THE PURE WHITE CATTLEYA GIGAS.

The whole consignment is offered. We cannot guarantee all, or, in fact, any, excepting lot 826, to be pure and snow-white, but this lot we do guarantee as being, not only pure white, but grand in form and size. The whole batch is possibly white. The peons assert that this is the case, and our man has good reason for believing them, but lot 826 is the only one he is certain about, and therefore we guarantee it. They are most distinct looking plants, and, as one is white, there is no reason why all should not be. Also

CATTLEYA AUREA.

The Monte Cornelia Form. The finest of all. The flowers are unequalled for size and brilliancy of colour. Our Collector assures us that even C. Chrysozona, hitherto considered the finest in this section, is totally eclipsed by this magnificent form, some of the labellums he saw being 4 inches across and the most rich colours.

The whole of the plants received of these two superb Orchids will be offered on FRIDAY NEXT, May 29. On view morning of Sale, and Catalogues had.

Southwick, within 2 1/2 miles of Brighton (West). IMPORTANT SALE of MARKET GARDEN LAND.

MESSRS. WM. WOOD, SON, AND GARDNER will SELL by AUCTION, in a Marquee on the Estate, on TUESDAY, June 2, 1896, at 3 o'clock, several plots of very rich MARKET GARDEN LAND. Free conveniences. Easy instalments. Particulars and Conditions of Sale may be had of F. W. VERRALL, Esq., Solicitor, Worthing; and of Messrs. WM. WOOD, SON, AND GARDNER, Land Agents and Surveyors, Crawley, Sussex.

WANTED, near London, a small compact FLORAL NURSERY, about an acre with Dwelling House and seed Shop.—Good Wreath and Bouquet Trade. Main thoroughfare. Price moderate.—Apply, Mr. WILLIAMS, 140, Neville Road, Upton Park, Essex.

NORTH-WEST of ENGLAND.—Old established SEED BUSINESS with good connection, present proprietor retiring; would suit energetic young man. Will be disposed of upon most moderate terms. H. E. H., 41, Wellington Street, Strand, W.C.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vinerias, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Nureerymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

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**AN APPEAL.**

MANY of the older generation of Housekeepers will remember Mrs. ELIZABETH WARREN, the Editress for many years of *The Ladies' Treasury*, and Authoress of a large number of practical works on Cookery and Domestic Economy. At an advanced age, and in too feeble a state of health to continue her work, this veteran authoress has fallen penniless, owing to circumstances entirely beyond her own control. This is a hard fate for one who has worked so much, during a long life, for the good of others. Some of her literary friends are endeavouring to raise a fund to comfort her remaining years, contributions to which, however small, will be thankfully received by—  
Miss ELLEN T. MASTERS,  
4, Mount Avenue, Ealing, W.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**

THE 57TH ANNIVERSARY FESTIVAL DINNER, in Aid of the Funds, will take place at the "Hotel Métropole," on SATURDAY May 30, 1896, when the Right Hon. the EARL OF LATHOM, G.C.B., P.C., will preside. The Committee have the pleasure to announce the following further amounts, which have been promised or received, and added to the Chairman's List:—

H. Morley ... ..	£25 0 0	A. Clanfield (annual) ..	£1 1 0
H. Bischoffsheim ...	10 10 0	J. Kodger ... ..	1 0 0
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Vicount Powerscourt	10 10 0	John Reid ... ..	5 5 0
Sir Charles Tennant,		J. Lazeby ... ..	1 1 0
Bart. ... ..	10 0 0	J. Hodge ... ..	1 1 0
Sir Oswald Morley,		Gen. Abbott ... ..	1 1 0
Bart. ... ..	10 0 0	W. Flummer ... ..	1 1 0
Ditto (annual) ... ..	5 0 0	L. Russell ... ..	1 1 0
William Robinson,		Per W. Pops—	
F.L.S. (additional) ...	5 5 0	J. Bishop ... ..	1 1 0
Herbert J. Adams ...	5 5 0	F. Cleaver ... ..	1 1 0
Sir Donald Currie,		Per J. H. White—	
M.P. ... ..	5 0 0	Worcester Aux. ...	26 5 0
Sir W. C. Brooks,		Per W. Bennett—	
Bart. ... ..	10 0 0	Lord James ... ..	1 1 0
M. P. Grace ... ..	10 10 0	C. J. Clay ... ..	2 2 0
Panmure Gordon ...	5 5 0	Mrs. Wilson ... ..	2 2 0
Lord Egerton of		Mr. Craik (annual) ..	1 1 0
Tatton ... ..	5 0 0	Per Mr. R. McIntosh—	
Marquess of Tweed-		Dr. Hingston ... ..	1 0 0
dale ... ..	2 2 0	J. Hornby ... ..	0 5 0
W. H. Bailey ... ..	5 5 0	M. Everard ... ..	0 5 0
R. Milligan Hogg ...	5 5 0	Per Watkins & Simp-	
H. J. Wimsatt ... ..	3 3 0	son, J. Miles Leather	
John Soell ... ..	11 0 0	(annual) ... ..	1 1 0
W. H. Robbins ... ..	10 18 0	Per H. J. Cuthush—	
Geo. Harding ... ..	10 12 6	B. Noakes ... ..	1 1 0
Ditto (annual) ... ..	1 1 0	Per W. H. Lees—	
G. J. Brush ... ..	3 3 0	Morgan Harvey ...	1 0 0
E. W. Cathie ... ..	2 2 0	Mrs. Gladstone ...	1 1 0
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Dickson & Robinson	1 1 0	Lord Poltimore	
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Geo. Sleigh ... ..	1 1 0	Eiley Scott ... ..	10 10 0
James Smith ... ..	1 1 0	Geo. Higgins ... ..	0 10 0
F. Cooper ... ..	1 1 0	G. Forbes ... ..	0 15 0
A. Osborn ... ..	1 0 0	Thos. Taylor ... ..	0 10 0
John Crawford ...	1 1 0	W. Harris ... ..	0 5 0

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The EIGHTH ANNUAL SHOW will be held in the Cardiff Exhibition Grounds, on August 12 and 13 next.  
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66, Woodville Road, Cardiff. H. GILLET, Secretary.

**BRADFORD and DISTRICT CHRYSANTHEMUM SOCIETY'S NEXT SHOW**, November 13 and 14, 1896. Schedules and particulars from—J. COLLIER, Hon. Sec., 5, Shipley Fields Road, Frizinghall, Bradford.

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JULY 7, 8, 9, 1896.  
OPEN CLASSES:—PLANTS, ROSES, FRUIT, PANSIES, and VIOLAS.  
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GREAT JUBILEE CELEBRATION,  
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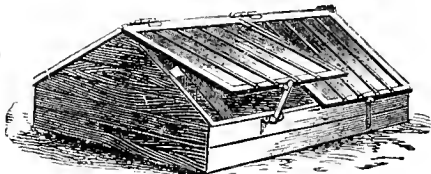
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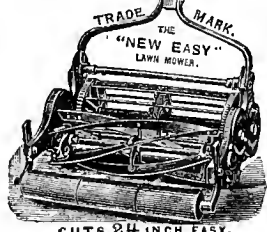
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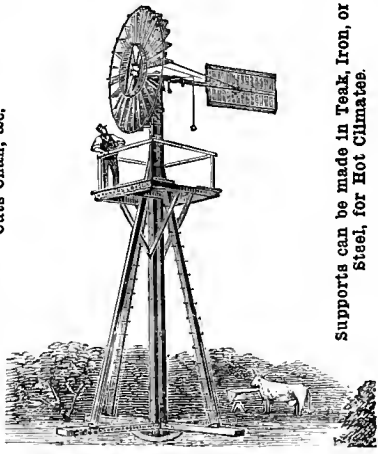
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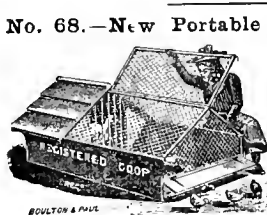
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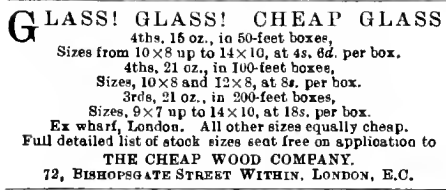
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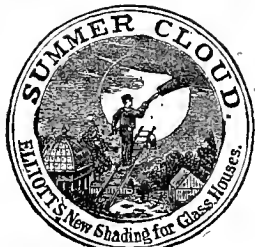
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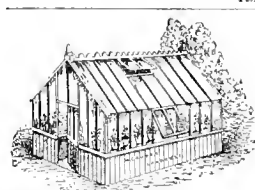
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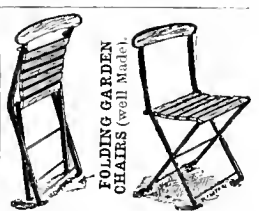
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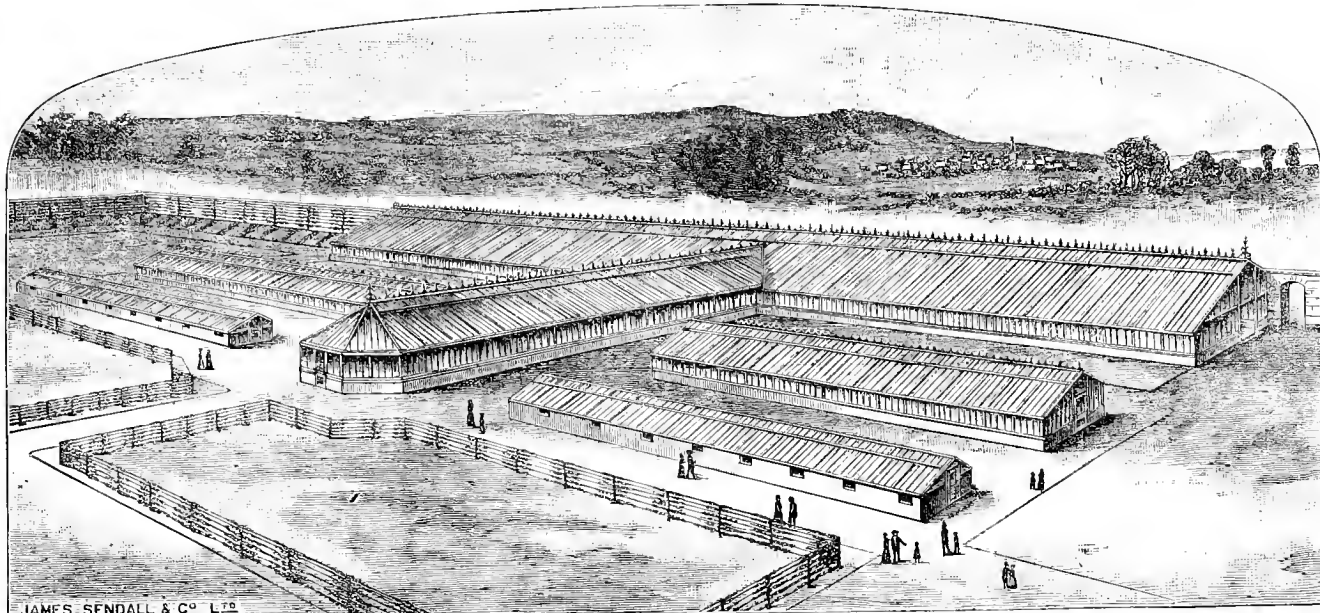
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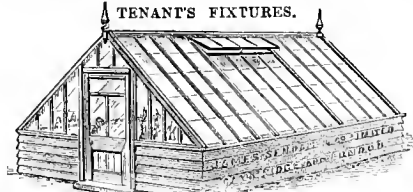
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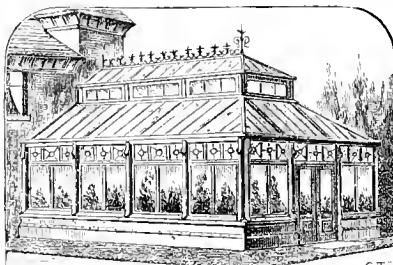
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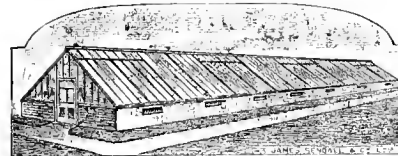
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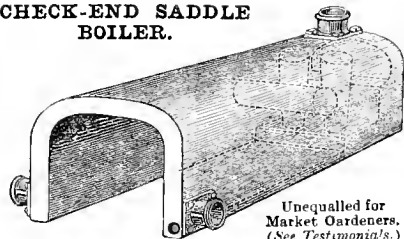
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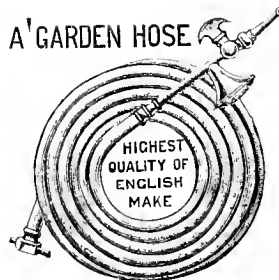
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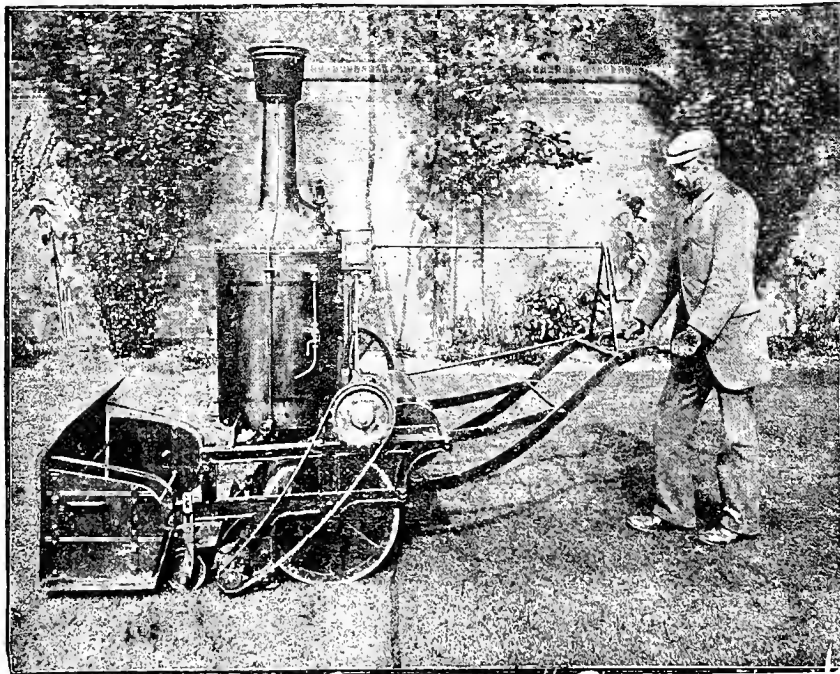
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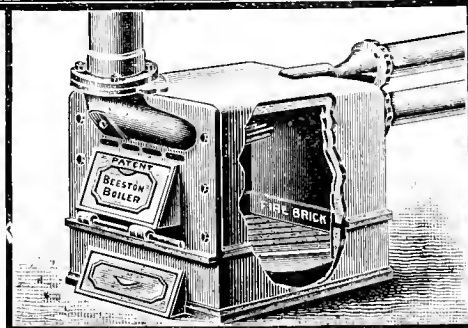
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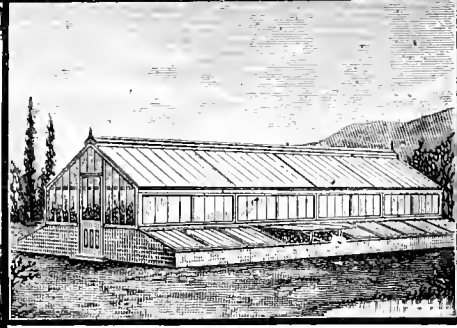
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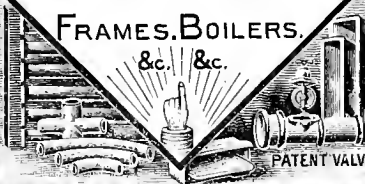
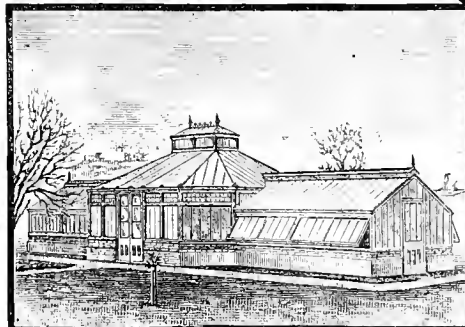
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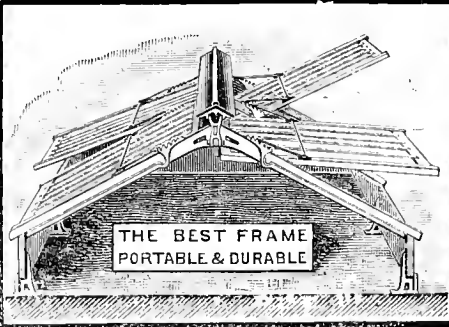
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THE  
**Gardeners' Chronicle.**

SATURDAY, MAY 23, 1896.

**STRAWBERRIES IN THE PROVINCE OF NAPLES.**

**N**APLES is, as is well known, one of the most populous cities of the world; cultivation, therefore, especially on the small tracts of common land near the town, is on a most extensive scale, as produce finds a brisk sale in the great market of this district.

The cultivation of the Strawberry has greatly extended into the province, the demand being very large; the system employed has, in most cases, special characteristics that distinguish it from the ordinary modes of cultivation described in gardening books. The plants are grown, in fact, in the fertile plain included in the land of the province of Terra di Lavoro, not in gardens, but in ordinary soils, whereon the Vines grow beside Poplars and cereal and herbaceous plants, such as Hemp, Wheat, Maize, &c.

The kinds cultivated here are two—the *Fragaria vesca*, ordinarily called common or red Strawberry; and the *F. chiloensis*, Ehrh., var. *ananassa*, Duchesne, commonly called Ananas *ananassa*, or Garden Strawberry.

Its place in the rotation of the crops (*avvicendamento*) is the fourth, as generally the Maize is cultivated first, Wheat second, followed by green manuring; Hemp third, and Strawberries the fourth year, and after.

The duration of a Strawberry plantation extends, for the common Strawberries, from three to six years, and over even ten years for the Ananas.

In September, after the Hemp-harvest, the ground is dug to the depth of from 1 to 1½ foot, and raked over. Barley is afterwards sown in rows 10 to 12 inches distant from each other. During the time from October to January, and after the cereal is grown, the small plants of Strawberries are planted, without any other preparation, between the rows of Barley, being arranged in alternate rows at a distance of about 12 inches from each other.

The plantation is made with a planter, and is always done by two labourers. They are placed at the two extremities of the little field, and work forward, each at the same time putting in three rows of Strawberries. The runners are usually planted singly, or in clusters varying in number according to the strength of the plant; each cluster may contain as many as twelve runners. The little plants are obtained from a one-year-old Strawberry-bed, or from wild plants; in the latter case, the clump from the small plant always contains very few plants. Gardeners, however, prefer wild plants to the cultivated ones, as it is known for certain that the Strawberry-bed bears better, and the fruit has a finer aroma. Here, again, is noted the effect produced by improved cultivation, which, while valuable to some plants, is unsuitable for others. Thus, *Fragaria vesca*,

which is a very sturdy plant, soon dwindles when cultivated, the aroma of the fruit is less, and the physiological equilibrium between the productive and vegetative systems is disturbed to the benefit of the latter. But Strawberries are never grown alone. Barley is associated with them during their first year, or Wheat is substituted for it, in rows, as has been said, in cases where Strawberries are not planted between Beans, or in the Pear and Apple orchard. But these latter cases are less frequent.

When Barley is sown, it is generally mown as fodder in spring, and the ground disposed in beds about  $5\frac{1}{2}$  feet wide, and divided from each other by a furrow 12 inches wide. After this, early French Beans or Maize can be sown between the Strawberries.

In subsequent years the plants are always associated with Beans or late Maize, to afford time for the Strawberry harvest, which is from April 10 to June 15, or thereabouts. Strawberries are hand-gathered daily, the stalk being broken with the thumb-nail.

The method of cultivation used is certainly not perfect, but is constantly being improved. And now for the weeding. After mowing the Barley, the roots and leaves are removed, and the ground is manured with road-sweepings, in the proportion of about 45 cubic metres to every hectare. [1 c. m. = 1.31 cubic yard; 1 hectare =  $2\frac{1}{2}$  acres (*circa*).] This quantity, however, is very variable, especially with the Ananas (Pineapple) Strawberries, which sometimes are not manured at all.

The manure is spread by hand, and is covered over lightly with earth, which the gardener carefully and evenly spreads with the mattock, taking the soil from the dug-up ground, so that the earth remains divided into rows  $5\frac{1}{2}$  feet apart, as before said.

In December the Strawberry-bed is cleared, and re-stocked with the plants required. In January and February of the second year the ground is again manured and weeded with care, extirpating even any Strawberry-runners that are left. This plan is repeated until the fourth year, and sometimes even until the fifth or sixth. As may be seen, manuring and weeding are but little done.

A practice which does not seem sensible at first sight is that of mowing the Strawberry-bed as soon as the fruit-gathering is over; but it should be remembered that the Strawberries are cultivated without irrigation, so naturally the production depends very much on atmospheric conditions, i.e., on the season being more or less favoured by rains, and it is understandable that, by cutting down the plants, their evaporation in summer is prevented, and the plants will shoot up in the autumn with greater vigour.

In this way the *Sphaerella fragariae*, known in England as white-rust, blight, or spot-disease of Strawberry leaves, and the forms of which are all known—*Conidia* (Graphium, Desm.; Graphiothecium, Sacc.; Ramularia Sacc., Peck.; *Cylindrosporium*); *Spermatogonia* (*Septoria fragariae*, Desm.); (*Ascochyton fragariae*), Lib.; *Phyllosticta fragariaecola*, Desm.); *Ascophora* (*Stigmatea fragariae*, Rul.), is prevented from appearing in consequence. The formation of the reproductive system of ascophore of the *Sphaerella fragariae*, Sacc., is prevented, which otherwise would permit to the parasitical to remain during the winter in the ground. And the plan suggested by the pathologists, i.e., to take off the infected leaves, and to pulverise the plantation with a mixture of

sulphur and quick-lime, is rendered unnecessary. The net proceeds of an acre of Strawberries are about £7. *Dr. Giovanni Mottravale, Portici, May, 1896.*

## NEW OR NOTEWORTHY PLANTS.

### CENOLOPHON VITELLINUM, *Horaniinow*.

This plant was first described by Lindley under the name of *Amomum vitellinum* (*Journ. Hort. Soc.*, ii., 245), in 1847, from a plant of unknown locality, cultivated in the Chiswick gardens. He figured it also in the *Botanic Register*, 1847, t. 52.

It was supposed to have come from Ceylon, but no

leaves lanceolate acuminate petioled, 10 inches long, 3 inches across, dark green; petiole short, less than  $\frac{1}{2}$  inch long, ligule rounded, usually split, edged with red fur,  $\frac{1}{2}$  inch in length; panicle terminal much shorter than the leaves, branches few, rachis pubescent, 4 inches long. Bracts narrow linear, caducous, light green, 3 inches long. Flowers sessile or nearly so; calyx tubular, green, pubescent, 1 inch long, trifold and split along the back; corolla-tube as long as the calyx, yellow, lobes linear, blunt, erect, 1 inch long, posticous one hooded, yellow; lip longer than the corolla, flat (not convolute as in typical *Alpinias*), oblong, cuculate, apex bilobed, edge crisped, orange, veined with darker colour and numerous red dots. Anther filament shorter than the lip, flat, pale orange, connective (crest) very large three-lobed and much



FIG. 101.—MESSRS. WILLS AND SEGAR'S GROUP AT THE TEMPLE SHOW. (SEE P. 650.)

one seems to have seen it again, till in April of this year while I was staying on Penang Hill, Mr. Curtis and Mr. Woolridge, a local amateur of plants, came across some plants in full flower, growing in dense jungle on the top of the hill, at an altitude of about 2000 feet. The description and figure agree very well with the Penang specimen, except that the latter are bigger and stouter, attaining a height of  $3\frac{1}{2}$  feet, the stems being  $\frac{1}{4}$  inch through, and the inflorescence was not a globose spike, but a few-branched panicle. The bracts, too, are described as oblong,  $\frac{1}{2}$  inch long, while in the Penang plant they were (at least the lower ones), narrowly linear and 3 inches in length. They are, however, very caducous, and perhaps most had fallen off in the Chiswick garden plant.

The following is the description of the Penang plant:—Rhizome stout, branched; stems 3 to  $3\frac{1}{2}$  feet, tall, dull green, slightly flattened and ribbed;

incised; staminode at base of free portion of the filament adnate to lip (as in many *Alpinias*), short linear, subulate red. The anther-cells are divaricate at the apex.

From this it will be seen that the plant is very closely allied to *Alpinia* (such species as *A. bracteata*), differing only in the development of the anther-connective. In most *Alpinias* the sides of the lip are convolute round the stamen, or so erected as to compel the fertilising insect (usually a bee) to go direct to the nectary along the line of the lip. In the *Cenolophon* the lip is quite flat, so that the fertiliser could get at the honey from the side of the flower without touching the pollen, were it not for the large connective which closes the entrance at the sides.

The plant bears no definite relation to any *Amomum*, and the only question as to its classifi-





FIG. 102.—MESSRS. KELWAY'S TREE PEONY FLORIZEL: FLOWERS WHITE. (SEE P. 650.)



cation can be whether *Cenolophou* should be kept as a distinct genus, or as an aberrant section of *Alpinia*. The typical *Cenolophou* (*C. rubrum*, Bl.) is a very little known plant from Celebes, with which, generically, *C. vitellinum*, of Horaniow, appears to agree. It will probably be most convenient to retain the genus *Cenolophou* for these plants, placing them, as indeed Horaniow does, close to *Alpinia*. *H. N. Ridley, Singapore, April, 1896.*

## ORCHID NOTES AND GLEANINGS.

### LÆLIA PURPURATA.

Mr. W. E. JOHNSON, gardener to J. Moore, Esq., Borton-on-the-Water, sends us a spike of *Lælia purpurata* with a perfect leaf produced on the raceme above the lowest flower. It is the first time we have seen such an occurrence in this plant.

### CYPRIPEDIUM CHAMBERLAINIANUM.

Having seen several notices in the *Gardeners' Chronicle* referring to the long time the above plant will continue to flower, I may say we have here a plant that commenced flowering in June, 1893, and has flowered continuously ever since. The first raceme finished flowering in April of this year, after bearing flowers for a period of two years and ten months; and during that time the plant made a strong growth, which commenced flowering simultaneously with the other raceme going over. As showing what a vigorous constitution the species possesses, the new raceme is stronger than the old one, and at the present time it has three flowers open upon it, and there are also two new growths coming on. *William Dawes, Little Ness Gardens, Shrewsbury.*

## METHODS OF PROPAGATION.

(Continued from p. 618.)

ORNAMENTAL VARIETIES OF THE CRAB.—Among cultivated Crabs there are many forms richly deserving a place in pleasure-grounds and shrubberies, and beautiful objects to stand singly on a lawn. In front of me, whilst writing, I have a branch of a Japanese Crab covered with flowers of a bright carmine colour, the variety of *Pyrus floribunda*. Then we have *P. M. spectabilis*, not so brilliant in colouring, nevertheless a useful companion plant to the above, and flowering somewhat later. The old-fashioned Siberian Crab, or "Cherry Apple," is well worthy of cultivation for its pretty blossom and elegant fruit, while the latter may be made good use of by the housewife, as many other kinds of fruiting Crab. There is also a form of Siberian Crab called the American variety, which bears oval fruits, and two new sorts worthy of culture, the first having an elegant weeping habit, must be grafted on a tall stem, in order to exhibit its full beauty, this is named *Elize Rathke*; and the second an exceedingly handsome form, named *John Downie*, which, if not very attractive when in flower, produces abundance of highly-coloured fruits in the autumn. Then there is the dark crimson fruited Dartmouth, and other well-known Crabs, that may be grafted on the wild Crab or on the Paradise stock, and grown as standards, dwarfs, or pyramids, making good trees for conspicuous positions, while the fruits are well adapted for decoration in the house or on the dessert-table, or used with the foliage retained on the branch for church decoration at harvest festivals, &c.

So much for fruit-tree grafting; now for a few words concerning the same operation among purely ornamental trees. These are all increased in nurseries by grafting, marching and budding. Let us now take the grafting, and I may here remark that the processes are more complicated and difficult than fruit grafting, for the simple reason that the bark or outer skin of many ornamental trees is thin and fragile, therefore very easily broken and bruised by the unskilful workman.

It will be advisable to take these subjects in the order of their leafing. First the Willows and Poplars, which though easily increased from cuttings are yet

more rapidly produced from grafts and buds, as the scion or bud may be inserted in a tall already-formed stem where it will soon form a good head, thus saving much time. This subject will be resumed shortly. There are other fruit trees which must not be forgotten, namely the Medlar, the Chequer (*Sorbus domestica*), and the Quince.

The first is frequently grafted on the common Hawthorn, on which it grows but slowly, making, however, a fertile and long-lived tree; but for rapid work the Pear stock is the better one, and on this stock the various Medlars may be grafted or budded either at the ground-line, or at a height of 5 to 6 feet. The Dutch produces the largest fruit, and forms a depressed and spreading head, and its large white blossom makes it a handsome tree in the spring, but the fruit is dry and insipid. Preference should be given to the Nottingham, which, although it has small fruits, has the best flavour; the Royal Medlar to many palates is too acid. These two trees are more upright in habit, and smaller in the blossom and fruit.

The Quince may be budded or grafted; the only variety, with the exception of some novelties from America and the Continent, is the Pear-shaped; the one called Portugal is tender, and blossoms too early for our climate. All may be raised from suckers, or grafted or budded on the common Quince stocks, but unless worked high up, they take a long time to make a good head. It often occurred to me that as the Pear can be grafted and budded on the Quince, if the reverse were practicable, viz., the Quince on the Pear? which might be worth trying. And here is another problem for an experimental gardener or amateur. I must confess that I never essayed it. The last-named fruit I have found in my travels is almost unknown out of Kent and Sussex; I allude to the Chequer tree, or edible Service. This is found as a wilding in the Weald of Kent, and in those parts of Sussex adjoining. The trees are very handsome and marked, assuming an elegant pyramidal form, while the foliage is glossy green above, and slightly silvery beneath, deeply lobed, and elegant; the flowers, produced in May, are white, and conspicuous. The fruit, like the Medlar, only edible when in incipient decay—"bletted." The stock for this is the Mountain Ash, on which it may be grafted in the spring, or budded in July. A near relative is, to my thinking, one of the most attractive flowering trees, next to the Thorns, that we possess. I allude to the "Snowy Mespilus" or Grape Pear of America (*Ame-lanchier Botryopium*). Whether in flower in May-June, or in its scarlet livery in autumn, this tree is worthy of more extended use. To successfully graft it, the scion should be taken from the wood of the year before, but cut with a heel of older wood at its base, while great care should be used not to bruise the bark, but to cut it clean with a very sharp knife, well binding the scion to the stock, which, like the Chequer, should be the Mountain Ash (*Sorbus aucuparia*), and using grafting-wax to cover the union. *Experience.*

(To be continued.)

## HORTICULTURAL SCHOOLS IN BELGIUM.

THE Belgian Government has, for a long time, contributed generously to the support of agricultural and horticultural science, which has become a national study. Instruction is also given in the principles of agriculture in all the more important garrisons, so that after his period of service the peasant youth may return home with a knowledge sufficient to enable him to intelligently till the fields. The school of horticulture at Ghent was founded in 1849. The teaching staff consists of a director and six professors. The course of instruction is entirely free to Belgians, but foreigners must pay a fee of about £7 per annum. The school is required by the State to combine theoretical and practical work; the tone of its instruction is highly scientific. It aims to graduate learned horticulturists, and is particularly devoted to the cultivation of ornamental flowers and plants. The institution at Vilvorde, on the contrary, pays

especial attention to the kitchen garden, and endeavours to educate practical workmen. The Ghent school makes a specialty of the cultivation of hybrids, and of work in the laboratory. The chief plants cultivated and studied are Palms, Ferns, Azaleas, and Camellias. Arboriculture is taught to perfection. The course of instruction covers a period of three years. The examinations for admission take place during the first week in October, and the candidates must be sixteen years of age. The subjects of examination are an exercise in writing and orthography, a simple composition, arithmetic (including the metric system), explanation of a printed extract, general geography, and national history. All the lectures at the school are given in the morning, and during the afternoon the students are divided into three sections. Each of these sections is occupied one week at a time in a horticultural establishment, in a nursery, and in the botanical garden, rotating throughout the year between these three places. A thoroughly practical instruction is thus imparted. Examinations for advancement from one class to another are held every August before a jury appointed by the Government. In addition to the regular course of instruction, there are several annual series of lectures which are open to the public. For example, for thirty-five years there have been given annually twelve to fifteen lectures on fruit-tree arboriculture. These are delivered on Sundays in Flemish, especially for gardeners; and every Thursday they are repeated in French for the general public. For three years a course of lectures upon kitchen gardening has also been given. As regards the commercial relations of horticulture which have in recent years contributed so greatly to the prosperity of Ghent, the number of horticultural establishments in Ghent and its suburbs is 366. There are 2535 hot-houses, with 3,625,500 square feet of glass-roofing. The total space occupied by cultivation amounts to 1521 acres. There are about 20 very large establishments, and these have 70 to 72 hot-houses each. Concerning the capital invested, accurate statistics do not exist, but estimates vary from £800,000 to £3,000,000. The difference may be explained by a variation in the extent of territory comprised in these respective figures. Numerous societies exist throughout Belgium for the promotion of the interests of horticulture, the most important organisation of this kind being at Ghent—the Royal Society of Agriculture and Botany. There are altogether in Belgium 25 important, and 15 smaller societies of horticulture and botany. The total membership approximates 12,000. There are a dozen great floral exhibitions annually held in Belgium, and prizes amounting to £1000 are yearly distributed. Finally, all these various societies are united in a national organisation known as the "Fédération des Sociétés d'Horticulture de Belgique." This organisation holds annual conventions, and publishes a series of bulletins in the nature of reports of its proceedings. The first international congress of horticultural botany was held at the Brussels Exposition of 1864. *Journal of the Society of Arts.*

## FLORISTS' FLOWERS.

### THE CARNATION FROM SEED.

SOME remarks were made at p. 550 on raising Auriculas, Polyanthuses, &c., from seed, and the results obtained by cross-fertilisation, and in a private note to the Editor I stated that I had obtained about 80 per cent. of yellow and white Polyanthuses from yellow and white parents. Similar results were also obtained from yellow Auriculas. The seeds from edged varieties, perhaps, do not produce 50 per cent. of edged varieties.

It is now time to sow seeds of Carnations to produce plants that will flower next year. Many amateurs are now raising seedling Carnations, owing to the distribution of seed by the Carnation Society. Seedling Carnations appear above-ground in a week after the seed is sown, if aided by a little bottom-heat. The plants grow rapidly if pricked out in the open

garden after being gradually inured to the open air, and grow into fine flowering specimens by the autumn. The next season they flower at the usual time (July).

I wrote an article on the raising of seedlings in the *Carnation Manual* a few years ago, in which I gave the results of raising seedlings by cross-fertilisation from the best named varieties. To begin with, some 12 to 15 per cent. produce varieties with single flowers; 70 or 80 per cent. would have double flowers of one sort and another, but all inferior to the parentage; some 5 or 6 per cent. would be worth trying again, and not more than one in 500 would be worthy of holding a first place. It is very difficult indeed to obtain good form in seedlings, but the variation in colour is remarkable. The yellow-ground Picotees vary to the greatest extent; a large proportion of the seedlings will be selfs of various colours, and many will be nondescript white-ground varieties.

We know where the first yellow-ground Carnation came from; but it would be of much interest to know how it was produced. It was sent from Constantinople to London towards the end of the sixteenth century. Lady Mary Wortley Montague, writing from Constantinople on January 4, O.S., 1715, says, "My chamber is set out with Carnations, Roses, and Jougouils fresh from my garden." I have raised many thousands of seedling Carnations, but have never yet obtained a yellow-ground variety from a white ground, showing that the first sport must have been quite exceptional. The above quotation from Lady M. Montague's letters would show that the Carnation was a common flower at Constantinople nearly 200 years ago; and in such a climate, seedlings would be easily produced.

I expect during the next few years to see many remarkable varieties of seedling Carnations. The Editor of this paper, I am sure, would be pleased to have any eccentric productions in form or colour sent to him for exhibition at the Scientific Committees held in July and August. The curious fancy Auriculas used to be thrown away as soon as the flowers appeared, but a collection of them has been formed, and they are much admired by tasteful persons. They are also interesting to the scientist as being probable reversions to the state of the Auricula early in the eighteenth century.

The study of seedling Carnations in their infinite variety is most interesting when the record of the crosses have been kept. I have a batch of seedling tree Carnations now flowering, obtained by crossing Uriah Pike, a dark crimson variety, with white and rose-coloured sorts; there are rose and red-coloured varieties of many tints, and as yet only one with white flowers, but many of them are merely replicas of Uriah Pike, and yet there can be no doubt that the flowers from which the seed was obtained were cross-fertilised. The plants have been cultivated in pots from the first, and none of them have produced single flowers. This may have happened from the same cause. Single Stocks, if grown in pots for seed, produce more double flowers from the seed than if the same plants had been planted out.

#### GOLD-LACED POLYANTHUS.

In answer to "J. P.," I have already stated why the gold-laced Polyanthus were omitted this year from the schedule of the National Auricula and Primula Society (Southern Section). Doubtless they can be included again, if fanciers will support the Society. I knew quite well what I was writing about when I stated that the varieties which were exhibited sixty years ago were still the best at the leading northern exhibition. George IV. (Buck), mentioned by "J. P.," still holds the highest place; and in a list before me, published 1833, George IV. (Buck) is included; there is also George IV. (Waterhouse), but that seems to have gone out of cultivation. It may be interesting to fanciers to give a list of the best twelve sixty-three years ago; they are—Alexander (Pearson), George IV. (Waterhouse), Prince of Orange (Cartwright), George IV. (Buck), Princeess Royal (Collier), Lord Nelson (Park), Lord Crewe (Clegg), Invincible (Crownshaw), Defiance (Timmin), Bang Europe (Nicholson), Jolly Dragon (Eckersley),

Prince Regent (Cox). Burand's Formosa did not come in as one of the best twelve, but there is an excellent coloured plate of it in the *Floricultural Cabinet* for July, 1834. It is stated to have been raised from seed in the garden of J. P. Burand, Esq., Formosa Cottage, Holloway, near London. Mr. John Renell, of Sheffield, was the leading cultivator and writer on Polyanthuses in those days. A paper by him is published in the *Floricultural Cabinet* for August, 1834, and the more important points of culture are: Compost for potting—"Three barrowfuls of light maiden soil, one of stable-manure six weeks old, one of decayed leaf-mould." He further adds:—"I pot in August, for if done sooner they are too early in bloom for the show, which takes place in the latter end of April or early in May. In parting the old roots, I cut off all the leaves, then pot them in the above-stated compost, and place them in a shady position, where I let them remain till November." These are the leading points in his culture. In November the plants are put in frames or pits, which are covered with shutters instead of glass lights. The details of preparation for exhibition, flattening the pips, and thinning them out, &c., are rather tedious, but he asserts that if the plants are placed in total darkness for two or three days before the show, the colour becomes much darker, an assertion which any fancier can prove for themselves. I may remark, as showing to some extent the number of fanciers, that all the thirteen varieties I have named are by different raisers. J. Douglas.

## TREES AND SHRUBS.

### JUNIPERUS PACHYPHLLÆA.

Owing to the intense glaucous hue of its foliage, this species is one of the most distinct and interesting of hardy Junipers. The difference in colour between the old and young foliage is likewise remarkable, that of the young shoots for at least half the year being so intensely glaucous, that they appear as if coated with hoar-frost, while the older is of a soft bluish-green.

Generally, the habit is irregularly upright, rarely formally so, the branches comparatively short and erect, and the scale-like leaves, broad and short, stiff and sharp to the touch, and very closely arranged. The berries are produced in twos and threes, and resemble greatly both in shape and colour those of our common Juniper, but they are twice as large, or fully half-an-inch in diameter, and in the young stage suffused with the same silvery-glaucous hue for which the foliage is so remarkable. This Juniper is quite hardy, but has, with several other species of Juniper, the unfortunate drawback, for ornamental purposes at least, that the lower branches give way even in specimens that are freely exposed to light and air. It is not averse to rather stiff soil, and to exposed situations. A. D. Webster.

### MAGNOLIA KOBUS,

claimed to be the hardiest Magnolia, is blooming on young seedling plants about 6 to 8 feet high. It has been considered a shy bloomer while young, but these seedlings, now six years old, have bloomed sparingly for two seasons. It blooms with *M. conspicua*, and three or four days before *M. soulangeana*; flowers pure white, smaller and whiter than *M. conspicua*, but larger than in *M. stellata*. I find it an excellent stock for grafting *stellata* on, which is an elegant little bush, but so slow a grower that it is hard to get up to salable size, and is always scarce. S. C. Moon, in the "National Nurseryman."

## THE PRODUCTION OF GARDEN VARIETIES IN PLANTS.

The origin of the garden Cineraria has perhaps been sufficiently discussed, until we can get some practical information from gardeners who have manipulated the wild plant. I am now flowering seedlings from *C. cruenta*, and find there is scarcely any difference between the seedlings and the wild plants. I am saving

seed from these, and they have been flowered in a house 300 yards from any other Cineraria. Even at this distance, however, a bee may convey the pollen from one to another. I certainly do not expect to see much change in the seedlings next season. The *Botanical Magazine* specimen was figured in 1798; and Mr. W. Curtis there states that "the seed usually proves abortive," and that the plant was propagated by division. I am sorry I have not a plant of *C. lanata*, so that I could cross the two species, for *C. lanata* has, perhaps, more resemblance to the garden Cineraria than *C. cruenta* has [save its now herbaceous character], and it is also more liable to be infested with aphides than *C. cruenta*, which is also a strong characteristic of the garden varieties. But my object in referring again to this subject is not to discuss the Cineraria alone, as all my experiments so far go to prove that most garden varieties of popular flowers are the results of hybridisation between species rather than of cross-fertilisation in the first place. If two species of the same genus be hybridised, the progeny usually bears a likeness to both parents. Some twenty years ago, I crossed *Aquilegia californica* with *A. chrysantha*, and at the same time, *A. cœrulea* with *A. chrysantha*. In each instance the cross was intermediate, and when I exhibited them at Regent's Park, with particulars of their parentage, they created quite a sensation. Seed saved from these hybrids year after year has produced a most remarkable combination of beautiful colours. I parted with the seed to Messrs. Veitch, of Chelsea, and they have produced by selection a most varied race; but the uncrossed parents do not change, and perhaps few who grow the hybrid *Aquilegias* in their gardens know anything of the source whence they were derived. Certainly, some of the seedlings bear no trace of the original parentage. I had seedlings from Messrs. Veitch's strain with white flowers, but one may expect almost any change in colours.

My point is, that such variation arises most readily from hybrids after the first original cross. On the other hand, when a cross is effected between an original species on the one hand, and a garden variety of the same genus, there is much greater variation. I have experimented a good deal with *Primula* species, and witnessed an interesting result from seed saved in 1894. In that year I saved seed from *Primula pubescens*, but the plant was placed by accident near a frame containing Auriculas, with the result that the seedlings which have flowered this year are intermediate between the Auricula and *Primula pubescens*; but there is considerable variation also, I believe, owing to one of the parents being a garden variety and not a species. The humble-bee does much cross-fertilisation in a house of flowering plants. It has been stated in the *Gardeners' Chronicle* that a bee will not visit a mutilated Auricula flower—this is an error; they pay no attention to the state of the flowers, thrusting their snouts into mutilated flowers, and half-faded ones, as freely as into the more perfect. I saw a humble-bee enter the Auricula-house the other day, and I watched its movements for more than a quarter-of-an-hour; during that time it visited 508 flowers, and flitted rapidly from one to another, the entire length of the staging being filled with plants to the extent of 50 feet.

I need not add any more to what I have said of the laced Polyanthus at pp. 550 and 551. There is so little variation in seedlings obtained from the named varieties, that I believe it has descended by ordinary generation from the Cowslip.

I have raised the *Hippeastrum* in quantity from seed. How can one account for the infinite variety of colour and form in the garden varieties of this plant, except for the fact that few garden plants have benefited so much from the hybridisation of distinct species? Deau Herbert began the work early in the present century, and carried it on for some thirty years. He describes some twenty-three crosses in the *Amaryllidaceæ*, which he effected at Mitcham, and afterwards at Spofforth. These would not be all lost. Herbert's great work was published in 1837; and he was working on the *Hippeastrum* up to that date. And I have the authority of W. S. A. de Graaf, of Leyden, for

saying, that his father began to hybridise and cross-fertilise the *Hippeastrum* in 1830; but his work was begun and carried on by hybridising in the first place. Some thirty years later, Messrs. Veitch, of Chelsea, introduced the distinct species *Hippeastrum pardinum* and *H. Leopoldi*, and by obtaining the best varieties from de Graaf and others, they have brought the garden varieties to their present character. There is no other garden flower more varied in form

he has been since he started in 1862. We can trace the progress of the *Hippeastrum* through the century, and fresh blood has been brought in constantly through distinct species being used as seed or pollen-bearers. If the above is correct, reasoning from analogy, we must conclude that wherever great variation of character exists in any garden plant, it is probable that this variation is the result of hybridisation rather than of cross-fertilisation.

#### FRUIT EXPERIMENTS AT WOBURN.

THE invitation issued by the directors of the Experimental Fruit Farm at Ridgmont, near Woburn, is one which should be accepted by anyone who is interested in the improvement of fruit culture. It is not often that scientific and practical work are met with in such happy and instructive combination, and

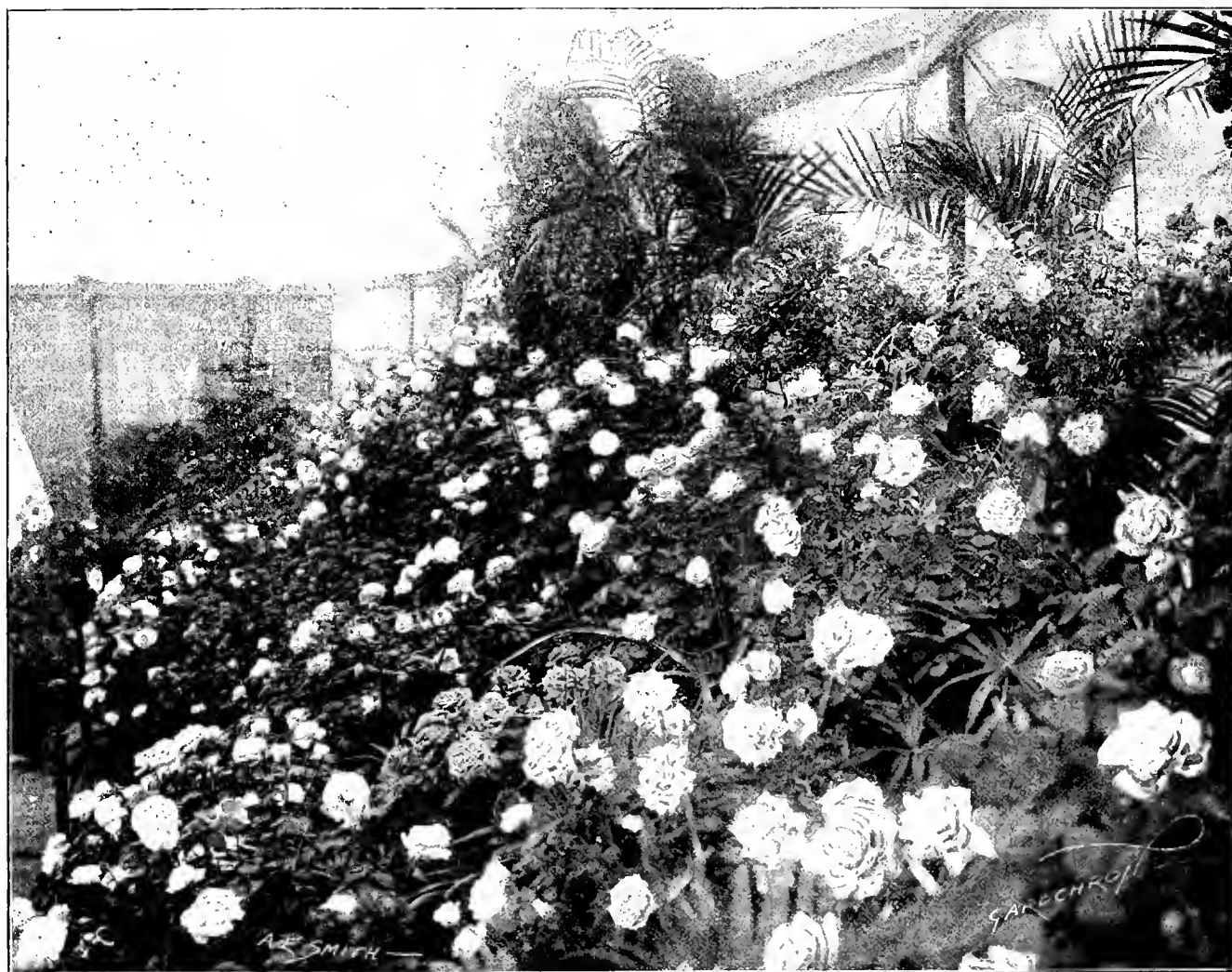


FIG. 103.—MR. C. TURNER'S GROUP OF ROSES AT THE TEMPLE SHOW (SEE P. 650).

and colour than this one, but if we trace its history from Herbert's work, beginning in 1810, or a little earlier, it will be found that all the growers who have made their mark in raising high-class varieties have practised hybridisation as well as cross-fertilisation, and all of them had a definite object in view. Mr. S. A. de Graaf says his father worked for rich colours, but when the work was handed on to the son he tried for large flowers, and for this purpose obtained species (not garden varieties) with large flowers, and those of us who have seen De Graaf's work in this class of plants at Leyden, know how very successful

I believe that in a few years we shall find this abundantly proved in the Orchid genus, *Calanthe*. The first step was taken when the late Mr. Dominy raised *C. Veitchii*, which was described by Dr. Lindley in the *Gardeners' Chronicle* for the year 1859, p. 1016; it was a hybrid between the purple spotted *Calanthe vestita*, male parent, and *Limatodes rosea*. Mr. Norman C. Cookson, of Wylam, and others, have at distant intervals followed up Dominy's work, and there is at present very considerable variation, nothing of which would have been obtained without hybridisation in the first place. *J. Douglas.*

it may safely be said that there is something of interest for all. The broad plan of procedure is a subdivision of the greater part of the ground into sections, which are planted on different systems, with the object of indicating the most appropriate and economical methods of utilising the ground respectively by the cottager, farmer, and market grower. But within these simple limits there is a large network of experiment, which embraces every morsel of the plant, root, and branch, and extends to hybridisation. When the time for reports comes on, I should like to suggest that in addition to the com-

plete report of the experiments, which Mr. Spencer Pickering will, it is to be hoped, eventually publish, there should be an abridged edition, in which the mere abstruse experiments of special scientific interest shall be subordinated to records of the practical work, on the ground that the sympathy of the doubting farmer can be best won, and he himself led on to higher things with the greatest certainty, by a succinct story of plain work a-day progress.

In the latter connection, nothing can be more significant than the experiment of planting a number of trees on the shuffle-scuffle system—unfed soil, small holes, broken roots, and no pruning. These trees are growing side by side with others, in which the most

so that the visitor in need of a practical lesson can have it. Further, there are experiments bearing on the particular methods of cutting—a movement, so to say, from principles to details. The exact spot, as regards the bud, at which a knife is passed through the shoot is a matter of small concern to the average pruner; but it is a fact that some of the most experienced “knifemen” lay great stress upon it. At Ridgmont there is abundant material for comparisons. Not less interesting, perhaps even more so, are the experiments with stocks. There is no man so bold as to maintain that the stock problem is solved by an airy reference to Crab or Paradise for Apples, Free or Quince for Pears, Myrobalan or

hardly fail to accrue. The practical work is being excellently done by Mr. L. Castle; indeed, the rapidity with which 20 acres of ground have been covered by experimental quarters of young trees is not a little striking. *W. P. W.*

## ALPINE GARDEN.

LYCHNIS LAGASCÆ.

This pretty little Pyrenean alpine seldom does well in our climate, for being shrubby and evergreen, its



FIG. 104.—MESSRS. SUTTON'S GROWING PEAS. (PHOTOGRAPH TAKEN AT TEMPLE SHOW.)

(See Report on p. 650.)

approved method has been adopted, and nothing could better bring home the truth of the practical teaching which has been disseminated so widely of late years. Such a simple test as this must, one would think, strike the most bovine intelligence. The badly-planted trees are dismal scarecrows by the side of their better-treated neighbours, Cox's Orange Pippin being particularly conspicuous. As a further experiment, a number of trees have been set apart for the purpose of illustrating the result of an attempt to improve badly-planted trees.

Pruning has an equal share of attention with planting. There are, to begin with, drifts of trees which have been shortened at planting time, and there are others which have not been headed back

Brompton for Plums. Double working has undoubtedly advantages in the case of many Pears, and some nurserymen, but not all, give their patrons the benefit of practical experiment in this direction. There is a want of definite and widespread knowledge on a matter so important, and the Station is endeavouring to supply it. Then hybridisation opens up another very wide field. The product of the first crosses is already apparent in batches of sturdy young plants, and further work is mapped out.

That the Duke of Bedford has done a great public service in establishing this Station is beyond question, and so comprehensive is Mr. Spencer Pickering's plan of action that results of great interest can

brittle branches get broken to pieces in the alternate snows and thaws of our winter. I find, however, that it succeeds admirably, and each plant lives for several years, if planted on the perpendicular face of a brick wall with any aspect. The mortar should not be too good, or the courses set too close. Seed is easily obtained, and if sown now, the plants will be ready to be plastered with mud into the crevices in early autumn. When once established it will increase by self-sown seeds. I have it now flowering well on both sides of two walls placed at right angles to one another, and cannot say which point of the compass it prefers to look at. Other plants suited for the same treatment are *Erinus alpinus* and *Saponaria ocyroides*. *C. Wotton Dod, Edge Hall, Malpas.*



## HURSTSIDE, WEST MOLESEY.

This fine old place has obviously taken its name from its proximity to the old Molesey Hurst, which for generations was open to all comers, but converted during recent years into a race-course, and enclosed by a huge black fence. It is situated quite near to the quaint old church of the village, and equally near to the River Thames, the banks of which at this point still retain their old-time beauty. Here, in summer visitors throng in ever-increasing numbers. Hurstside, however, is sufficiently removed from the river itself to enjoy to the full seclusion and quiet in its own domain of seventeen acres or so. A very large proportion of the extent is devoted to pleasure-grounds, in which are flower-beds and borders. The greenswards are rich to a degree. Herbaceous and shrubby borders prevail here also, but these were only springing into life at the time of our visit. There is a large and spacious kitchen-garden, already in a great measure cropped with the earlier requisites of this department. The soil is deep, easily worked, and as is often the case when situated near the bed of a great river, is more than usually rich and fertile, and crops of great excellence are obtained. Perhaps the most interesting feature of the place early in April was the extensive range of glasshouses, erected some years ago by Gray & Sons, of Chelsea. These include several vineries and other houses, erected in pitch-pine, and in convenience of arrangement as well as design these are among the best of the kind we have seen. The range of vineries is excellent in every way, and equally meritorious too are the Grapes that are grown therein. Indeed, high-class Grapes, both for exhibition and home use are produced here in quantity, and the gardener, Mr. G. Elliott, is well known as an exhibitor of ability. In what is known as the early vinery were found examples of Foster's Seedling and Madresfield Court Vines, the latter inarched on the Black Hamburgh. In the Hamburgh-house, besides some half-dozen Black Hamburgh Vines, were also Alnwick Seedling, Foster's Seedling, and Madresfield Court, the first named already giving signs of an abundant crop. The late vinery is devoted mainly to Black Alicante, Gros Colmar, and Gros Maroc.

Peaches and Nectarines are grown in large numbers, some of the trees being of large size and full of excellent bearing wood. Of the former there are in the early-house some fine trees of Violette Hative and Belle de Doué, the latter practically an improved Royal George. A notable specimen of Nectarino Elruge was here also, with a spread of branches 24 feet wide, and about 11 feet in its upward extent. This is one of the very best Nectarines, and as grown here it ripens annually a large crop of its richly-flavoured fruit. For several years past this tree alone has yielded between 400 and 500 fruits, but in 1895 it perfected some 600 fruits of high quality. In the late Peach-house were examples of Sea Eagle, Goshawk, and Golden Eagle, on the front or roof-part of the house; and Barrington and Princess of Wales on the back wall—in the latter position was a good tree of Lord Napier Nectarine. These were all in a distinctly promising condition. Strawberries are largely grown for early and late supplies, the varieties mainly consisting of President and Vicomtesse Héricart du Thury for early work, and other suitable and well known kinds for succession and late crops.

Apart from the fruit-growing and forcing, such necessaries as Cucumbers, Melons, and Beans, are also forced early. Of the latter a new Bean is grown, that appears both in earliness, dwarfness of habit, and productiveness, to be likely to take a prominent place among dwarf Beans for forcing in the future. This variety owes its origin to Mr. Elliott, and is the result of crossing Sutton's Forcing and Sion House. At present only a few plants exist, but compared with other early varieties sown on the same day, the new-comer has all the appearances of an excellent kind.

Until this year Chrysanthemums have been grown extensively and well. For the moment, however, the culture of Chrysanthemums is placed on one side, on account of Mr. Graham's change of residence during the present year. J.

## PLANT NOTES.

CRINUM POWELLI *alias* C. LESEMANNI.

THE *Wiener Illustrirte Garten Zeitung* for April, 1896, contains a coloured plate of a hybrid Crinum raised by Herr H. Lesemann, Vienna, and named in compliment to him by Dr. Günther. The parents are said to be *Amaryllis longiflora* and *Crinum Makoyanum*, and as these are synonyms of *Crinum longifolium* (capense) and C. Moorei, Herr Lesemann has only repeated the cross made by Mr. Powell twenty years ago which produced the well-known C. Powellii, the best of all hardy Crinums. The plate in the *Garten Zeitung* represents what is known in gardens as C. Powellii roseum, the scape bearing an umbel of ten fine rose-coloured flowers. W. W.

## THE WEEK'S WORK.

## THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Bucks.*

THE BEDDING-OUT of plants in the flower garden has now commenced in most places, there being a desire to curtail, as soon as possible, the unusual amount of watering that has been necessary of late, of plants still growing in pots. Care should, however, be taken to see not only that the plants are well watered, but also that the soil in the beds is in a moist state before the plants are put out. It is a good plan to well water the beds a few hours previously. This will dispense with watering for at least a few days, except an occasional sprinkle overhead.

ORNAMENTAL GRASSES should be made use of as decorative plants for the lawn and flower garden. Most of these adapt themselves to almost any soil and position, and should be associated with Solanums, Ricinus, Cannas, and other subtropical plants. *Ealalia japonica*, *E. zehriana*, and *E. gracillima*, are exceedingly useful, and there are dwarf-growing kinds as *Briia media*, *Poa*, *Agrostis*, *Festuca elatior*, *Bromus inermis*, and *Avena elatior*.

ANNUALS should be given timely attention in the way of thinning, and they may require frequent waterings during dry weather. It is very important that they should not be crowded together, or the size and general quality of the bloom will be poor, and the duration of the blooming season considerably shortened. Asters, Stocks, Zinnias, and other similar plants may still be pricked off into boxes or borders, where attention may be given them until they are planted out in their final quarters.

HERBACEOUS BORDERS are now becoming gay, and they afford a good supply of cut flowers for decorative work. All plants needing support should be securely staked and tied, before any damage has been sustained. Clumps of the Everlasting Pea may be supported by a few sprays of Birch or Hazel branches, among which they will freely ramble, and find quite sufficient support. Weeding, and the filling of vacancies with annuals and other suitable plants, should also receive attention.

GENERAL WORK.—Climbers in various situations will require to have the growths thinned out, or secured in their proper places. If green-fly, or other insect pests have made their appearance on these, make use of a safe insecticide, and afterwards cleanse with clear water. Clematis montana is one of our best climbers in the shrubby or wild garden, and the flowers are seen to good advantage when growing among the foliage of other trees. Roses at the foot of walls may need a good soaking of water. Add to the water a little artificial manure, or manure-water from the farm. Trees growing near walls are especially liable to get very dry, and then mildew attacks them. At the present time the growths are remarkably clean and strong, and give promise of a fine crop of flowers, some of which are already opening in sheltered positions. If rain should fall, the rolling of walks should be at once attended to, so as to again get them into a firm and perfect condition. Coarse weeds in the lawns should be removed or destroyed. Carnations that are now completing their flower-stems should be supported by stakes, and neatly tied, and thinned if necessary. Violas should be pegged down, and the flowers picked off until the plants have made sufficient growth. Petunias and Verbenas that are intended for bedding purposes, should have the points of their growths removed; or if planted out, peg them to the ground.

## THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

STRAWBERRY PLANTATIONS, owing to the continued dry weather, should be supplied with copious soakings of water, to assist the plant during the flowering stage, or the crop will be small in quantity and poor in quality. Water taken from cesspools, or from the drainings of the manure-heap, and diluted according to its strength, will do much good; or, failing this, 2 lb. of nitrate of soda should be given to the square rod. Break up the soda finely, so that it can be evenly distributed. Keep it clear from the foliage, and well water afterwards with clear water. Strawberries that have been planted for the purpose of providing runners for fruiting in pots should be relieved of the trusses of bloom as they appear, so that the whole strength of the plant may be concentrated in the production of good strong runners. These will also require to be well supplied with water during the continuance of such dry weather.

GOOSEBERRIES.—A sharp look-out must now be kept for any signs of the caterpillar, and on their first appearance spare no means to destroy them, or much damage to the fruit and to the trees will result. In private gardens, where there is not a great quantity of bushes, the best remedy is hand-picking, and if time is spared for this purpose when the caterpillars are first discovered, much time will be saved, and trouble avoided afterwards.

GENERAL FRUIT TREES.—Young trained trees which were planted during the last season have made a little growth, and now require attention in selecting and securing the young shoots necessary for the formation of a well-balanced foundation. It is very important that no more growths be laid in than are necessary to form the main branches. Pears, Plums, Apricots, and sweet Cherries produce their fruit on spurs, and the distance between the branches should be about 9 inches; should the points of the leading shoots, therefore, exceed 9 inches in distance from each other, another young growth should be laid in, and the same principle carried out, until the whole space is filled. Well-placed shoots for forming fruit-spurs should be stopped at the third leaf, removing all others. Peaches and Nectarines produce their fruit on wood of the preceding season's growth. Sufficient young shoots should be retained that they will average from 4 to 5 inches apart. Morello Cherries require much the same treatment as the Peach and Nectarine, except that they produce a portion of their fruit on spurs. After laying-in sufficient young growths, some of the best-placed fore-right shoots on the older branches should be pinched to form fruiting-spurs. All growths which are not required for the purposes mentioned should be gradually removed, taking away those from the upper part of the trees first. Any leading shoots which show signs of making too strong a growth should have their points taken out, so as to encourage the flow of sap to the weaker portions of the tree.

## PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

EUCHARIS GRANDIFLORA.—Specimen plants will have completed their growth, and may be removed to a house with a lower temperature to rest, in which state they should be allowed to remain till within one month of the date that they are wanted in flower. To start *Eucharis grandiflora*, place in a warm stove. Where several specimens exist, they can be managed in this manner, and some of them will flower at almost any time of the year. These remarks apply to healthy plants only, for such as are infested with the bulb-mite cannot be relied upon to produce as good results as healthy plants; in fact, if the bulbs become unhealthy, it is almost impossible to get them to flower at all.

THE CONSERVATORY.—Regular attention should be given to creepers on pillars and roofs, regulating the shoots before these get entangled and difficult to regulate without injury. A good number of Fuchsias should now be pushed on for use in the conservatory during the summer. When these beautiful plants are well done, nothing is better for keeping the conservatory gay. Large plants which have had their shoots pinched several times may now be allowed to flower, and one-half of the collection may have the shoots so treated for the last time a fortnight hence. All species of Fuchsias require frequent watering with liquid-manure; that prepared from sheep's dung may be used continuously, even during their flowering season.

**HYDRANGEAS.**—The plants will now be coming into flower in the intermediate-house, and just before the heads expand the plants should be removed to a cooler house, and be occasionally afforded soot-water. Other *Hydrangeas*, of which one of the best is *Dr. Hogg*, come in usefully for various decorative purposes. Some plants of *Hydrangea* should be raised yearly from cuttings, for in this way the finest flowers are obtained. As soon as the plants have finished flowering, cut the shoots back, and allow the plants to break, when abundance of shoots fit for cuttings will be obtainable. Insert the cuttings singly into thumb-pots, and place in the propagating-box. When rooted, shift on at once, into a compost of loam and rough leaf-mould, in equal parts, repeating the re-pottings till they reach 6-inch flower-pots, in which size they are useful for all sorts of purposes. Should the plants become leggy, and dwarf plants are wanted, as soon as they have set their flowers the tops may be taken off 4 or 5 inches long, and rooted; they flower equally as well as older plants.

**STATICES** now pushing up their flower-spikes will require staking, using for this purpose Hazel twigs, which are less stiff than deal stakes. The plants should have applications of liquid-manure from the farm-yard tank twice a week or weaker ones of artificial manure. The best variety to form a specimen is *Statice profusa*; *S. Butcheri*, and *S. Holfordii* are varieties which may be grown for variety. Young plants intended to be grown into specimens should be regularly pinched at the points till a foundation is formed, and not allowed to flower the first year. A compost to suit the plants consists of two parts good fibrous loam, charcoal, lime-rubbish, and a sprinkling of coarse silver-sand.

**THE ORCHID HOUSES.**

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

**PHAIUS TUBERCULOSUS.**—This beautiful Madagascan species is commencing to grow afresh. Being of scant habit, its leading growths quickly get beyond the limits of the pan or basket, but sufficient space should be allowed for the rhizomes to run their full length, and to allow the roots to spread freely in all directions. Where this plant grows well, the rhizomes grow to a greater length than is desirable, and to prevent the plant becoming unmanageable the leading growths should be severed with about 2 inches of the rhizome attached to it, and put singly or several pieces together in a pan. The divided rhizomes may be laid upon a bed of living sphagnum-moss, where they will soon produce several young plants. The roots do not adhere to the sides of the pot as do some of the epiphytal Orchids, so the plant may be turned out of the pot, the whole soil carefully removed, and the roots perfectly disentangled. Rather large shallow pans are most suitable, and they should be filled to two-thirds of their depth with drainage, secured with a thin layer of moss, and afterwards a thicker layer of peat and sphagnum, with a few lumps of fibry loam intermixed with it. Keep the divided pieces well to the centre of the pan, as they soon make growths towards the outside. Then spread the roots well out and lightly cover them with the soil, to which add a few broken crocks, then fill up close to the rhizomes with clean living sphagnum-moss. After re-potting, place the plants on a low stage in a hot moist corner of the East Indian-house where they will get plenty of air. Water carefully, and at first merely sprinkling the moss to encourage it to grow. Immediately there are new leaves, they must be examined each day for small yellow thrips, and if these insects are seen, treat them with the XL All Vaporiser; it is a remedy preferable to the constant use of sponge or brush, by which tender foliage is easily bruised. Large fleshy scales are sometimes troublesome at this season, but if taken in hand when first seen, and sponged off, they are easily eradicated. *Phaius tuberculatus* is a valuable species for hybridising purposes, several handsome hybrids, as *P. Cooksoni* × *P. amabilis* ×, and *P. Marthe* × having been obtained from it. These hybrids are also commencing to grow, and may be re-potted if necessary. They are deeper rooting than their parent, and pots are preferable to pans. The compost should consist of equal parts yellow turfy loam, rough fibry peat, and chopped sphagnum. Add a few broken crocks, and mix the whole together. Place the plants in a shady position in the warmest house or moist stove. They will require abundance of water at the root throughout the growing season.

**INTERMEDIATE-HOUSE.**—Such *Cymbidiums* as *C. eburneum*, *C. grandiflorum*, *C. giganteum*, *C. Mastersi*, *C. elegans*, *C. Lowii* or *eburneum*, may

now be re-potted. These plants should not be disturbed oftener than is really necessary, therefore give them sufficient space to suffice for several seasons' growth. Use the same fine kind of compost as for *Phaius*, and pot moderately firm, leaving sufficient space below the rim to receive abundant supplies of water during the summer months. Place the plants in a shady position, and they will be less liable to red-spider. Other *Cymbidiums* which grow well in this division are *C. ensifolium*, *C. longifolium*, *C. chloranthum*, *C. aloifolium*, *C. pendulum*, and *C. Lowianum*. The last named species may be re-potted as it passes out of bloom. *C. Devonianum* is an intermediate-growing species, has pendulous flower-racemes, and basket-culture is best for it. The pretty dwarf-growing *C. tigrinum* is generally a difficult species to cultivate, but the warmest end of the cool-house appears to suit it best. A similar position will answer for *Lycaste Skinneri* and its numerous varieties during the summer months. Now that their flowering season is over, the plants may be re-potted into well-drained peat and sphagnum, with a little dried horse-manure added. Great care is necessary not to over-dose the plants with water, as the growths are inclined to decay like the deciduous *Calanthes*. Red-spider must be checked quickly, or it will soon disfigure them; but periodical sponging with soft tepid water will prevent their reproduction.

**THE KITCHEN GARDEN.**

By C. HERRIN, *Gardener, Draymore, Maidstone.*

**CAULIFLOWERS.**—Continue to put out plants that are large enough into their permanent quarters. Such varieties as *Early London* and *Pearl* are more particularly referred to. These should be fit to cut by the end of June, and continue serviceable until *Eclipse* or similar varieties come into use. Before planting dip the roots into a puddle made of clay and soot, about the consistency of thin paint. This practice is useful as a preventive of maggot at the root, and it also helps the plants to become sooner established. Cauliflowers that were planted early have been subjected to very dry and hot weather, and some mulching should be given them. Rotten manure of any kind, or leaf-mould even, will answer for this purpose. When this has been done, give a good watering with a weak solution of sulphate of ammonia, using about a good handful to 3 gals. of water. This will stimulate the plants, and the mulching tending to retain the moisture, the plants will grow rapidly. Seedlings of later kinds on borders must not stand sufficiently long to become drawn before they are thinned. When they are pricked-off into nursery beds, a few branches should be inserted around them to provide a little shade, and if the present dry weather continues, frequent waterings will be necessary.

**CHOU DE BURGHEY.**—Seeds of this useful winter vegetable should now be sown. If this be done during the present month the plants will be ready, as soon as the ground can usually be spared for them. They will be early enough to produce good heads for use during the first three months of the following year, whilst some may be cut earlier. I find this delicate-flavoured Cabbage very useful at the time mentioned, and prefer its flavour to that of any other variety.

**CAPRICUMS** should now be in condition for potting into the pots in which they will fruit, or for planting-out. If a large quantity be required, the latter plan should be adopted, and the plants be put out in moderately rich, firm soil, in frames or pits, with a mild hot-bed. The plants should be 18 inches apart each way, and be kept well syringed until a crop of fruits have set, and ripening commences. If pots are used, those 6 inches in diameter will be large enough, and the plants should be grown in a Melon or Cucurbit-house if a light position can be given them.

**LETTUCE.**—Maintain a constant supply of these. The seed should be sown thinly in rows where they will not need to be transplanted, as this entails much trouble during dry weather. Where Celery trenches have been thrown out, seeds may be sown on the ridges between these. The selected strains of the *Paris White Cos* are excellent summer varieties, and *All the Year Round* is still one of the best Cabbage Lettuces for summer sowing. Lettuces nearly ready to cut should be well supplied with water, to keep them crisp and succulent. *Brown Cos*, from autumn sowings, and *Early Paris Market*, sown in February, are both in good condition now.

**GENERAL WORK.**—During the dry weather hoeing should be done as frequently as possible. Potatoes should be moulded-up as soon as the tops are high enough, and those in frames must not be allowed to get so dry that the skins become firmly set. Mulch and water Peas, especially those from which the earliest pickings are expected. Before these notes are published, I hope to gather from the varieties *May Queen* and *Chelsea Gem*. Beech-sticks should be placed to successional crops, and the tops of the sticks be kept well open, to give the haulm plenty of room. Make further sowings of *Late Queen* and *Ne Plus Ultra*, or other suitable varieties.

**FRUITS UNDER GLASS.**

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**MID-SEASON AND LATER PEACHES AND NECTARINES.**—Those trees which were started in the month of February will, in most instances, have fruits in process of stoning, and should not, therefore, be much excited by having a high degree of warmth afforded them till this period is passed, 55° to 60° at night, and 65° in the daytime by artificial heat will be quite safe temperatures during this period. If it be necessary to have the fruit ripened as quickly as possible, it may be hastened when stoning is completed, a temperature at night of 65° to 70° and by day of 75° being then afforded. The ventilation of the house should begin at the latter figure, and take off early in the afternoon, and damping down copiously, and allowing the thermometer to rise to 90° or 95° for a time. With a fair crop, and trees in good health, the fruit will speedily swell to a large size under this kind of treatment, but before the ripening period commences, the atmospheric moisture should be reduced, and more air given, so as to give good flavour to the fruit. Aged or weakly trees, if bearing freely, should have liquid-manure afforded them frequently, whilst for young or very vigorous trees, clear water will suffice till the stoning is finished, when, if the fruit crops are abundant, manurial aid may be required.

**LATEST HOUSES.**—The trees in these peacheries must have the usual attention in the matter of fruit- and shoot-thinning, and be afforded ventilation freely by day and night, if fruit be wanted very late, other points of management being similar to those given in earlier Calendars. Fire-heat will scarcely be necessary for these trees, but the ventilators may be closed early in the afternoons with sun-heat for an hour or two, and afterwards opened a little, and so remain all night. Examine the inside borders once a week, and when necessary thoroughly water them, as well as the outside border when necessary, mulching with short stable litter.

**MELONS.**—When the fruits on the earliest plants change colour, and in other ways show signs of approaching ripeness, moisture at the root and humidity in the house must be lessened, but not unduly so, or the foliage will flag, and it is important that this be kept fresh and healthy. Ventilate freely, keep the temperature at 70° to 75° artificially, or 85° to 95° with sun-heat. Should any of the fruits crack, afford much less water at the root, and a still drier air. To prevent cracking of the fruit it is a good practice to cut the stem a few inches above the fruit half-way through. Melons should always be cut from the plants a few days before they are fully ripe, and stored in a cool dry room to ripen fully. The growth of plants having immature fruits on them should be encouraged, the laterals thinned, stopped, and secured thinly to the trellis, for the quality of the fruit depends in great measure on the proper development of the leaves. Syringe the plants when closing the house or frame, and sprinkle the floors or the bed, &c., with very weak guano-water once or twice a day. If canker be noticed about the collar of the plant, apply quick-lime to the part, rubbing it in, and keep water away from the stem as much as possible. Melon plants need no shading unless the leaves flag, then it should be as thin as possible, and it should be removed on the decline of the sun or when clouds hide its rays. The Melon plants in pits and frames should be kept in good health and vigour by keeping up a suitable top and bottom-heat by renewals of the dung linings, &c. The fruits should be raised above the leaves by placing them on inverted flower-pots, and the lights should still be covered at night.

**ACTION OF FORMIC ACID ON THE GROWTH OF PLANTS.**—Mr. SEMPLER records in *Nature* the repeated failure of his experiments with this substance, which was stated greatly to promote the growth of plants.

## EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

## APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, MAY 27 { Bath and West of England Agr. Show at St. Albans (5 days).  
Flower Show at Olympia (3 days).  
FRIDAY, MAY 29—Royal Botanic Society: Lecture.

## SALES.

WEDNESDAY, MAY 27 { Important Sale of the Model Fruit Garden and Nursery, at Normandy, near Guildford, by order of the Trustees, by Protheroe & Morris, at the Mart, London.  
Special Sale of Tuberous Begonias, Liliiums, Dahlias, American Roses, Cannas, &c., at Protheroe & Morris Rooms.  
THURSDAY, MAY 28 { Unreserved Annual Sale of Bedding and other Plants, at the Nurseries, Merstham, by order of Mr. F. Ross, by Protheroe & Morris.  
FRIDAY, MAY 29 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—57°.

BY the time these pages are in the hands of the reader, the "Temple Show" will have become a thing of the past. Its record will certainly be a good one, for though there was nothing startling, and there was a marked want of specimen plants, the general average quality of the exhibits was high. The arrangement was of the usual monotonous type, so that some of the groups occupied precisely the same positions that they did last year, and little, if any, attempt was made to arrange the plants so as to show them to the best advantage. Some improvement was here and there noticeable in the fact that the crowding was not so great as usual, and there was less repetition of common material, but still greatly too much. Again some of the exhibitors, or the authorities of the Society, had the good taste to put the too-often-obtrusive labels where they could be seen without interfering with the view of the plants.

For the details of the show we must refer to our report in another column, but we may here remark that the Roses were unusually beautiful. Mr. MOUNT's specimens from Canterbury showing extraordinary purity and brilliancy of colouring, and the varied uses to which TURNER's Crimson Rambler can be put was well shown in the groups of Mr. TURNER, Messrs. PAUL, and others.

Orchids were less well represented than usual, the abstention of Baron SCHRODER being painfully conspicuous, while the plants shown were small. Sir TREVOR LAWRENCE showed a large and very interesting collection. Messrs. LINDEN showed a remarkable spotted form of *O. crispum* named *augustum*, which won an award, even when there are now so many fine varieties of that species (see fig. 106, p. 649).

Caladiums were shown of a very high degree of excellence, those of Messrs. PEED being specially remarkable for fine cultivation.

Messrs. VEITCH showed a remarkable group of hybrid Phyllocacti, which ought to do some-

thing to bring these gorgeous flowers into public favour.

The rock-gardens of Messrs. BACKHOUSE, PAUL & SON, CHEAL, and others, were delightful oases in the long tents. Messrs. SUTTON's group was an object-lesson for Londoners, who have so few opportunities of seeing how plants grow; and, as presumably the QUEEN has not a much better chance, the exhibit has been accepted by Her Majesty, and will be transferred to Frogmore. New plants were shown by MM. LINDEN of Brussels, and SANDER of St. Albans.

In the open air Messrs. VEITCH had a charming group of hardy flowering shrubs, and a rather large collection of quaint Japanese, crippled Pines.

We hardly expected to find large collections of fruit and vegetables at the Temple Show, but what there were did credit to their exhibitors. Messrs. RIVERS' exhibit of pot-Nectarines deserved high commendation; and Messrs. BUNYARD seem to have some special method of keeping Apples.

A noteworthy feature of this show was the Catalogue, which, in addition to the usual information, contained several clear plans, showing the position of the principal exhibits. This Catalogue will not only be serviceable at the time, but useful for reference hereafter.

The weather was everything that could be desired, though the strong gales of Tuesday and Wednesday nights caused much anxiety and trouble, and so we earnestly hope the Society will reap a substantial advantage, and that its well-earned reputation of nearly a century will be perpetuated for another century to come. The attendance on the first day was larger than ever before.

Much praise must be given to the authorities, who performed their onerous task with marked ability, patience, and courtesy.

The Prince and Princess of WALES, with their daughters, visited the exhibition on Tuesday afternoon on their return from Croydon. During the gale of Wednesday those in charge of the tents and marquees had very great difficulty in preventing their being overturned, and a mishap was happily averted that would have occasioned irretrievable damage to their valuable contents.

TEMPLE SHOW.—We are unable to publish all the illustrations we have of this exhibition this week, next week we shall publish several more. This week we publish more than 2000 extra copies.

OLYMPIA.—Among the attractions of this metropolitan place of amusement, a flower-show of large extent as regarded flowers in season, Caladiums, &c., was held on Saturday, May 16, in a new building entered by a subway from the great building. The chief exhibitors of cut flowers and plants were Messrs. Laing & Son, Forest Hill, S.E.; P. Barr & Sons, Covent Garden, W.C.; H. Howell, Ravenscourt Park, Hammersmith; Thos. Ware; the St. George's Nursery Co., Hanwell; and G. Mount, Canterbury. A considerable addition has been made to the gardens by taking in the area upon which the Irish Exhibition of some years ago was held. This is laid out with long narrow, raised beds, having turfed sides, now filled with Pelargoniums and Marguerites, with Thujas and other Conifers as "stairers," and wide gravelled areas for promenading between. During the summer evenings this should be a much-frequented part, especially now that good music is provided by bands of male and female performers. Horticulture forms a considerable portion of the attractions of the older building, Palms being freely used in what is called the "Palmarium," although it is too much to hope that the plants can remain in health in the semi-darkness of the place.

## THE TREE OF TEN THOUSAND IMAGES.—

In Tibet there grows a tree which excites the religious veneration of the natives by reason of the letters, words, and even sentences which are said to be traced either on the leaves or on the trunk. When the Abbé HUC first brought this tree under notice, his narrative was treated as a traveller's tale. Successive explorers, however, have proved the existence of such a tree, and shown that there is a substantial basis of fact which calls for explanation. M. ENOUARD BLANC has received from a lama two specimens taken from the Sacred Tree in the north of Tibet, and on the bark of which Tibetan characters are perfectly legible, forming "not only words but pious ejaculations, and even prayers!" M. BLANC describes the specimens in the last part of the *Bulletin of the Botanical Society of France* (1896, p. 61). Three explanations have been offered: 1, that the markings are purely fortuitous, like the *ATAI* of the Martagon; 2, insect agency; 3, a priestly trick. The last hypothesis is supported by the regularity and perfectness of the characters, and by the circumstance that the monasteries derive a considerable revenue from the holy tree. The tree has been considered to be *Ligustrina amurensis*. Others refer it to some species of *Morus*, or *Broussonetia*.

## TRANSPIRATION AS A GUIDE TO CULTIVATION.

—M. H. MÜLLER-THURGAN, in *Weinbau und Weinhandel*, 1895, Nos. 5 and 6, contributes a paper on the "Amount of Transpiration of Plants as a Guide to their Cultivation." The following is a summary of the conclusions arrived at, as cited in the *Annales Agronomiques*, March, 1896.—Three conditions chiefly have an influence on transpiration. There is, first, the quantity of water fallen during the growing period. There is also the moisture of the air. Trees with delicate leaves, well adapted to the function of transpiration, do not, under any circumstances, prosper in regions where the atmosphere is deficient in moisture. The movement of the air must be considered. When the air is very calm transpiration is slight, even if it is dry, because each leaf is surrounded by an atmosphere saturated with watery vapour. If the wind blows, this layer of watery vapour is unceasingly evaporated, it happens that the amount of humidity in the air remaining the same, transpiration may be greatly increased. These conclusions of the author are deduced from comparative observations of plantations of fruit trees and experimental researches which prove how great are the differences between different kinds of fruit trees as regards protection against transpiration. The leaves of the Pear transpire less than the leaves of the Apple; it is no doubt for this reason that Apples withstand a long drought badly, and require screening from the wind. Much of the ill-success, the cause of which has hitherto been sought for in plantations of trees, may be attributed to the disturbance of the equilibrium between transpiration and absorption. The amount of the transpiration should furnish an excellent way of discovering if any variety can be profitably cultivated. Much costly experience could thus be saved. A simple method of estimating the variations of the transpiration would be to calculate the progressive loss of water by successively weighing the cut leaves.

COTTON-SEED OIL.—It is stated in a report from New Orleans that in 1859 there were a few small mills making Cotton-seed products worth, perhaps, £1,000,000. Now the trade uses a capital of near £3,000,000, and makes a product worth over £14,000,000. The material consumed was regarded as worthless in 1861. In 1892-93 the price was £3 10s. per ton, but fell to about £3 per ton or under. In 1894-95, owing to the largeness of the Cotton crop, the price fell to less than £2 a ton. There are some 300 mills manufacturing Cotton-oil from the seed. The value of the foreign business in 1895 amounted to over a million. The greatest demand comes from Great Britain.

## DICTIONNAIRE PRATIQUE D'HORTICULTURE.—

The third volume is now completed, the volume ending somewhat awkwardly with the word "Penée."



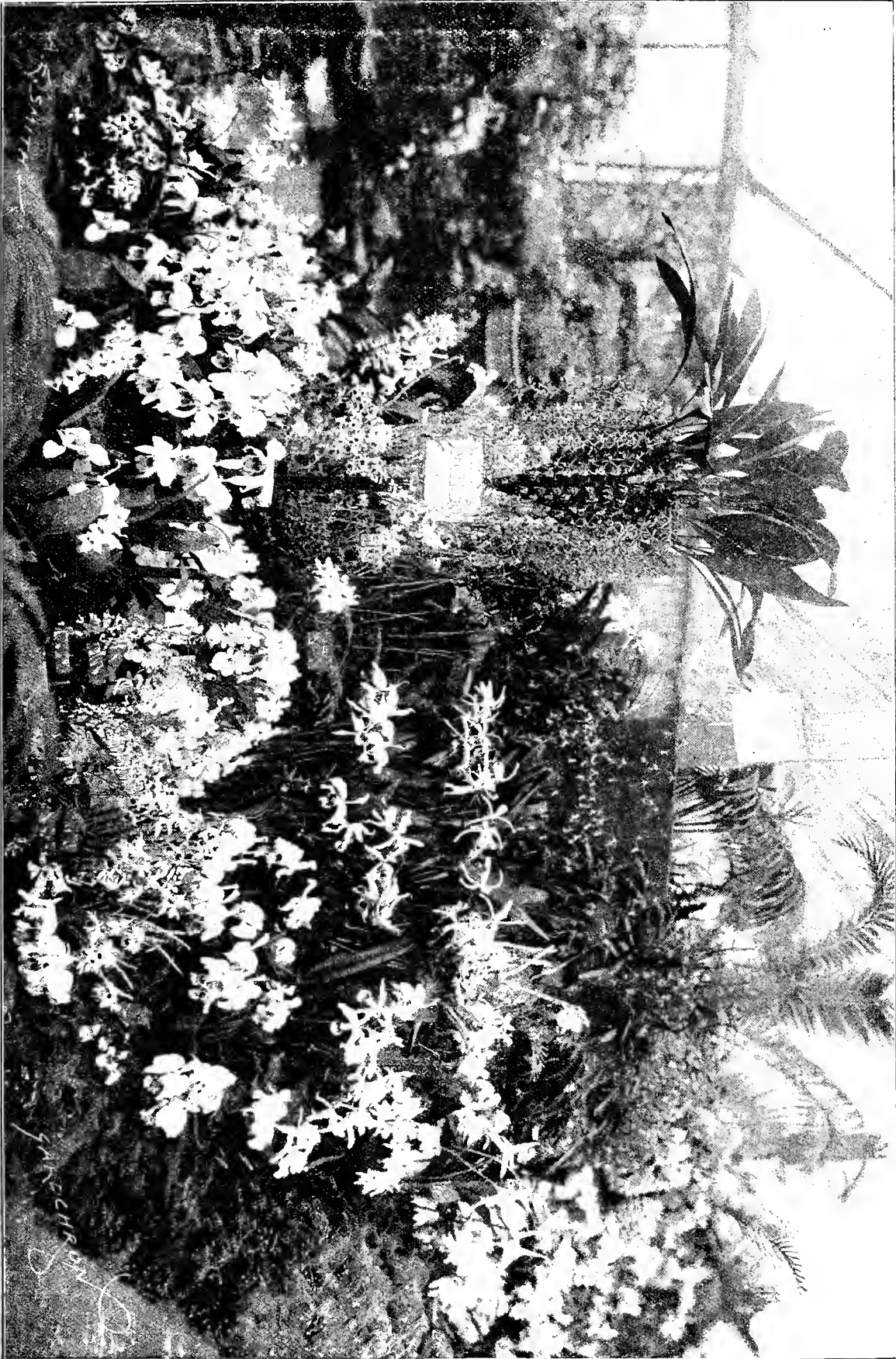


FIG. 105.—MESSRS. SANDER'S GROUP OF ORCHIDS, AS STAGED AT THE TEMPLE SHOW. (SEE ORCHID COMMITTEE, P. 626.)



**PHOTOGRAPHY IN COLOURS.**—Our French contemporary, *Le Jardin*, published in its issue for May 5 a photographic illustration in colours of *Cypripedium callosum*—a very promising beginning, on which we venture to congratulate our contemporary.

**A NEW CAMPANULA.**—M. ALBOFF has discovered in the Caucasus a new species of Campanula, which, according to the report in *Nature*, so much exceeds all known species of the genus by its beauty, that M. ALBOFF proposes for it the name of *C. regia*, and remarks that its general shape so much differs from that of all other now living Campanulas, that it must be without doubt a remainder from a foregone geological flora.

**DEVON AND EXETER GARDENERS' ASSOCIATION.**—The Committee have fixed the third Wednesday in July (15) as the date of the summer outing for the year. The following is the programme as arranged:—To meet at Bedford Circus at 8 A.M., and proceed *via* Countess Weir, to Powderham; passing through the Castle gardens, the American garden, and pleasure-grounds, the party will rejoin the breaks, and proceed *via* Starcross and Dawlish to Teignmouth. At Teignmouth a visit will be paid to the Jadoo factory at the Quay, and to the gardens and conservatories of Col. HALFORD THOMPSON. The party will then be entertained to luncheon by Col. THOMPSON, at Eastcliff. Leaving by way of Shaldon Bridge, the drive will be continued to Torquay. The return journey being made from Torquay for Exeter direct, *via* Newton Abbot, Chudleigh, and Kenford, leaving the "Torbay" at 7 o'clock. No tickets can be obtained after Friday, July 10.

**COLLECTION OF DRUGS AT THE BERLIN INDUSTRIAL EXHIBITION.**—Those of our readers who intend to visit the exhibition now being held in Berlin will be interested to know that the firm of BRÜCKNER, LAMPE & Co., of that city, display in the scientific portion, in Group XXII. (Horticulture), a number of rare living examples of medicinal plants and original trade packages. The collection having been commenced more than a hundred years ago, and continually received additions, its inspection will have much interest for all persons engaged as pharmacists, doctors, chemists, dealers in drugs, &c. The published catalogue of the entire collection comprised, in the year 1893, more than 3000 objects.

**DOUBLE PEAR.**—Mr. HORNE kindly sends us a double flower of the Duck's Egg Pear. It is a pretty little, thoroughly double flower, not at all suitable as "a market Pear," as no fruit is produced.

**BRANCHING TULIP.**—Messrs. BARR & SON send us a Tulip with eight flowers from a single stalk. We have never seen so many before. The bulb will be kept under observation to see if it will repeat the performance.

**THE WEATHER IN THE NORTH OF SCOTLAND.**—The long period of fine dry weather experienced came to an end on Thursday, the 14th inst., when rain fell at intervals. Every day since there have been slight showers. Monday, 18th, was a glorious day for the country. Throughout the whole day heavy showers of rain fell, which gave much-needed relief to those who cultivate thin and sandy soils. Vegetation of all kinds has derived immense benefit from the grateful rainfall, and it has just come in time to prevent the drought doing serious damage. Gardeners in the North have been more fortunate in this respect than their southern brethren, whose crops have suffered considerably by the prolonged drought. The whole countryside is now looking refreshed and beautiful.

**SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting was held on the 18th inst. at the Parish Room, Shirley, Southampton, G. T. HARPER, Esq., J.P., presiding, there being a good attendance of the members. "Fertilisation of Flowers" was the subject provided for the evening, and the lecture was

given by Mr. W. F. PERKINS, illustrated by lime-light with slides specially prepared for him by Mr. J. Hornell, of the Biological Laboratory, Jersey. The illustrations embraced each method of fertilisation, and included a large number of flowers, showing most effectively the surprising number and ingenuity of the devices of Nature for securing the desired object, and which were fully explained by the lecturer. On the proposition of the Chairman, seconded by Mr. W. F. Mayoss, a hearty vote of thanks was accorded Mr. Perkins for his interesting and instructive address. There was a good exhibition of cut blooms of American shrubs, &c., contributed by Mr. W. H. Rogers, Red Lodge Nursery; Grapes, by Mr. W. Perkins; Orchids, by the chairman; Orchids and Pansies, by Mr. C. G. Stuart Menteth, J.P.; Peas, by Mr. J. K. Allen; and hardy flowers, by Mr. B. Ladhams. A hearty vote of thanks was accorded to the chairman and the exhibitors at the close of the meeting.

**THE SURVEYORS' INSTITUTION.**—The adjourned discussion on the paper read by Mr. R. M. D. SANDERS (Fellow), at the meeting of November 25, 1895, entitled "Landlord and Tenant in Ireland," was resumed, and, after a long debate, concluded. The annual general meeting of the Institution, to receive the report of the Council, and the announcement of the result of the election of officers for the ensuing year, will be held on Monday, June 1, at 3 o'clock. The prizes awarded to successful candidates, in connection with the recent preliminary and professional examinations, will be presented by the President at the annual general meeting.

**TASMANIAN FRUITS.**—The Peninsular and Oriental Company's steamer arrived at the Albert Dock on the 19th inst., having on board 20,968 boxes of Apples from Hobart, 1991 boxes of fruit from Melbourne, and 134 boxes from Adelaide, making in all 23,093 boxes.

**VEGETATION IN A VITIATED ATMOSPHERE.**—According to the *Revue Scientifique*, M. LOUIS MANOIN lately published the results of a series of experiments on the composition of the air in the soil in those streets of Paris which are planted, and where it is, presumably, vitiated by excess of carbonic acid and diminution of oxygen. He has, since then, experimented upon the influence upon growing plants of an atmosphere rich in carbonic acid and poor in oxygen. The results of his first trials, made in winter on seeds and tubers, show: 1st, a diminution of respiratory activity, the consequence of which is a distinct retardation of growth; 2nd, modifications of the respiratory phenomenon characterised by an alteration in the nature of the phenomena of oxidation, as the proportion  $\frac{CO_2}{O}$  in the gases absorbed or expelled increases in specimens kept in an atmosphere rich in carbonic acid and poor in oxygen.

**THE OPENING OF GENOTHERA FLOWERS.**—M. E. ROZE has contributed to the *Bulletin de la Société Botanique de France* the results of his experiments on the expansion of the blossoms of *Genothera suaveolens*. The object of the experimenter was to discover, if possible, the causes producing and the effects resulting from the well-known sudden expansion of the corolla and reflexion of the sepals. M. ROZE, after carefully perforating, gashing, and otherwise in various ways hastening or retarding the development of many different buds and flowers, did not satisfy himself that the thick rim in the throat of the calyx was possessed of much influence; microscopic examination showed little, and did not prove that the phenomenon was excited by any internal development of the flower. The cause of the sudden expansion of the buds must therefore be sought externally, and is due to moisture, either liquid or in the form of vapour, and operating in the evening with a force proportionate to the amount of heat to which the plant was exposed during the preceding day. The turgescence of the tissues of *Genothera* flowers, which is the cause of their abrupt expansion, is itself the result of warmth during the day, succeeded by moisture of the atmosphere in the evening.

**HEALING OF INCISIONS IN VEGETABLE TISSUES.**—"Mr. S. G. SHATTOCK read, on May 5, before the Pathological Society of London, a communication on this subject, giving a detailed account of the different methods as studied experimentally by himself. The methods were comparable to those of first intention and third intention in the human subject. The author commenced by adverting to the process of 'immediate union,' which assumed the reunion of the parts of cells actually divided. He had never observed this in plants, in spite of every care; and he did not believe that it took place in animal tissues, even in the case of so simple a cell as a leucocyte, for HOFER had shown that if an amoeba were divided, two individuals resulted, of which the one wanting the nucleus after a while perished. Under healing of incision in plants by first intention, the author stated that in general it consisted in cell-division on either side of the face or plane of the injury; the remains of the cells laid open in the course of the incision became compressed, and as growth proceeded the line of these adpressed remnants was interrupted or broken into segments by the interpolation of new cells. This was the most perfect process, occurring without separation of the surfaces. Starch shed into the incision from the opened cells remained unchanged, doubtless because it was no longer in contact with living protoplasm; and its fate contrasted with that in slowly-dying branches, from which it was removed for consumption elsewhere, as happened in the life of ordinary foliage leaves. Sometimes the faces of the incision were separated by tension; the gap was then filled up by the growth of large callus-cells from those bounding it. These callus-cells might undergo secondary thickening, but no cork tissue was produced if the wound was sealed from the air, and it was upon this distinction that the author made the division into healing by first and healing by third intention. In the petioles of *Rheum rhaponticum* a coagulable latex was shed into and filled the wound, and it hindered union, just as blood clot does in animal textures. Under third intent on was considered the case where two surfaces were freely exposed and frequently coalesced. Each of the surfaces under such circumstances healed by the formation of a stratified layer of cork; but when they at length met, seeing that no further physiological reason existed for a protective production of cork, the latter was broken through by the subjacent parenchyma, which thus becomes continuous. This process occurred as the final stage in the well-known method by which deuded wood was covered over by callus in exogenous shrubs and trees; and it was commonly seen in grafting, where no union took place between the cut surfaces, but between the callus from the cambium of the stock and scion. The analogy with the human process, however, differed in this, that the two surfaces were first healed by cork, whilst in animal tissues they remained granulating till brought together. The investigation had a further interest in that its results coincided with what was now generally held of animal tissues, namely, that in repair of common connective tissue the scar tissue was developed from the connective corpuscles, the leucocytes taking no part in its formation." *From the British Medical Journal, May 9.*

**NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The monthly meeting of this society was held at their rooms, 25, Westgate Road, on Tuesday, May 18. There was a good attendance of members, presided over by the chairman, Mr. JOHN BULLOCK. Mr. D. N. MACKIE, gr., Shorbridge, Warkworth, read an able paper on "Stove Plants," including *Crotons*, *Dracenas*, *Pandanus*, *Anthuriums*, *Caladiums*, *Diefenbachias*, *Aralias*, and others, embracing their various modes of propagation and general culture. An excellent discussion ensued, in which many took part.

**CRDYDDN.**—We are informed that on the occasion of the visit of the Prince and Princess of Wales to Croydon on Tuesday last to open the new municipal buildings, the floral decorations of the reception rooms for the Royal party, as well as the railway station, were undertaken by Mr. JOHN R. BOX.

Begonias were largely employed, together with Roses, Orchids, Caladiums, &c., and afforded great satisfaction to all concerned. Mr. Box also had a magnificent group of Begonias at the Temple Show, which was visited by the Royal party on their return to town from Croydon.

### SOME VEGETABLE PRODUCTS OF PERSIA.

In some recently-issued reports on the trade and commerce of Ispahan, Yezd, and the Kerman Conular district, some interesting facts are given in relation to vegetable products under cultivation in the above districts of Persia. The cultivation and preparation of opium is described as by no means a small or unimportant industry in Ispahan, where almost every native or European merchant who trades in the drug sees it prepared under his own eye. The collection commences early in May; the Poppy-head is lanced in the afternoon, and the opium which exudes

about a quarter of a pound weight, and keeps kneading it on the board and manipulating it with the implement as already described, until it dries up to the standard degree, and assumes a somewhat golden colour. It is then collected, and made up into cakes of 1 lb. each; after a couple of days these are wrapped up in pink paper, and tied round with string, then put into tin boxes, packed in layers with Poppy-chaff, so that the cakes do not roll about; then again packed into wooden boxes, the boxes covered with hide and gunny, and the opium is ready for exportation. If the drug is prepared in cold weather, it has to be dried in the beginning by artificial warmth, and by rubbing on the board, and keeping the boards while in manipulation near a charcoal fire.

The local produce of opium in Yezd has for some years past been a partial failure. The cause of this is assigned to unexpected rains when the sap was gathering, causing the juice to be washed away; to unseasonable winds, which blew the Poppy-heads off before they were ready for the incisor's knife; and to

ness, have felt disinclined to smoke, and the sudden cessation of their chief nourishment has proved fatal. An opium smoker exposes himself to innumerable dangers, but on the other hand he is usually fully aware of their nature, and his opium is his first thought. The Yezd smokers collect the burnt opium off their pipes, and this blackened refuse finds a ready sale in Khorassan, where it is smoked by those who have fallen to the very lowest depths of its indulgence, and are past redemption. Those who do not smoke, eat the drug in the form of pills, of one six-hundredth of an ounce each." In South-eastern Persia the habit of opium smoking is said to be greatly on the increase, women especially indulging in the narcotic.

Almonds are exported from Yezd to Bombay in very large quantities: last year as many as 2,509,000 lb. were sent; they are usually exported in the shells, but the kernels alone also find exporters. The Bitter Almond is the most extensively grown.

Asafetida was exported during the year to the extent of 130,000 lb. There is no local use for this article; its medicinal qualities are not understood; and as a seasoning, it is not fancied as in some parts of the East.

Of Rose-oil, only 1000 miskals, or 140 oz., were exported. There being such a small demand for this perfume, not more was made; the district is capable, however, of producing annually ten times the above amount.

An important industry in Yezd is said to be the grinding of Henna and Ring, the two dyes used all over the East in the adornment of the person. The nails, hands, feet and hair, all receive attention; and in Persia the venerable grey beard is a rarity, being supplanted by bright red or black beards.

Henna is the powdered leaves of *Lawsonia inermis*, the properties of which are well known. It is used in some places for dyeing woollen fabrics yellow or brown, but in Yezd it is not yet used for this purpose. Some 250 maas of the leaf were imported during the year. The plant grows wild in the Bam district.

Ring is an annual cultivated in the same district; it produces a deep black dye, and is the hair-dye of the country. During the year 30,000 maas were imported into Yezd. [The plant referred to is probably a species of *Indigofera*. The name Ring or Rang means colour or dye-stuff.] The treatment of both these dyes is identically the same. The leaf is crushed in mills, which form a distinct feature of the Yezd life. There are thirty-five of these mills in the town, with an average of two stones each. The stones, which are cut from flint-bearing rock, are brought from the mountains near Mehriz, some 36 miles distance; they are usually very large, 8 feet diameter by 1½ to 2 feet deep, every wheel requires two of these, one flat and the other upright, while the latter is revolved slowly by a camel. Each stone will crush 25 maas of Henna daily, and requires three camels for a day's work. When ground into a fine powder, the Henna is packed into bags of 25 drams each, and is exported to all parts of Persia and the Caucasus. The whole system is so laborious and slow, that it is surprising that some simpler form of mill has not been thought of. Some easier form of crushing-machine would, no doubt, be acceptable to the people, but it would still have to be worked by animal power, as fuel for the production of steam is not available. The cheapest quality Henna finds its way into the wilds of Kurdistan, and the finest into the palaces of Teheran.

Dates, we are told, grow to great perfection in many parts of the country, notably at Pabraj and Fanooh. The output could be easily doubled by planting fresh Palm groves. Date Palms begin to yield at three years, and reach their prime at thirty. A good crop from a single tree is estimated at from 80 to 100 lb. They are fertilised by hand, one male tree supplying pollen for perhaps forty female. The Dates used for export are those that grow at the summit of the tree. From the action of the sun they become hard and dry, thus being easily packed. The lower branches remain soft, and are kept for local consumption.

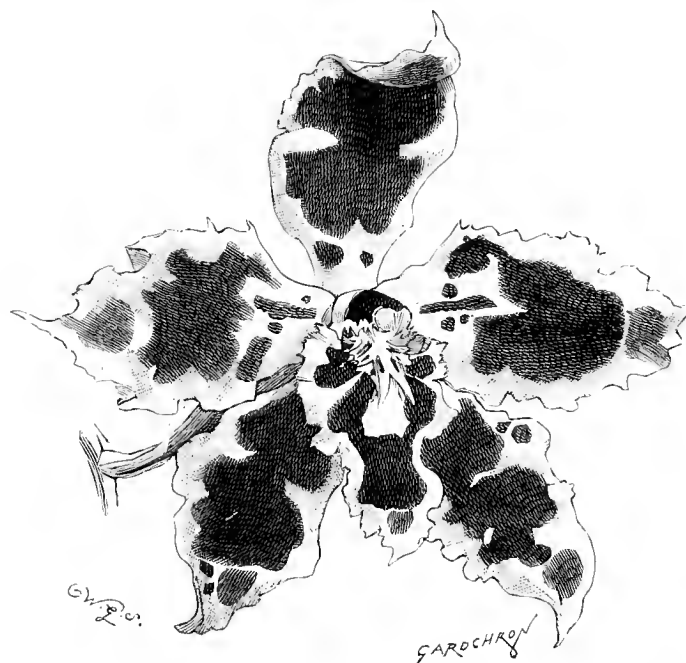


FIG. 106.—*ODONTOGLOSSUM CRISPUM* VAR. *AUGUSTUM* (LINDEN), AT THE TEMPLE SHOW.  
(See Orchid Committee, p. 654.)

and dries during the night is collected into copper pots early the following morning. The opium gathered is kept in store until it is required to be prepared, in thick earthenware or copper pots. Only those hands who have a special knowledge of crude opium are engaged in its manipulation. When the opium is required for preparation, it is taken out of the pots and assorted, and is next put into a very large copper-pot (as the quality of various villages give different "touch" and morphia), for this reason, they are obliged to mix the bulk together, so that all the cakes should be of one quality. Each manipulator has a smooth board about 23 inches long, and 11 inches broad. He takes from the bulk about 1 lb. of the crude opium, and rubs it on the board, puts it in the sun for about ten minutes, and afterwards takes it into the shade and rubs it continuously on the same board with an iron implement having a wooden handle, something like a small solid spade, and continues in the same manner until it dries up to a certain degree; it is then collected together in a mass sufficient for about a day's work, and then heated over a slow charcoal fire, in trays, until it becomes plastic. Again each man takes

a species of worm which attacks the roots of the plants, and prevents growth. The Yezd opium is considered a very good quality, and as it has a special name in Persia, quantities of opium are imported into Yezd from Ispahan, Hamadan, and Khorassan in the raw state, and after preparation are exported under the name of Yezd opium.

During the past year, some 3000 maas (a mau equals about 6½ lb.) were prepared in sticks for Persian consumption. This form of the prepared drug is very carefully made in Yezd, and is much preferred in other towns to their own preparations. The opium-sticks appear to be unknown in the China market; the quality, however, is superior to the cake preparations. The Yezdis are very great opium smokers, and the Consul says:—"Amongst my acquaintances I have many inveterate smokers, who are by far the most active in their movements, and good men of business. On the other hand, one often sees the dull sleepy-looking imbecile reduced to such by a too frequent enjoyment of the opium pipe. I have known deaths from what would appear very slight causes, but on investigation prove to have been those of confirmed opium smokers who, under the effects of ill-

## SOCIETIES.

ROYAL HORTICULTURAL.  
THE TEMPLE SHOW.

MAY 19, 20, 21.—The ninth consecutive show, held under the auspices of the Royal Horticultural Society in the gardens of the Inner Temple, commenced on Tuesday last, and remained open until Thursday evening. The general quality of this show for some years past, the splendid demonstration of present-day horticulture it always presents, and the popularity of the exhibition from the visitors' point of view, have been most satisfactory. Beyond this there is but little to add regarding the exhibition just closed. It was a magnificent display, but judged by such exhibitions as have preceded it upon the same site, it can hardly be said that there has been any decided improvement or extension. It may be regarded with satisfaction, however, that there has been no falling off in the attractions of the show, for it shows considerable tact and energy upon the part of the society's officers that such an exhibition can be maintained at its present degree of development. One fact may be borne in mind in regard to the show from the exhibitors' point of view. So long as the Council feel compelled to keep the exhibits for three days in order to make the fixture a financial success, so long will there be some little reluctance on the part of exhibitors to subject their choicest and most delicate plants to the inevitable risk of injury. Perhaps the absence of the collection of Orchids usually exhibited by Baron Sir Henry Schroder may be thus explained.

Whilst the exhibition was of decidedly good quality throughout, a gardener visiting it may be struck by the fact that there were no exhibits of preponderating importance that stamped themselves as especial features of the show. No really new departure in the method of exhibiting or arranging the plants could be noticed, and probably little in this way is possible unless greater space was at command. Owing to the limited space in the tents for the display of exhibits, the Society were obliged to curtail by about one-third the space applied for by exhibitors. Altogether the tents afforded about 12,000 square feet of tabling space, and this was fully utilised. Some of the groups are figured in the present issue, and others will be given in subsequent issues.

Certificates and Awards of Merit to new or rare plants were dispensed by the several committees, and the relative value of the groups were judged by the following gentlemen:—

*Orchids*: Messrs. Thos. Statter, Jas. Douglas, and E. Hill. *Plants in bloom (Orchids excluded)*: Messrs. J. T. Bennett-Poë, John Laing, and J. H. Fitt. *Groups and foliage plants*: Messrs. Owen Thomas, Jas. Hudson, and E. Molyneux. *Cut flowers, table decorations, and bouquets*: Rev. G. H. Engleheart, Messrs. H. Herbst, and J. Walker. *Fruits and vegetables*: Messrs. H. Balderson, A. F. Barron, and Jos. Cheal.

## Floral Committee.

*Present*: W. Marshall, Esq., in the chair; and Messrs. H. J. Jones, R. Dean, J. Laing, S. A. de Graaf, J. H. Fitt, R. Owen, W. Bain, J. Fraser, C. Jeffries, H. B. May, C. Bliok, C. E. Shea, E. Beckett, G. Stevens, R. M. Hogg, J. Hudson, E. Molyneux, C. J. Salter, J. Jennings, J. F. McLeod, J. Walker, H. Herbst, and J. Fraser.

## CALADIUMS.

The groups of these plants made an almost overpowering mass of brilliant colour in the large tent, and in point of rarity of varieties, varied and vivid colours, those of Messrs. J. Peep & Son, Roupell Park Nurseries, took the leading place. Their plants were excellently grown, varying in height from about 1 foot in that of M. Léon Say to 3 feet in Charlemagne, and some others. The first variety we have named has leaves 9 inches long, and 6 inches broad, pale carmine, with deeper-coloured veins, on which some white spots are sparingly shown. Duchess of Teck, although of the same height and general contour as the last, is the reverse of it in colour, the leaves being opaque, white, greenish towards the edges. An Award of Merit was made to this variety. Madame Léon Say has a leaf lighter in colour than Léon Say, a wavy surface and a lighter coloured margin. Argentine somewhat resembles Duchess of Teck; Raymond Lenoir has a grand leaf, crimson-coloured in respect to its central area, with a margin of creamy-white averaging 2½ inches in width. Louis Van Houtte has a large leaf of deep crimson, and the plant is likely to grow to large dimensions. Michael Buchner has a leaf of a shade of crimson, which is mottled slightly with green, and the ribs are of bright crimson; the habit is dwarf. B. S. Williams is crimson, veined and bordered with green, with ribs of a deeper shade of crimson; it is a fine thing. John Laing, light green and crimson, and Rose Laing, greenish-

white, with a suffusion of carmine, are pretty varieties, and worthy of the notice of growers. Roncador, scarlet ground colour, with all the ribs and veining coloured green, is an exquisitely-finished leaf, and the height of the plant shown was about 2 feet, the blade of the leaf 10 inches long and 8 wide. The new old Minus rubescens, a small-foliaged variety, a companion plant to argyrites, colours green and scarlet, was remarked in one or two examples. L'Insolite has leaves of a cheerful colour, mostly green, with a few light crimson dots and veins of the same colour. Madame Groult in general appearance resembles Roncador, excepting that the ground-colour is white, and the main ribs crimson, and veining green. Candidum is very distinct, having green veining and ribs, on a ground of white. Madame Mitjana is a massive-looking large leaf of crimson, with a purple tinge in it, and bright red ribs. Madame J. Box, a commendable variety, seems to lack methodical arrangement of the chief colours—green and crimson. M. A. Hardy, Auguste Carpentier, Charlemagne, Sanchonathon, Mrs. Harry Veitch, Excellent, Duchess de Mortinair, and Assuaguay, are varieties that have only to be seen to be admired for their beauty of colouring.

We must not omit to mention Le Nain Rouge, President de la Devauxaye, Marie Duhal, Duke of Teck, His Rouge, amongst varieties of dwarf habit, and very suitable plants for anyone provided with a hothouse, and who has much table decorative material to supply.

Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, S.W., showed a handsome, evenly-graded bank of large and small plants, the intermediate spaces being filled with Maidenhair Ferns. Amongst them many choice novelties were remarked. It was, as a group of plants, undoubtedly the best set up, although opinions differed as to whether it should be considered the best in regard to choiceness of the varieties and fine culture. Awards of Merit were meted out to Sir Julian Goldsmid, a large-leaved variety, with a ground-colour of white densely veined and ribbed with crimson; to Duchess of Connaught, a medium-sized leaf of greenish white, with a thin edge of green, and faint pink-coloured ribs; and to Silver Cloud, a white leaf with a faint rosy tint and spot of carmine where the stem joined the leaf. Lord Derby had a leaf which looked like an old-fashioned pattern in chintz; the ribs of this one are coloured green, as also the narrow edge of the leaf; Leonard Bause, a very showy variety. For a fuller description of the capital lot of varieties, we refer our readers for an account of the varieties shown to our issue for May 9, p. 583.

Messrs. JOHN LAING & SONS, Nurseries, Forest Hill, London, S.E., had a group equalling in size the foregoing, and generally larger specimens. The firm, as most of our readers are aware, has made Caladium culture a speciality of recent years, and some of the older varieties shown were therefore of large size. We noted Cléo, a showy leaf, with mottlings and blotchings of pink on a ground-colour of green; the plant, together with the pot, was 4 feet high. Somewhat less tall was a fine piece of Mrs. H. Veitch. Another of Leopold Robert, a pretty leaf of white ground colour, pink ribs, and minute green veining; Gaspar Crayer, a blood-coloured leaf of a very large size; Barao Namore, white, with ribs conspicuous for their deep crimson colour and breadth; Triomphe de Conte, crimson and green; Baron Adolphe de Rothschild, of dull crimson in various shades, with pink spotting. Of dwarf varieties we may mention Michael Buchner and Madame d'Halloy.

A group of small plants, consisting of modern and old varieties, was staged by Messrs. HENRY LOW & CO., Nurseries, Upper Clapton, N.E. Beside many that we have noticed in the foregoing collections, were Rio de Janeiro, with crimson ribs, a pink ground colour, isolated dots of the same colour surrounding the central area of the blade, which latter possessed a green edge; Roi de Danemark, Madame Mitjana, John Peed, a large leaf of crimson and green; Crystal, with a semi-transparent leaf of greenish-white; Peripet, green, mottled with white, and with rose-red ribs. Small plants of Aloecia Loxley var. grande, an improved form, were remarked in this group; and a row of C. argyrites formed the edging.

## ANTHURIUMS.

JOHN LAING & SONS, Forest Hill, showed A. triumphans, an apparently free and tall-growing variety, with a spathe of a peculiar shade of pink, and a yellowish spadix—a new variety, obtaining a First-class Certificate. They also showed a few plants of A. Soberzerianum in variety; A. Duvicarianum, a white spathe variety.

MESSRS. F. SANDER & CO., St Albans, exhibited Anthurium Rothschildianum, A. Soberzerianum in variety, but nothing of superlative degree of merit.

## CROTONS.

Codiaeums in variety were observed in a group of miscellaneous plants set up by Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, including C. Aigburth Gem, recurved leaves, ½ inch wide, yellow and green in colour when young, but changing to red, yellow, and green when aged; C. Golden Ring, a spirally twisted, narrow, pendent leaf; C. Warreni, C. Emperor Alexander, broad mottled leaf of green and yellow, margined with carmine when aged; C. Baron Frank Selliere has broad green leaves, with a central white rib and white veins running at right angles from it, the leaves taking a slightly twisted form when young.

Messrs. H. LOW, Upper Clapton, had a group of small plants, of which C. Thompsoni, with much yellow in the leaf, which is broad and long; C. Russellii, green with yellow, in considerable mass of yellow colour running down each side of the midrib; C. chrysophylla, a distinct-looking variety, with a broad leaf part green and part yellow; C. Flamingo,

the young leaves chiefly yellow and green, which change to dark green, with a rosy-red midrib, bordered with a yellow line. Other varieties consisted of Disraeli, Musarcus, Chelsooi, Weismanni, Lord Derby, &c.

## MAPLES.

THOS. CHIFFS & SON, Tunbridge Wells Nurseries, showed Japanese Maples in good-sized examples of good colour, and otherwise well cultivated in pots. We may mention very meritorious Acer palmatum var. sanguineum, A. p. roseum marginatum, A. p. atropurpureum, A. p. dissectum, A. p. involutum, A. p. septemlobum, A. p. flavescens, A. p. palmatifidum, and others; A. japonicum aureum, and A. j. vitaeifolium.

Messrs. W. FROMOW & SONS, Sutton Court Nursery, Chiswick, W., had a large group in the open air, consisting of varieties of Acer palmatum, viz., discolor variegatum, a delicate-looking leaf in white, green, and pink; Sanguineum, Sanguineum variegatum dissectum purpureum, dissectum ornatum palmatifidum, linearifolium atropurpureum, and others. Of Acer japonicum we remarked the distinct looking palmatum with light-green elegant foliage and A. j. aureum. This group of Messrs. Fromow was relieved by a few Lirium longifolium being distributed through it, and it was edged with Eurya latifolia.

Messrs. J. VEITCH & SONS showed two beds of Acers, the plants being sunk in the soil, one bed containing A. palmatum palmatifidum and A. p. sanguineum. The other bed consisted of A. palmatum dissectum. The varieties of Acer from Japan have great apparent capabilities, and this year the colours seem particularly bright, and the season so far has suited them.

## CONIFERS.

Messrs. J. VEITCH & SONS exhibited a number of Japanese Conifers, very old and courted, but not measuring in any instance more than 2½ feet in height. We may note two specimens of Podocarpus macrophyllus variegatus, several of Retinospora obtusa aurea, generally in good health; two of Pinus parviflora. Podocarpus Nageia also variegatus, a species with ovate leaves 2½ inches long, 1½ inch wide. Many of these Conifers are believed to be one hundred years old. This same bed contained baskets filled with small plants of Japanese Acers. Each bed was edged with plants of the pretty variegated Eurya latifolia.

## BEGONIAS.

*Tuberous-rooted*.—These were distributed in groups through two or more of the long marquees, being collectively a marked advance on previous years, the grouping being carried out more effectively; whilst from the point of quality, no possible fault could be found.

Mr. JOHN R. BOX of Croydon showed a large and very varied group of considerable length, in which the quality was remarkably good, the flowers of large size, whilst the colours were distinct and good; the foliage, too, was dark in colour, and the growth robust and sturdy; both doubles and singles were equally good. The most notable were the single yellows, the crimines, and dark crimines; and the double apricot, primrose and buff-tinted forms; Brilliant, an extra-large crimson scarlet, was very notable (a Silver-gilt Flora Medal was awarded to this group).

Messrs. JOHN LAING & SONS, of Forest Hill, showed another very extensive group in their characteristic style, by the association of several plants of one shade of colour in distinct small groups, the effect being thereby greatly enhanced. The growth here also was excellent, and the plants well flowered. Very notable were the Duchess of York, a fine double Primrose coloured variety; Duke of Fife, a fine double rose colour; and Duchess of Fife, a double pale yellow, as well as another, a single, called The Giant, orange-scarlet in colour, and of large size; pure white and scarlet doubles, and crimson shaded singles also abounded.

Mr. T. S. WARE, of Tottenham, had a small group of select varieties, the plants of extra size and vigour, the best of these were the named varieties, viz., of doubles, Miss Bertha Joseph, a fine clear yellow; Maid of Kent, double rose colour; Duke of York, extra large double crimson-scarlet; and Princess of Wales, a soft blush; and of singles, Pride of Buxley, pure white, extra large; Champion, bright orange; Merrill, dark blood-red; and Goliath, orange and buff tinted.

Another, and a remarkably varied, well-grown and well-arranged group, came from Mr. H. J. JONES, Lewisham. This group was lightened by the addition of several plants of Asparagus tenuissimus, interspersed here and there, whilst another feature was the stout erect footstalks; the growth, too, was distinctly robust. The best single kinds were Golden Queen, a pale golden yellow; Rose Queen, a deep rose, of fine form; Miss Helmer, rosy pink, of extra quality; Delicatum, a very soft blush pink; and Miss Blundell Maple, a rich orange colour; the double varieties, too, were of excellent quality.

Begonias (semperflores section). These were to be seen included in the comprehensive group of Messrs. STURTON & SONS, each kind being arranged en masse in baskets, and with decidedly good effect, most noteworthy here were Princess Maude, rose-pink, dwarf; Princess Louise, pale flesh coloured; Princess May, pale pink; Duchess of Edinburgh, pale pink and white, of large size; and Coral Gem, pale coral-red, large.

## ORNAMENTAL LEAVED VARIETIES.

Messrs. F. SANDER & CO. showed Charlotte Sallier, a dwarf variety with small leaves of a uniform silvery colour; B. Pride of Castlewellm, resembling B. Rex in the leaf-markings but even prettier; B. Madame Louise Fournier, with leaves of a hoary tint, having the ribs for a few inches from the centre of dark-green colour. The firm showed the so-called "Pillar"

Begonias, Princess, and Prince of Wales, small-leaved varieties of slightly differing tints, the shape of the leaf being identical; B. Adrien Schmit, a leaf of moderate size, furnished with white spots of irregular size on light-green ground; B. Souvenir de Jean Bart, hoary or silvery in the middle area, the edge of green colour, with numerous round white spots upon it; this variety received an Award of Merit. B. Claudine Schmitt, a leaf much indented at the margin, silvery, edged with dull brown, and with a central irregular blotch of plum or chocolate colour densely spotted with white.

GLOXINIAS.

These were shown in large numbers, a few distinctly fine varieties being apparent here and there, the other predominating feature being the fine quality of the individual flowers in nearly every instance.

Messrs. J. VEITCH & SONS showed a fine assortment of their strain, in which great freedom of flowering, with comparatively small leaf growth, were conspicuous, a few of the most notable were Virginalis, pure white; Nestor, an extra

profusion of flowers; the reds and crimson here were very conspicuous, the variety called Prince of Wales, a glowing scarlet, being one of the best of these. Another, a spotted variety, was also prominent by reason of its brilliance and large size.

Mr. E. CAR, gr. to W. A. GILLET, Esq., Fair Oak Lodge, Bishopstoke, showed a collection of large well-flowered plants, which had not borne the journey so well as one could have wished, otherwise they were good examples of culture.

Messrs. J. LAING & SONS showed a small group of younger plants, and of a good strain. One of these gained an Award of Merit, in the list of which awards it will be found.

ROSES.

The reputation of the meeting for exhibits of Roses was well maintained, while many of the cut-blossoms surpassed in excellence any of previous years. Near the entrance of No. 2 tent Mr. MOUNT, Canterbury, staged a dozen large boxes of cut blossoms in grand form: those of Ulrich Brunner, Catherine Mermet, Fisher Holmes, Countess de Nadallac,

of Teck, and Duchess of Albany were also bright and clean. Their new Tea Rose, Sylph, was in much better form than last year, and is a most promising Rose, with deep salmon-flesh centre, paler edges, a large, full, and well built up flower. An Award of Merit was given to a new Tea, Grand Duc de Luxembourg, which, from foliage and habit, appeared to be a Hybrid Tea. The colour is deeper and brighter than C. Testout. Zephyr, a lemon-yellow Tea; Empress of India, fawn and salmon; an Eucharistia, a soft creamy-flesh, are also promising new Teas from Waltham Cross.

Messrs. C. TURNER & SONS, Slough, had a most attractive group at the bottom of the large tent, a large number of well-grown plants being most tastefully arranged. In the centre was an arch clothed with their Crimson Rambler, and although this is suitable for any form and situation, we never saw it more happily arranged. The same variety was shown as standards on 4-foot stems, excellently flowered. Ulrich Brunner, Crimson Rambler, Maréchal Niel, Madame de Watteville, Camille Bernardin, La France, Juno, Edward Morron, and Madame V. Verdier were particularly well-



FIG. 107.—MISCELLANEOUS GROUP OF CUCUMBERS, TOMATOS, PEAS, BEANS, AND GLOXINIAS, SHOWN BY MESSRS. SUTTON AND SONS, AT THE TEMPLE SHOW.

fine scarlet; Monarch, dark crimson-scarlet. Antigone, a fine spotted variety, dwarf and profuse; and Sunbeam, a bright crimson.

Messrs. SUTTON & SONS had their Gloninias distributed amongst their large exhibit, adding to the general but detracting from the individual effect; had these been staged collectively, they would have made a fine display of colouring. These plants were particularly noteworthy by reason of the fine cultivation, robust growth, and large flowers of decided substance, with great variety of colour; the plants, too, had borne the journey from Reading very well. One of the best of named kinds was Her Majesty, a remarkably fine pure white of good form. Another feature was the well marked and clearly defined colours, the selection having evidently been proceeded with under very careful methods.

Messrs. J. CARTER & Co. had an excellent group of their strain, in which freedom of flowering, combined with a dwarf habit, were special features; the crimson here were specially good, and the range of other colours very diffuse.

A small group was contributed by Messrs. J. PEED & SONS, consisting chiefly of their strain of spotted varieties, which possess more vigour than usual in this section.

From Messrs. H. CANNELL & SONS came a large exhibit, which, as usual in their contributions, betokened high-class cultivation. The plants were of large size, and bore a great

Camille Bernardin, Mrs. J. Laing, Maréchal Niel, Captain Christy, Prince Camille de Rohan, La France, and Baroness Rothschild being particularly good and clean. Mr. MOUNT had also a number of cut blossoms with long stems and good ample foliage, the greater value of blossoms cut in this manner for decorative purposes being very apparent. There were in this exhibit some fine examples of Crimson Rambler grown in small pots.

Messrs. G. COOLING & SONS, Bath, had a grand collection of "Old Fashioned" or Garden Roses; Austrian and Persian, and the double yellow Scotch Briars, Banksian, L'Idéal, Madame Falcot, and a promising white seedling, with long buds and good habit, being the more prominent varieties. Lawrence Allen (a light H.P.) we have seen exhibited in better form, but their single crimson bedder, with its large carmine-shaded blossoms, and compact habit, is a great acquisition in Garden Roses, especially for planting in beds. The honours for best-grown and grouped Roses may be shared between Messrs. W. PAUL & SON, Waltham Cross, and Mr. C. TURNER, Slough. MESSRS. PAUL & SON had some well-grown standards and dwarfs of Clie (evidently a better variety under glass than in the open), W. A. Richardson, Niphotos, Crimson Rambler, Medea, Caroline Testout, and Duke of York, showing in a marked manner its many varied forms and colours; White Lady, Spencer, Duke

grown, foliage healthy and ample, and blooms numerous and good.

A nice collection came from Messrs. G. PAUL & SON, Cheshnut, perhaps the best being standard plants of Madame de Watteville, a large plant of William Warden, and Paul's Carmine Pillar. The last is a grand single Rose for pillars and walls.

Messrs. W. RUMSEY, Waltham Cross, also had a good lot. The Crimson Ramblers here were the brightest in the show. Catherine Mermet, The Bride, C. de Nadallac, and Anna Olivier, were among the best pot plants. Some good boxes of Niphotos, Maréchal Niel, and others made up a good collection. Messrs. G. JACKMAN & SON, Woking, staged a large group of pot Roses that contained by far the best grown dwarf Crimson Ramblers. This grand Rose was again found in good form throughout all groups of Roses, and seemed as popular as ever. The best groups were those from Messrs. W. PAUL & SON, and Mr. C. TURNER, while the finest collection of cut blossoms came from Mr. G. MOUNT.

GROUPS OF PLANTS.

Messrs. F. SAMNER & CO., St. Albans, exhibited a group of new and rare plants, which was awarded a Gold Medal. The following plants were noticed:—Three fine but dwarf specimens of Echinocactus aureus, a species remarkable for very



formidable yellow spines, and sometimes called the Hedgehog Cactus. *Arisea fimbriatum*, and the large green *Sarracenia flava* were both represented in this collection; and there was an excellent specimen of the highly ornamental Palm, *Phoenix Robelenii*, a dwarf-growing species, with narrow leaf-segments, and possessing a most graceful drooping habit, especially valuable (see fig. in *Gardeners' Chronicle*, 1880, vol. ii., p. 475, where an old plant was illustrated) (First-class Certificate). *Dracaena Sanderiana* was represented by the best clump in a pot we have yet seen; when well grown, it is a most useful decorative plant (figured in the *Gardeners' Chronicle*, 1893, vol. i., p. 445). Some good specimens of the ornamental variety of St. John's Wort, named *Hypericum Moserianum* tricolor were shown; the centre of the leaves is usually green, with bright red margins, and white variations (Award of Merit). A First-class Certificate was awarded to a lovely Fern, *Alsophila strobilifera*, one of the prettiest of a very handsome genus. The showy species of *Cyrtanthus* (*C. obliquus*) was very well shown; the flowers are orange-red, and yellow towards mouth. There was a capital plant of *Heliconia illustris* var. *rubricaulis*, and its large handsome leaves, finely veined with rose colour, were most attractive. Another First-class Certificate was awarded to *Calamus ciliaris*, a pretty Palm that has frequently been seen; it has a very neat and compact habit, especially in a young state, that makes it very suitable for decorative purposes. *Geonoma aculis* and other fine Palms were included in the group, in addition to the ornamental-leaved *Begonias* and specialties noticed under various headings.

Messrs. LINDEN, Brussels, contributed a group of choice plants, among which the following were noticed:—*Davallia Truffautiana*, a low-habited, very delicate-looking Fern, with handsome light green foliage; the leaves, produced close to the soil, were about 3 feet long, the pinnae being minutely divided (First-class Certificate). Also some *Berteroias* (*Berterola* × *Sonerila*), the best of these being *Madame Freyran*, Mille. *Lucien Linden*, dark green leaves with silver spotting; *Madame Jean Linden*, minutely spotted with silver on an olive-green ground; and *Madame de Toiet*, dark bronzy-green with silvery spots. *Adiantum lineatum* (Award of Merit), a dwarf-habited Fern, with large cuneate lobes to the fronds, green, striped with white. *Pholidendron Devansyanum* (First-class Certificate), a plant with handsome green leaves, about 15 inches across, the stem of the youngest being blood-red, and the general habit of the plant being almost like an *Anthurium* or *Alocasia*. *Acanthophoenix grandis*, a noble Palm of very graceful appearance, was awarded a First-class Certificate.

Messrs. SUTTON & SONS, Reading, appropriated the whole of the centre table in tent No. 2 for the display of a very large and equally miscellaneous exhibit, which was awarded a Gold Medal. The vegetables, and most of the other specialties in this collection are noticed under their respective headings. A number of *Gloxinias* represented the quality of the Reading strain, and varieties in different shades of rose, purple, yellow, and white, were staged of Sutton's Spring Bedding Stocks. Double *Petunias* in pots were present. Various *Azaleas*, *Tulips*, *Lilias*, *Lilios* of the Valley, and Sutton's Prize *Colous*, were all noticed. The *Colous* is a very decorative variety, with foliage of mixed and varying colours. On an ordinary single leaf we noticed shades of red, green, yellow, and purple. *Streptocarpus Wendlandii* hybridus was represented by a group of well-flowered plants; and there were several varieties exhibited of fibrous-rooted *Begonias*, all of which are pretty, and free-flowering, differing from each other in the colour of the flowers and, in less degree, the strength of the growth.

A group of attractive appearance, and composed of a very miscellaneous selection of plants, was arranged in one of the Orchid tents by Mr. W. J. Emson, gr. to Mrs. WINGFIELD, Amphill House, Amphill, Beds. Some of the plants answerable for the greater part of the effect were *Crotonas*, *Palms*, *Dracaenas* (including *Sanderiana*), *Hydrangeas*, *Ericas*, *Caladiums*, *Hippeastrums*, and *Carnations*; a few *Orchids* in bloom afforded some additional attraction.

Messrs. CUTBUSH & SON, Nurserymen, Highgate, London, N., furnished a corner of one of the tents with a fine assortment of plants in flower and otherwise, the individual species or varieties being arranged in groups. The principal feature of the exhibit was a capital collection of varieties of *Souvenir de la Malmaison* *Carnation*, elsewhere noticed. Other features of the exhibit were groups of small plants of Indian *Azaleas* in new varieties, *Crassula rubra* and *rosa*, *Pimelea spectabilis*, several varieties of *Astilbe* (*Spiraea*), *Hydrangeas*, *Erica* *ovoidissima* and *Cavendishii*, well-grown *Mignonette*, *Saxifraga pyramidalis*, and other things, represented in fine condition.

A group of Palms and other decorative foliage plants, exhibited by Messrs. WILLS & SOAR, Onslow Crescent, South Kensington, was an excellent demonstration of tasteful arrangement upon a small area. Fine examples of *Carulodocia palmata*, *Rhapis humilis*, *Kentia Belmoreana*, *Verschoffia splendida*, and other Palms were used in the background, and small groups of such handsome plants as *Alocasia Thibautiana*, *A. intermedia*, *Anthurium crystallinum*, *Dracaena Goldieana*, *Caladiums*, *Phyllanthium Lindenii*, and dwarfier facing plants were all very effectively placed.

Mr. WILLIAM KETON, of Putney Park Lane Nurseries, S. W., furnished with specimen Palms, Bamboos, and other plants, one of the corners of a tent containing many *Orchids*. conspicuous in the group was a plant of *Kentia Posteriaria*, with yellow fronds and foliage. The varietal name of *aurea* was attached to the plant. *Asparagus Sprengeri*, *Eurya latifolia variegata*, excellent varieties of *Caladiums*, *Lilium longiflorum*, a variegated plant of *Dracaena australis*, and other *Dracaenas*. Flowering plants, such as *Crassulas*, *Saxi-*

*fragas*, *Ericas*, &c., were also used in this display with considerable effect.

In one of the Orchid tents a small group of choice plants from Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, faced the entrance. An excellent specimen of *Verschaffeltia splendida* showed well above the other plants, which included well-grown *Crotonas*, small-sized Palms, *Dracaenas*, *Dieffenbachias*, *Caladiums*, and other excellent foliage plants.

Messrs. JAE VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, furnished one of the large beds upon the grass out-of-doors with a miscellaneous collection of flowering plants. The *Azalea mollis* × *sinensis* var. *Anthony Koster*, and varieties of *Azalea pontica*, *Hydrangeas*, *Lilios*, *Olearia stellulata*, and other things, were included.

#### FERNS.

The exhibits under this head showed no marked advance on previous years, but had there been a few good examples of Tree Ferns on tall stems available, a distinctly good effect could have been made in the large marquee. This idea should receive attention, if possible, on a future occasion. Messrs. BIRKENHEAD, Sale, Manchester, had the largest exhibit in point of numbers and variety, and it included several rare and seldom-exhibited species and varieties. A small case of the "Filices" was remarked, in which were *Todea Mooreana*, a plant resembling *T. pellucida*, but denser and more robust, as well as other good kinds. *Platynerium grande* and other species were to be seen here, also *Gymnogramma Alstoni*, one of the most distinct forms of the Golden Fern, the inverted pinnae showing to good advantage; *G. schizophylla gloriosa*, small plants and as such very pretty; *Adiantum speciosum*, a distinct Fern, having the appearance of great endurance; *A. palmatum*, a good example of this rather uncommon variety; *Balanium culcitatum*, not so much known as it deserves to be, were noted.

Of hardy Ferns the best were *Polystichum concavum*, a novel and distinct form, and *P. angustilobum plumosum-divisifolium tenue*, an extremely fine and distinct plant; two other good things being *Athyrium plumosum superbum* and *A. p. elegans*, both distinct acquisitions.

Messrs. J. VEITCH & SONS showed a choice group of larger plants, many of which were medium sized specimens. Here were to be seen *Todea arborea bipinnatifida*, a distinct variety of this old species with more finely-divided fronds, somewhat lighter in colour, and altogether more elegant than the type; *Platynerium Veitchii*, a distinct species of stout erect growth, each frond being of unusual leathery substance and dark green in colour, was also a prominent plant; so also were *Lomaria gibba platyptera*, a distinct variety with the pinnae much undulated; *Pteris longifolia Mariesi*, a very pretty form of this old Fern, much more elegant and of more compact habit than the type; *P. reginae cristata*, a distinct addition to small decorative Ferns of light growth; *P. serrulata gracillima*, a miniature form of the species; and *P. tricolor* not often shown; *Gymnogramma tenuifolia Veitchiana* and *G. Veitchii*, a decided addition to the light forms; *Davallia filijensis elegans*; *Nephrolepis davalloides furcans plumosa*, of dense growth; and *Dryaria morbillosa* were all well represented in this group.

Mr. H. B. MAY contributed a choice group of small plants, all of excellent culture. Amongst these were remarked *Chelidanthus elegans*; *Asplenium marginatum*, distinct with its broad pinnae; *Gymnogramma Alstoni* and *G. chrysophylla grandiceps*, both in their best character; *Onychium auratum*, very light and pretty; *Actinopteris radiata*, in fine form; *Pteris Indens*, very robust and healthy, with several other choice kinds, were also to be seen here.

Another noteworthy new Fern was apparent in *Davallia Truffautiana*, a species quite distinct and very beautiful, with large fronds of plumose character, exhibited by Messrs. LINDEN of Brussels.

*Pteris Boultonii*, shown by Mr. T. S. BOULTON, The Nursery, Tyrell Road, East Dulwich, received an Award of Merit; as a decorative variety it bids fair to be of use by reason of its hardy appearance—it comes intermediate between *P. serrulata* and *P. tremula* in character.

#### CANNAS.

These were shown in capital character by several growers, the display made proving their suitability for pot-culture, and that, too, over an extended season.

Messrs. H. LOW & CO. showed a good assortment of dwarf-grown plants, bearing a profusion of flower; the best were *Königin Charlotte*, L. E. Bailey, Paul Marquant, Edward Neig, the latter a fine crimson variety, with large flowers.

Messrs. H. CANNELL & SONS staged a fine selection of well-grown, vigorous examples, amongst which we noted *Duchess of York*, yellow and orange spots; *Aurora*, orange-scarlet; *Paul Brant*, bright scarlet; and *Königin Charlotte*, one of the most showy kinds grown.

Messrs. J. VEITCH & SONS showed a select collection of the most useful pot varieties, the plants robust and freely flowered; these were arranged with the Ferns from the same source.

Messrs. PAUL & SONS had also a few examples of the newer kinds, to one of which an Award of Merit was given, viz., to *Madame Pichon*, a bright golden-yellow with orange spots, the growth dwarf.

Mr. PERRY, gr. to C. TASKER, Esq., Middleton Hall, Brentwood, also had a group, chiefly of the older and best-known kinds, the plants extra vigorous and well-flowered; *Madame Crozy*, *Procession* and *Cheshunt Yellow*, being three of the best.

#### CLEMATIS.

Of these extremely useful spring-flowering plants under pot culture only one group of specimen plants was shown. This came from the well-known growers, Messrs. R. SMITH & CO., of Worcester, finer specimens than these, both as regards size, fine foliage and splendid quality of the flower, could not possibly be desired. The finest were—of the *C. lanuginosa* section, viz. *Gloire de St. Julien*, white and mauve; *Imperatrice Eugénie*, pure white; *Lady Carolina Nevill*, blush with mauve; *Lord Nevill*, dark plum colour; *Marie Lefebvre*, light mauve; *Purpurea elegans*, deep violet purple; *Princess of Wales*, satiny mauve, and *Sensation*, also mauve; and of the *C. florida* section, *Countess of Lovelace*, bluish lilac, and *Lucy Lemoine*, double white, were the two best, the latter a specially fine variety.

*Clematis Crimson Beauty*, a new and distinct hybrid with medium-sized flowers, crimson, flushed with purple, was shown by Messrs. JACKMAN & SON, Woking; this is a decided addition to its class, receiving an Award of Merit from the Floral Committee.

#### AZALEAS.

The greenhouse or indoor varieties did not play an important part in the display; in fact, we do not remember to have seen fewer examples shown at any previous Temple Show. A group of medium-sized plants, with compact heads of bloom, came from Messrs. B. S. WILLIAMS & SON, the best being *Roi d'Hollande*, *Madame Van der Cruyssen*, *Empress of India*, and *Vervaneana*.

Of hardy species there were more exhibits, but these were not over numerous. Messrs. J. VEITCH & SONS showed a selection of the best kinds of *A. mollis*, *A. rustica*, and *A. occidentalis*, all useful early-flowering plants. Of the *A. mollis* section, a new variety, named *M. Dubois*, a dark apricot-coloured form, received an Award of Merit. In colour it is quite distinct, and its habit is good. Of the *A. rustica* section (a most useful one for pot culture), the best were *Diamond*, blush colour with coral-red upper petals, was a singularly fine variety, the plants bearing a profusion of flowers, whilst the growth was vigorous; to this an Award of Merit was given. Another named *Aida*, rosy-blush; and one called *Ariadne*, a creamy-white, were both of great excellence. *A. Daimio*, of dwarf, india-like growth, was also shown; this should be a good companion plant to *A. obtusa*. *A. mollis* *Anthony Koster* was also shown in good style.

Of *A. rustica*, a small group of distinct varieties came from Messrs. T. CRIPPS & SONS, Tumbidge Wells. Here were to be seen again *Aida* and *Ariadne*; also *Phoebe*, a clear pale yellow; and *Virgil*, a lemon yellow variety.

#### FLORISTS' FLOWERS.

##### CALCEOLARIAS.

Some very attractive collections of *Calceolarias* were staged, and being dotted about the tents, gave attractive masses of colour at various points. Mr. J. W. JAMES, Woodside, Farnham Royal, Slough, had about two score of plants of his dwarf and compact strain, finely grown, the foliage clean and vigorous, the flowers massive, and covering the plants in bold bunches; the colours varied, and the quality excellent.

Messrs. H. CANNELL & SONS, The Nurseries, Swanley, had some two dozen excellent specimens like the foregoing, admirably grown and bloomed, the colours good, and the quality most desirable.

Messrs. JAMES CARTER & CO., Seed Merchants, Holborn, also had a collection of some eighty to one hundred plants, excellently grown, and freely flowered, the flowers a little smaller, perhaps, than in the case of either of the preceding collections, but what was lost in point of size was compensated for in the matter of quality; the looseness which is sometimes found in the largest blooms was to a great extent absent in the plants forming Messrs. CARTER & CO.'s collection.

##### CARNATIONS.

These were to be met with at various points; Messrs. W. CUTBUSH & SON, The Nurseries, Highgate, making an effective display with a quantity of plants of the old *Malmaison*, which were tastefully arranged, and they dotted about among them a few plants each of the yellow-self *Germania*, in fine character; *Uriah Pike*, in good form; *General Stewart*, shaded crimson; *J. B. Bryant*, red-edged *Picotee*, and two new varieties of decided promise, viz., *Harrow Weald Beauty*, delicate pink with flakes of rosy scarlet; and *La Villette*, sulphur ground edged with bright rosy pink. Close by Mr. C. BICK, gr. to MARTIN R. SMITH, Esq., Hayes, Kent, had a group of plants of his own raising, consisting of varieties resembling the *Malmaison* types in the size and fineness of their blossoms, including *Lady Grimston*, pale rose flushed with pink, large full flowers of fine quality (Award of Merit); *Lord Rosebery*, bright scarlet, the full flowers having finely cupped petals (Award of Merit); *Trumpeter*, deep scarlet, good form; *Mephisto*, shaded deep crimson, a very fine border variety; *Alabama*, delicate blush, a very pleasing flower; *Nell Gwynno*, white; *Sir Pritchard*, pale yellow, &c., a collection of a highly attractive character, and much admired for their superior cultivation.

Mr. CHARLES TUNNER, Royal Nursery, Slough, had at each end of his superb group of *Roses* a small collection of admirably-grown and bloomed plants, mainly of Mr. MARTIN SMITH's new varieties, such as *Cardinal Wolsey*, pale buff ground, heavily flaked on the petal edges with ruby red (Award of Merit); *Little John*, really a grand *Malmaison* type, the large and full pale rose-coloured blossom having

handsome shell-like petals (Award of Merit); The Gift, yellow ground, pencilled with orange-red on the petal edges, a very fine and attractive yellow variety (Award of Merit); Loveliness, pink, very fine in the petal (Award of Merit); Water Witch, delicate blush, very fine; Pride of Penshurst, &c. These beautiful Carnations received great attention from the ladies on account of the soft tints of most of them.

Mr. T. S. WARE, Hale Farm Nurseries, Tottenham, also had in one of his collections some boxes of cut blooms of the old Malmaison Carnations.

Mr. JAMES DOUGLAS, florist, Bookham, had bunches of cut blooms of some of Mr. Martin Smith's new varieties, such as Mephisto, dark shaded crimson (Award of Merit); Mrs. Eric Hambro, white, very fine in petal and shape (Award of Merit); Miss Audrey Campbell, pale yellow; Mrs. Seymour Bouverie, pale ground, flaked with salmon-red; Braw Lass, bright pale rose; Winnifred, deep salmon;

byblemens, Mauve Queen, flamed, and Friar Tuck, feathered; Talisman and Lord Denman, flamed. Of roses, Sarah Headly, Kate Connor, Heroine, Mabel, and Annie McGregor, all flamed. In addition there were large bunches of Darwin and other types. Quite a large collection was staged by Messrs. JAMES VETTER & SONS, which comprised in the main self varieties, some being very fine and richly coloured, such as Clarinda, bright crimson; Crepin, crimson; Buccophalus, deep crimson; La Grande, blush and cerise; Bouton d'Or, yellow; Velvet Gem, a very fine dark; General Kohler, Muriel, cerise with a broad border of white, and a black base, &c.; some fine examples of the double yellow Rose and striking Parrot varieties were included. Then Messrs. ANTHONY ROOZEN & SONS, Overveen, Haarlem, Holland, staged a number of breeders and broken varieties, among them some remarkable for their dark colours, viz.:—Faust, Negress, Cesar Borgia, Peter Barr, Louis XVI., Paul Boudry,

King Cesar, bright crimson. Of single varieties, Golconda, deep bright crimson, of fine shape (Award of Merit); Triumphant, bright cerise-rose; Ruth, blush; Mand, pink, &c. In addition, there was a box of blooms of hybrids of *Aquilegia conculca*, and boxes of cut blooms of tree *Faenones* so badly named that it was very difficult to find them; a few of the best were Louisa Mouchelet, Athlete, Triomphe de Vandermeulen, Dejanire, Mr. Chaplin, maroon-crimson; Aphrodite, white; Triumph, magenta-crimson; and Feversham, white. There were also bunches of spikes of *Lupinus polyphyllus* varieties, and also of *L. Foxi*; a deep-coloured form of the old red *Valerian* was sent under the name of *Centranthus sanguineus*; spikes of *Delphiniums*, not fully in bloom; *Oriental Poppies* in variety, *Iris* in variety; one of the most distinct forms of *I. germanica* was *australis*, deep bronzy-purple.

Messrs. Doune & Co., seedsman, &c., Orpington, Kent,



FIG. 108.—GROUP OF JAPANESE MAPLES.

Duchess of Orleans, pale yellow; and Mr. Weguelin's *Garville Gem*, of a shade of heliotrope, but not shown in its best character.

#### CUT FLOWERS.

Tulips took a foremost place, and in addition to collections of blooms, nearly every bank of cut flowers contained some Tulips, and handsome bunches of them, with those of *Anemones*, *Ixias*, *Narcissus*, &c., flanked Messrs. SUTTON & SONS' splendid central table of Peas, &c. Mr. T. S. WARE had large and striking bunches of Darwin breeder Tulips.

Messrs. BARR & SON, King Street, Covent Garden, had a large collection of English florists' Tulips showy breeders (selfs) being particularly prominent, among them the following bizarres: Catherine, William Lee, Samuel Barlow (figured in our last issue), Sulphur, Dr. Hardy, and Sir J. Paxton; Talisman, Miss Foster, Philip 1st, and Martin's No. 117; byblemens, Annie McGregor, Mabel Kate and Connor; roses of rectified flowers, there were flamed bizarres, Colbert, Sir J. Paxton, Samuel Barlow, Dr. Hardy, and Ajax; of feathered flowers, George Hayward, Sulphur, and Lord Lilford; of

and Schubert, with some of lighter shades, such as George Maw, cerise rose, feathered with pink and white; Bouton d'Or, the finest yellow self; Rev. H. H. D'Ombraun, bright crimson; Jaune d'Oeuf, bronzy gold; Hitchcock, bright rosy crimson; Petrus Hondrus, bright rose; Gondrunk, bronze and orange; Albion, white; Yukand, rosy pink; and many rectified, feathered, and flamed, in very showy bunches, in all about 100.

Anemones were represented by one small collection from Messrs. BARR & SON, double and single varieties of no great merit; but they more or less formed a part of several collections of cut flowers.

Messrs. KELWAY & SONS, nurserymen, Langport, set up one of those representative collections usual with them at this exhibition. They had boxes of cut blooms of *Amaryllis*, Mr. Chaplin, orange-crimson being one of the best; also *Pyrethrums*, both double and single. Of the former a number of blooms each of *Toison d'Or*, primrose; *Duchess of York*, deep pink; *Purpureum*, pale purple; *Ernest*, bright crimson; *Perle*, bright deep pink; *Carl Vogt*, white; and

and *Rothsay*, had a collection of bunches of *Cactus* and *Decorative Dahlias*—an unusual sight at this exhibition, such varieties as *Bertha Mawley*, *Matchless*, *Delicata*, *Professor Baldwin*, *Mrs. Peart*, *Robert Cannell*, &c.; and also of the single *Cactus* varieties they have introduced, which attracted much attention, prominent being *Lady Clare*, scarlet and magenta; *Marmion*, crimson scarlet; *Guy Mannerling*, creamy white and sulphur; *Earl of Ravenswood*, old gold colour; *Pirate*, dark crimson and purple; *Sir Walter*, rosy pink; *Alice Lee*, soft pink and white; and *Highland Mary*, cardinal red. Those who are not attracted by the formal character of the *Cactus*, *Pompon*, and single types, will find these of great use in their floral decorations. In addition there were a large number of sprays of *Violas*, chief among them being *Mary Gilbert*, *Sylvia*, *William Niel*, one of the most distinct and pretty; *Border Witch*, very delicate; *True Blue*, *Marchioness*, *Humish*, *Mr. C. F. Gordon*, *Cherry Park*, *Blue Gown*, *Florizel*, *Crimson King*, *J. B. Riding*, *Craigie*, *Minnie*, and *Christiana*, those constituting a very good selection. In addition, there were a number of bold

sprays of bright-coloured fancy Pansies which were very attractive.

A considerable collection of cut flowers was staged by Messrs. W. CORBISH & SON, of the Highgate Nurseries, who had *Heuchera sanguinea*, various Parrot Tulips, *Ixia* in variety, *Calla palustris*, *Cytisus Scoparius*, *Andreas*, oriental Poppies, varieties of *Peonia officinalis*, *Pyrethrum* in variety, bunches of the double *Narcissus poeticus*, *Carnation Mrs Leopold de Rothschild*, *Papaver umbrosum*, *Lupinus polyphyllus* in variety, the yellow Welsh Poppy, *Iris* in variety, *Cheiranthus Marshallii*, Tulips, &c.

Messrs. BARR & SON had a collection in which *Iris* played a leading part, mainly of the Germanica type, prominent being *The Khedive*, pale purple, very fine; *Florentina*, Germanica major, Asiatica, pale purple, very fine; *Prince of Wales*, white; *Purple King*, *Hannibal*, violet-blue; *Bacchus*, yellow and bronze, &c.; also bunches of *Columbines*, herbaceous *Peonies*, *Pyrethrum*, *Ixia*, *Doronicum*, *Lupinus*, the scarlet *Geum*, *Lilium*, &c.

Mr. M. PRICHARD, nurseryman, Christchurch, Hants, had a collection mainly of cut flowers, such as *Iris*, *Peonies*, *Achillea mongolica*, *Trollius caucasicus* var. *Orange Globe*, in very fine bunches (*Award of Merit*); *Anthericum Lillastrum* major; *Rubus nutkanus*, *Campanula glomerata dahurica*, some fine spikes of *Erenurus robustus*, *Peonies*, &c.

Messrs. YOUNG & DOBSON, florists, Stevenage, had bunches of Pansies, of somewhat poor character. Mr. ARTHUR RHODES, nurseryman, Guisely, near Leeds, bunches of *Myosotis*, *Princess Victoria*, which is scarcely an improvement on the type.

Messrs. WALLACE & CO., Colchester, had *Calochortis* in variety, chief among them being *C. Benthami*, yellow, and *ceruleum roseum*; also *Brodiea Howellii*, white, with faint lines of purple, and *B. capitata*; *Dodecatheon Jeffryanum*, *Fritillaria recurva*, &c., a small but interesting collection.

Mr. B. LADHAMS, nurseryman, Shirley, Southampton, had cut examples of *Pyrethrum Carl Vogt*, double white, very good; *Vanic*, blush and apricot; *Delicata*, single pink; *Melton*, double crimson, one of the best, the feathered *Hyacinth*, *Doronicum*, *Harpur Creve*, *Aquilegia*, *Pinks*, *Anemones*, *Erigeron aurantiaca*, &c.

From Messrs. CREAL & SON, nurserymen, Crawley, came a large collection, which included trusses of *Rhododendrons* and bunches of various flowering shrubs; also of hardy perennials, such as the scarlet *Geums*, *Doronicum*, *Lupinus*, *Poppies*, with bold bunches of *Iris*, &c., at the back, and also a collection of nicely arranged sprays of *Violas*, the leading varieties being *Duchess of Sunderland*, *Aurora*, *Josephine*, *Lord Elcho*, *J. B. Riding*, *Dawn of Day*, *Sylvia*, *Jena*, one of most distinct; *Ada Adair*, *Roh Roy*, *Countess of Kintore*, *Arlet*, *Royalty*, and *Icarus*.

Messrs. JAMES CARTER & CO. also had a number of bunches of showy Tulips, *Ixia*, the double *White Narcissus*, *Iris*, *Lilies*, *Anemones*, *Primula Sieboldii*, *Violas*, *Camassia esculenta*, &c.

Messrs. GEO. JACKMAN & SON, nurserymen, Woking, also had a limited collection consisting of bunches of *Papaver orientale*, *Lupinus polyphyllus*, *Aquilegia*, *Pyrethrum*, *Iris*, *Thermopsis montana*, *Peonies* of the herbaceous type, and bunches of *Carnations*.

#### PELARGONIUMS CUT.

Messrs. H. CANNELL & SON staged from forty to fifty bunches, tastefully set up with Ferns. Among them were *Fanny Edin*, Mr. H. M. Stanley, Duke of Fife, *Princess May*, *Lady Duff*, a very pleasing variety, the centre white, the bright orange-rose petals much fringed; *Duchess of Portland*, delicate pink lower petals, with slight dark top, very pleasing; *Vivid*, bright orange-scarlet; *Purple Emperor*, Mr. James Rogers, *Duchess of Teck*, white; and *Spotted Beauty*, one of the best spotted varieties.

#### HARDY HERBACEOUS PLANTS.

The finest collection of plants—and it was one of exceeding variety and attractiveness—came from Mr. T. S. WARR, Hale Farm Nurseries, Tottenham, and constituted a striking object at one end of a long tent. Here were tree and herbaceous *Peonies* in smallish pots, admirably flowered; *Iris*s, German and Spanish, in attractive variety. The beautiful *florentina*, *elsiana*, and many others unnamed, formed very pleasing features. *Spiraea astilboides*, multiflora, and compacta were capitally presented. *Aquilegia* in a big basket formed a telling and very varied clump. *Geums nigratum*, aureum, and *coccineum flore pleno*; *Saxifraga pyramidalis* in good clumps, *Lilium longiflorum* and *Thunbergianum*, *Trollius europaeus*, *Ranunculus acronitifolius* plenus in quantity, various perennial *Lupines*, *Dodecatheons*, *Thrits*, prostrate *Phloxes*, *Orobis aurantiacus*, *Erigeron alpinus*, *E. rupicola*, and diverse species and varieties enabled visitors to see how very attractive hardy herbaceous plants in pots or pans may be made.

In their collection of cut flowers, Messrs. W. CORBISH & SON, Nurseries, Highgate Hill, showed a plant of *Arctotis aureola* in bloom—a fine single bright yellow flower, recently Certificated.

Messrs. BARR & SON, of King Street, Covent Garden, and Long Ditton, showed amidst their remarkable variety of cut flowers, pieces of some alpinas, such as the pretty *Arenaria montana*, *Ruonia fl. pyrenica*, various perennial *Cheiranthuses*, *Saxifragas*, *Cypripedum calceolus*, &c.

Messrs. WALLACE & CO., Colchester, had a fine group of *Lilium longiflorum giganteum*, the trumpets long and pure white; also elsewhere a charming collection in pots of *Calochortis*, amongst which *Benthami*, *Macleana*, *rosens*, and *ceruleum* major, were very beautiful. Also very striking was

*Fritillaria recurva*, rich red flowers, and of medium height; also *Camassias*, *Brodies*, &c.

Messrs. BACKHOUSE & SON, York, had one of their customary groups of hardy plants, chiefly alpinas, grown in boxes, like imitation rockwork, and so exhibited, showing special adaptability for rock-planting. Thus planted out were various *Iris*s, *Dodecatheons*, *Heucheras*, dwarf *Aquilegia*, pretty *Primulas*, such as *Sieboldii floribunda*, &c. Various alpine *Pinks*, the charming blue *Gentiana verna*, various dwarf *Saxifragas*, *Morisia hypogea*, *Lithospermum prostratum* and *hirtum*, the latter yellow-flowered; *Daphne Cneorum*, creeping *Phloxes*, and other little things, all serving to make this group exceedingly interesting and attractive. This firm also had a large box filled with a rare double form of the orange and yellow-coloured Welsh Poppy, *Meconopsis cambrica*.

Messrs. PAUL & SONS, Cheshunt, had erected, at considerable pains, an imitation rockery in one of the tents, though perhaps rather formal, as the structure consisted of a series of steps, it served admirably to display the general habits of the various plants utilised, and made a pretty feature. Here were planted out *Primulas japonica* and *floribunda*, *Anemone sylvestris*, dwarf *Phloxes*, *Saxifragas*, *Aster alpinus*, dwarf *Geums*, *Thrits*, *Iberis gibraltaria* and *juvunda*, small *Aquilegia*, *Lychnis Lagasce*, *Achillea rupestris*, and numerous other plants suitable for the purpose.

Messrs. J. CREAL & SONS showed, as fitted up for an alcove or window, a pretty piece of imitation rock-work, in which were numerous hardy plants, including *Iberis corifolia*, *Aquilegiaerulea*, creeping *Phloxes*, *Saxifragas*, &c.

Mr. W. DENSMAN, Catherine Street, W.C., had a capital group of *Spiraea astilboides floribunda*, that showed both good culture and snow-white inflorescence.

Outside, Messrs. CANNELL & SONS, Swanley, Kent, had furnished a bed with their fine pure white-flowered Daisy, *The Bride*, that made an attractive mass of snowy flowers.

#### MISCELLANEOUS EXHIBITS.

From the CAMBRIDGE BOTANICAL GARDEN came flowers of *Iris Sari*, a very beautiful species; and *I. Korolkowii*, with sharply-pointed perianth, segments of a light-grey colour, traversed with dark-purple lines. *Hippeastrum pratense* is a rarely-seen hardy bulbous plant, with orange-crimson flowers. *Crimum variable* is another rarely-seen species, which is hardy at Cambridge. The flowers are small for a *Crimum*, white-fleshed, with rose, and borne in umbels. A boxful of the curious and beautiful *Lathraea clandestina*, and a plant of *Matthiasa altatoria*, with various species of *Cineraria*, formed an interesting little exhibit sandwiched in between Orchids, so that they may easily have been overlooked.

Some large, well-flowered plants of *Streptosolen Jamesoni* were exhibited by J. S. BENNETT-POLE, Esq., Holmwood, Cheshunt; these plants had been struck from cuttings in April, 1895; they were quite 4 feet high, and almost as much through.

Messrs. JAS. VEITCH & SONS have of late made frequent exhibits of *Phyllocactus* and *Cereus* varieties, and have obtained awards of merit for many of them. On the present occasion the firm made a very handsome and showy group of the plants on one of the tables in No. 3 tent. Some of these hybrids raised by Messrs. VEITCH possess exceedingly fine and uncommon colours. The varieties selected for distinction at this show were *Eva*, a large open flower of crimson shaded with purple; *Ovis*, a pretty, bright, warm, flesh-coloured flower; and *Elatior*, pure rose crimson; and *Emersion*, to each of which an Award of Merit was recommended.

Messrs. BALCHIN & SONS, Hassocks Nurseries, Sussex, again made a show of their specialties in the particular spot the exhibit has occupied for several years. *Boronia serrulata*, *B. heterophylla*, *Phonocoma prolifera*, *Erica verticillata*, *E. perspicua*, *E. candidissima*, *E. Spencei*, and particularly the unique-coloured *Lechenaultia biloba*. All of these plants, as shown by Messrs. BALCHIN, represented the most perfect culture that has yet been attained.

A first class Certificate was awarded the purple-flowered *Buddleia Colvillei* sprays of which were exhibited by W. E. GUMBLETON, Esq. Belgrove, Queenstown, Ireland (see fig. in *Gardeners' Chronicle*, Aug. 13, 1892, p. 187.) The Dwarf-habited Sweet Pea *Cupid*, figured in *Gardeners' Chronicle*, 1895, vol. 1, p. 793, was shown by Messrs. DORRIS & CO., who had upwards of two dozen plants in pots. The lovely and distinct *Saintpaulia ionantha* was capitally shown by Messrs. CARTER & CO., High Holborn, who had a small group of the plants in flower. The same firm showed large decorative *Mimulus*, also plants of a good strain of double-flowering *Petunias*, and the precocious *Rose*, figured in *Gardeners' Chronicle*, 1895, 1st vol., pp. 682 and 683. The seeds in this case were sown on February 9 last, and the first flower opened on May 9.

In addition to the exhibits of Messrs. J. VEITCH & SONS, which have been noticed under several headings, mention may be made of a small group of *Calla Elliottiana*, in bloom, some very well grown *Bertolonias*, sprays of the white variety of *Wistaria sinensis*, a yellow variety of *Lantana Drap d'Or*, and a number of plants of a miscellaneous character, which were interspersed amid the more important exhibits.

Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, showed several pretty foliage plants including the purple and narrow leaved *Draecena lentiginosa*, some choice *Bertolonias*, and adjoining these a pretty group of *Gloxinias*.

A small group of *Peonies* came from Mr. T. S. WARR, amongst which we noted *Rosa Mundi*, a deep salmon-pink, and *Reine Elizabeth*, a rosy-pink, as being two of the best.

A small, well-grown group of *Spiraea astilboides floribunda* was shown by Mr. W. DENSMAN of Covent Garden, the plants were in small pots, the spikes large, and the flowers pure in colour.

The only exhibitor of plants of *Pelargoniums* was Mr. H. J. JONES, of Lewisham, who had dotted about them some plants of *Cocos Weddelliana*, and a groundwork of Ferns. Altogether there were about thirty specimens, prominent among them *Radiant*, very bright crimson; *Fanny Edin*, *Alice M. Love*, delicate blush-pink; *Margery Bridgeman*, delicate pink; *May Queen*, a large showy variety; *Mrs. W. Wright*, blush-fringed petals; *Mr. Jeffery*, pale purple; *Prince of Orange*, Mr. H. J. Jones, orange-rose, very fine; and *Princess May*, soft pink.

#### STREPTOCARPUS.

From Messrs. J. VEITCH & SON came a selection of their well-known hybrids, the plants dwarf and profuse in flower; of these, the white-ground forms betokened an advance in their purity and well-defined markings.

From Messrs. SUTTON & SONS came some plants of their hybrids, in which S. Wendlandi had exercised its influence in the greater vigour both in leaf-growth and flower-spikes.

A number of these plants were exhibited by Messrs. J. LAING & SONS, who possess an excellent strain, which they have done much to improve.

RHODODENDRONS.—These were only represented by one collection from Mr. JOHN WATERER as a group, these being arranged with a selection of Japanese Maples; the best kinds were *Duchess of Connaught* and *Mr. John Clutton*, two excellent white vars.; *F. B. Hayes*, white with a dark blotch on the upper portion; and *Sappho*, somewhat similar, but with a darker blotch than in the preceding (these two are quite distinct in their markings). *Mrs. John Penn*, *John Waterer*, and *Pink Pearl* were also in good form.

LILIUMS.—These, in pots, consisted almost, if not entirely, of *L. longiflorum* in its varieties. From Messrs. R. WALLACE & CO., Colchester, came a finely-grown group of *Lilium longiflorum giganteum*, the plants vigorous and well grown, each one being crowned with several flowers. With these were included two plants of *Hennercallis aurantiaca* major, showing it to be a free-growing plant. Of *L. longiflorum* HARRIS, several plants appeared in other mixed groups; at this season, however, it should not be shown amongst hardy flowers.

#### Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair, and Messrs. JAS. O'BRIEN (Hon. Sec.), R. Brooman-White, W. H. Protheroe, David Tod, W. H. White, T. W. Bond, H. Williams, S. Courtauld, E. Ashworth, de B. Crawshaw, Ed. Handley, E. Low, F. Mason, Chas. Winn, C. Pilcher, E. Hill, F. Sander, H. J. Chapman, T. Statter, Fred. Hardy and J. Jaques.

#### ORCHIDS.

The show of Orchids was evidently affected by the absence of one of the two great champions of former years, although the other, Sir TREVOUR LAWRENCE, Bart., the President of the Royal Horticultural Society made great efforts that the display should be affected as little as possible by the regrettable absence of the Baron's stand. On this occasion Sir TREVOUR LAWRENCE'S group surpassed any of his former efforts in the extent, beauty, and variety of the plants, and especially in the large number of small botanical gems; and in the arrangement of the whole group too great praise cannot be bestowed on his Orchid grower, Mr. W. D. White, who while studying the general effect, still managed to give the small botanical plants prominent places. The group, with about 30 ft. frontage, occupied a good part of one side of the large tent, and immediately on entering, the eye was attracted by the large and showy specimens which formed the background. Among them were noble specimens of *Cymbidium Lowianum*; elegant nodding trusses of the dark red *Epidendrum* x *O'Brienianum*, and other of the red-like *Epidendrum*; arching sprays of bright yellow *Oncidium Marshallianum*, and other showy Orchids of tall growth. Beneath these in the middle space were a few fine *Laelia purpurata*, *Cattleya Mossii* and *C. Mendeli*, but it was one of the distinguishing features of the group that none of these showy Orchids was allowed except in limited number, and thus the monotonous repetition of the same plants, the obvious defect of many of the other groups, was avoided. Here and there in the fine group glowed the brilliant scarlet and mauve flowers of the fine specimens of varieties of *Masdevallia coccinea*, of which that named "luteo-oculata" is much the brightest. Still nearer the front, each one admirably arranged to show to the best advantage, were fine specimens of *Maxillaria Sandersoniana*; *Epidendrum Stanfordianum*, the Gold Medal plant illustrated last year in the *Gardeners' Chronicle*, and which was nearly as well-flowered again this season; the pretty *Oncidium olivaceum Lawrenceanum*, with many branched spikes of rose and purple flowers, and which differs from others of the class called *O. cucullatum* in flowering on all the branches at one time; *Laelia Cattleya* x *Phaebé*; a few good *Miltonia vexillaria*, a fine *Phalænopsis Aphrodite*; a good pan of *Dendrobium Bensoniana*; some brilliant *Epidendrum vitellinum majus*, *Thunia Bensoniana*, *Masdevallia* x *Mundyana*, and other *Masdevallias*, *Odontoglossums*, *Tyrrypediums*, &c. The smaller rare things, many of which proved more attractive to the visitors than the showy species, were very numerous. Among the most admired were the singular little *Bulbophyllum barbigerrum*, with its mobile, feathery labellum; the pigmy *Epidendrum organense*; *Microstylis*



macrocheila, and *M. Scottii*, pretty in foliage and quaint in flower. *Eria flava*, with stout racemes of yellow flowers; *Maxillaria Houfteana*, with yellow and red brown flowers, somewhat like those of *M. tenuifolia*, but larger and more showy; the pretty dwarf *Masdevallia Wendlandii*, covered with small white flowers; *M. glaphyraantha* with single flower of claret colour; *M. coriacea*, with numerous waxlike blooms; and other pretty little *Masdevallias*; *Coleogyne odoratissima*, a tiny species, plentifully set with white flowers; *Ocotelea diaphana*, *Epidendrum atropurpureum* *Randii*, *Stenoglossis longifolia*, *Dendrobium revolutum*; *D. polyplebium*, *Oncidium luteum*, in growth and flower much like a yellow *O. ornithorhynchum*, *Anguloa Ruckeri sanguinea*, and numbers of other good and interesting things of which the fine plants of *Odontoglossum* × *excellentis*, *Cattleya* × *Parthonia*, *Miltonia* × *Bleuana nobilior*, *Anoetochilus* (*Macodes*) *petala* and *Epidendrum* × *elegantulum* may be taken as good representatives. The whole formed a marvellous group, which, viewed from all points, left nothing to be desired—the interests of the botanist, the lover of showy flowers, and also the casual observer being alike fixed. And it should be mentioned, the time of the Committee on this busy day was also considered, for nothing was entered for a certificate.

Next came a very pretty group of *Odontoglossum*, &c., staged by WELBORE S. ELLIS, Esq., Hazelbourne, Dorking (gr., Mr. Masterton), and in which many forms of the favourite Orchid were represented, and one very handsome white variety of the *Odontoglossum crispum guttatum* class, with effective light brown spots, named *O. c. Miss Victoria Ellis*, received an Award of Merit. Also in Mr. ELLIS'S group

the greater part of the intervening space covered with large purplish-crimson blotches, the lip being decorated as well as the other segments. It was awarded a First-class Certificate. MESSRS. LINDEN also showed *Cattleya Mossie Reineckiana exquisita*, a pretty variety with large white flowers and purple-mottled lip; *Odontoglossum* × *Ruckermanum aspersum*, a distinct form with profuse red spots, near to *O. egregium*, Reich f.; *O. Pescatorei* var. *guttatum*, and *Gongora portulaca rosea*.

M. BOTELBERGE, Melle, Gand, showed a fine *Odontoglossum polyxanthum*, and M. MOENS, Lede, Belgium, *Cypripedium* × *Baptisii*, with very dark upper sepal, and shining, mahogany coloured lip.

Sir FREDERICK WIGAN, Choro Lawu, East Sheen (gr., Mr. W. H. Young), was among the best and most successful exhibitors, his fine group being plentifully furnished with rare and pretty things. As was the case last year, *Cattleya Mossie*, "Lady Wigan," with its large white flowers with delicate pink-tinted lip, was among the most admired. The back of the group was composed of *Cymbidium Lowianum*, with one example of *C. L. concolor*; some grand *Cattleya Mendeli*, *C. Skinneri*, *C. Skinneri alba*, and *C. Mossie*. Of the last-named *C. M. Beatrice*, which received an Award of Merit, was a very large and richly-coloured flower. So also among the many handsome *Laelia purpurata*, *L. purpurata*, "Arthur Wigan," stood out prominent. Its large and well-formed flowers of the *L. p. Russelliana* type were uniformly tinted with bright rose, the veining of the lip being darker (Award of Merit). Other remarkable things in this group were *Oncidium varicosum giganteum*, with very large bright yellow flowers with reddish brown blotch on the lip

*Laelia-Cattleya* × *Schilleriana* varieties; *Laelia Cattleya* × *D. S. Brown*, *Cattleya* × *Philo*, *Lycaste Measuresiana*, a form of *L. pluma* but with little marking on the pale green sepals; *Habenaria rhodocheila* and *Meiracyllium genoma* (Botanical Certificate). The group was a very fine one, and one of the best trade groups ever staged at the Temple.

MESSRS. CHARLESWORTH & Co., Heston, Bradford, had an effective group of showy orchids, *Laelia purpurata*, *Oncidium Marshallianum*, the varieties of *C. Mossie*, and *C. Schroderi* being specially fine. One *Cattleya Schroderi alba* was a very fine pure white form with only a little light yellow colour on the lip; and *C. S. coerulescens* had a violet tint over the lip. Among the *Odontoglossum crispum* was one very distinct and pretty spotted form, and other noteworthy species and crosses were the pretty pink-tinted *Vanda* × *Charlesworthii*, *Cypripedium nitidissimum*, *Cirrho. petalum picturatum* and *Oncidium superbium*.

J. GURNEY FOWLER, Esq., Gledelands, South Woodford (gr., Mr. J. Davis), arranged an effective group, in which was a good plant of the true *Cypripedium bellatulum album*, and plants of *C. Lawrenceanum*, *Hyanum*, *Epidendrum Wallisii*, *Thunia Marshalliana*, *Dendrobium Dalhousianum*, *Odontoglossum polyxanthum*, *Oncidium lanceanum*, *Dendrobium Phalaenopsis*, and *Miltonia Rozzlii alba*.

Major JOCKEY, Sunningdale Park, Berks (gr., Mr. F. J. Thorne), had a very pretty group consisting principally of varieties of *Miltonia vexillaria*, for the culture of which Mr Thorne is noted, one of the best of those shown having been illustrated in the *Gardener's Chronicle*, Dec. 21, 1895. The specimen growing in 8-inch pot bore thirty-nine spikes. In the centre of the group was a plant of *Dendrobium atro*

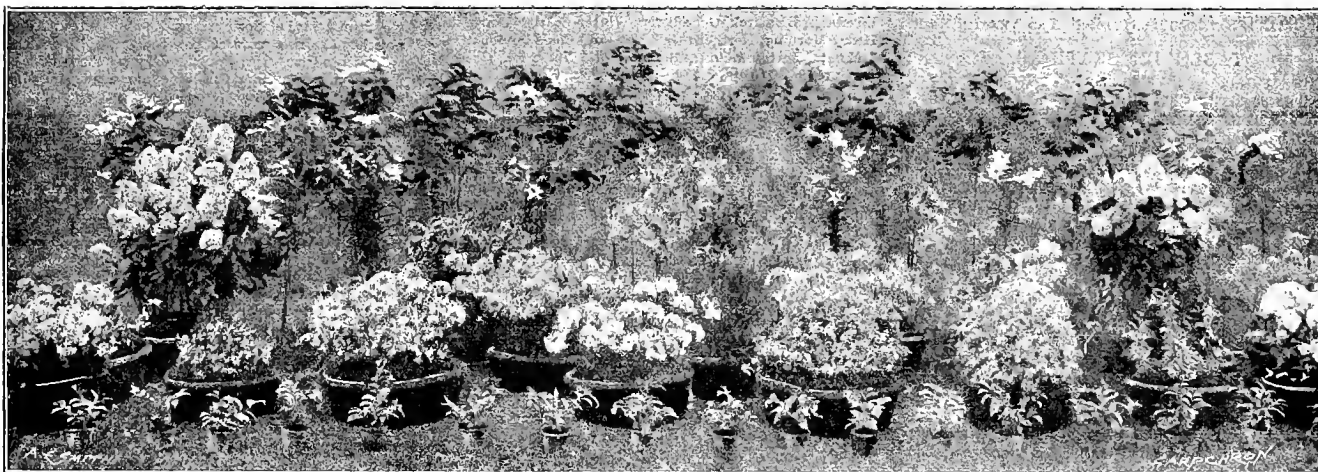


FIG. 109.—GROUP OF FLOWERING SHRUBS, AS SHOWN BY MESSRS. J. VEITCH AND SONS, AT THE TEMPLE SHOW.

were some good *Miltonia vexillaria*, *Odontoglossum* × *Coradini*, *Coeliodora Noezliana*, &c.

The next group came from Earl PERCY, Ston House, Brentford (gr., Mr. G. Wythes), and in it the favourite showy old kinds were effectively used, the taller plants being *Vanda teres*, *Dendrobium moschatum*, *Oncidium sphaeclatum*, *Cymbidium Lowianum*, &c., and the filling-in of good *Laelia purpurata*, *Cattleya Mossie*, *Dendrobium thyrsoiflorum*, *Cypripedium barbatum*, &c., the whole arranged with Maidenhair Ferns, and edged with alternate *Adiantums* and *Caladium aryzites*.

M. JULES HYE LEYSEN, Coupure, Oheut (gr., M. Jules Coene), exhibited a few fine Orchids, two of which received Awards of Merit, viz., *Miltonia vexillaria Coenaeana*, a fine bold flower, of a bright rose-pink colour, and with crimson rays on white at the base of the lip; and *Odontoglossum* × *expansum*, a distinct and pretty variety of some affinity to *O. Wilckeanum album*, but with the neat, evenly-spotted aspect of *O. Hunewellianum*, which may have been one of the species from which it sprang. M. JULES HYE LEYSEN also showed *Odontoglossum Ruckermanum superbum*, very richly spotted; and a large but not good-shaped *Odontoglossum crispum*, as *O. c. Duchesse*, a name which is misleading if there is any virtue in such names, for the original *O. c. Duchesse*, a very fine white, realised at auction in the early days of *Odontoglossum* culture 40 gs per half plant, two gentlemen agreeing to buy and divide the plant rather than compete for it.

Messrs. LINDEN, L'Horticulture Internationale, Parc Leopold, Brussels, well maintained the honour of their establishment by exhibiting the best rich crimson purple blotched *Odontoglossum* yet seen, in *O. c. crispum angustum*, presumably a further extension of the richly coloured *O. crispum Franz Masereel* (see fig. 106, p. 649). The flowers were of good size and form, the segments margined with white, and

(Award of Merit); *Epidendrum hastatum*, with flowers of good size, the sepals and petals pale green closely lined with chocolate, and large pure white lip (Botanical Certificate); a curious little *Eria*, *Laelia Digbyana*, *Sobralia macrantha alba*, *Thunia Wiganiana*, *Cypripedium* × *Wiganiana*, &c.

The adjoining group was staged by H. S. LEON, Esq., Bletchley Park, Bletchley (gr., Mr. A. Hislop), and in it the varieties of *Cattleya Lawrenceana* were very fine and bright in colour, and representatives of most of the other species good. *Cattleya Luddemanniana* (*speciosissima*) *Ernstii*, which received a First Class Certificate, was a remarkably beautiful variety, in colour much resembling the blossom of a good *C. labiata* *Warneri*, but with the more trumpet-shaped lip of its class. It was named in honour of Dr. Ernst, of Caracas. Also in Mr. LEON'S group were a fine *Cypripedium Rothschildianum*. Some good *Cattleya Skinneri*, *C. Schilleriana*, *C. Acklandiae*, *Laelia purpurata*, *Oncidium concolor*, *Vanda suavis*, &c.

The end of the central stage, and the return for a good distance was occupied by a magnificent and interesting group arranged by Messrs. F. SANDER & Co. of St. Albans (see fig. 105, p. 647). Raised above the centre of the end section was a splendid specimen of *Coleogyne Dayana* with many spikes. The background was composed of *Dendrobium superbum giganteum*, *D. dixanthum*, and a nearly white form of *D. Parishii*, while in front were grouped some thirty plants of botanical interest, and among which were *Oncidium pulchellum*, *O. unicorn*, and other dwarf *Oncidiums*; *Stenoglossis longifolia Thrixsperma surinamense*, species of *Pelecia*, &c. In the main group were giant specimens of *Dendrobium thyrsoiflorum* and *Laelia purpurata*, and among the *Cattleyas* a select half-dozen varieties of *Cattleya Mossie*, all very distinct and of remarkable beauty, *C. Reineckiana exquisita*, being a charming thing. Other among the many good things worthy of notice were *Luddemannia Lebnmanni*,

*violaceum* with four spikes, and several fine *Anguloa Clowesii* and *A. Ruckeri*, one of the latter having a two-flowered inflorescence. Other fine things in this group was a very large-flowered *Cypripedium Curtisi*, a good *Oncidium ampliatum majus*, *Cypripedium bellatulum*, *C. Stonei*, &c.

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., had an effective group with *Vandas* and other tall-growing species at back, and excellent *Cattleya Mossie*, *Laelia purpurata*, and *Odontoglossum*, &c., in front. One, *O. Wilckeanum*, was particularly fine, and the varieties of *O. crispum* were good.

In the smaller tent, Mr. JAS. CYFFER, Queen's Road Nursery, Cheltenham, arranged a group of the showy Orchids of the season with his usual good taste. In it, the varieties of *Laelia purpurata* were numerous and good, and *Epidendrum radicans*, *E. × O'Brienianum* and other graceful kinds effectively used.

Messrs. W. L. LEWIS & Co., Southgate, N., staged an extensive group, remarkable among other things for the presence of *Laelia purpurata Lewisii* (First-class Certificate), the first really decided approach to a wholly pure white *L. purpurata*, the lip as well as the other segments being white with a few faint and almost invisible lines at the base and a still fainter pink reticulation on the front lobe—a truly remarkable variety. Also in Messrs. LEWIS'S group were *Cypripedium* × *Rossianum* (*Lewii* × *insigne* *Maulei*); *C. × Eylesianum* (*Lawrenceanum* × *insigne* *Chantini*); *Cattleya Mossie Rossiana*; *Cypripedium bellatulum Southgateense*, &c.

At the other end of the tent Messrs. HUGH LOW & Co., Clapton, had a very fine group containing many rare species and varieties, and in which alone were good *Phalaenopsis*. Here were *Phalaenopsis* × *Casta* with grand flowers; *P. × leucorrhoda* *Lowie*, a most perfect, large, pink-tinted flower; *P. × Brymeriana*, and other kinds. *Cattleya Mossie Arnoldiana* *Low's* var., which received a First-class Certificate, is



one of the handsomest forms of white Mossie, with pink feather on the petals; *Odontoglossum crispum* Lowie, a grand blotched form of the best type. In Messrs. Low's group most of the plants of the season were well-showed, and especially *Laelia tenebrosa*, *Cypripedium* & *Gertrude* Hollington, *C. x Duria-Hookere*, *C. bellatulum*, &c.

MALCOLM S. COOK, Esq., Kingston Hill, had a small, but pretty group of *Cattleyas*, *Laelias*, *Miltonia* *vevillaria*, &c.

G. H. ROLLS, Esq., Arcadia, Richmond Park, Bournemouth (gr., Mr. Purslove), also had a neat group, in which *Cattleya Mossie*, *C. Schilleriana*, *Laelia majalis*, and other showy species were good.

O. W. LAW-SCHOFIELD, Esq., New-Hall-Hey, Rawtenstall (gr., Mr. Shill), sent *Cypripedium* x *Cowleyanum* "Anna Louise," a pretty variety with large white flowers tinged with rose on the face and with a few purple spots (Award of Merit).

TUOS. STATTEN, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the fine white-lipped *Cattleya Mendell leucoglossa*; and an excellent *Cypripedium* x *Oertrude* Hollington.

His Grace the DUKE of SUTHERLAND, Trentham (gr., Mr. P. Blair), showed a well-cultivated plant of *Odontoglossum crispum* with six spikes and in grand health (Cultural Commendation).

C. S. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed *Cattleya Mossie* "Chas. Ingram," a grand, light-coloured flower, with massive crimped lip (Award of Merit).

MESSRS. JAS. BACKHOSE & SONS, York, had very effective arrangements of Orchids grouped in a rustic manner.

T. W. SWINBURNE, Esq., Corndon Hall, Winchcombe, again showed *Cypripedium* x *Cordeanum*, a reputed cross between *Selenipedium* x *Sedeni* and *Cypripedium Lawrenceanum*, a record which no one believes in, for the plant has much of *C. Lawrenceanum*, and nothing of *S. Sedeni*. As a matter of fact, it is identical with a form of *C. x gigas* in Mr. INGRAM's collection, obtained between *C. Lawrenceanum* and *C. x Harrisianum*. It received an Award of Merit.

#### TABLE DECORATIONS.

The floral arrangements exhibited were numerous, and on the whole decidedly good. The best were those of Messrs. PEAKINS & SONS of Coventry, which comprised bouquets, baskets, boutonnières, sprays, and a large and handsome lyre. It was composed of spathes of *Richardia* *ethiopicum*, flowers of *Lilium Harrisii*, and sprays of white *Lilac*. A rich and elegant basket was formed with *Orchids*, *Spanish Iris*, and various kinds of delicate foliage. The prettiest bouquet was of yellow *Iris* and *Onocleids*. The sprays were models of grace and elegance. Some of the bouquets were spoiled by the intermixture of coloured ribbons, a practice that should be discouraged.

Mr. CHARD of Stoke Newington was represented by a large collection of his Arcadian arches and wirework stands. They were lightly and tastefully arranged, and showed very successfully the capabilities of this class of epergne. A quantity of white *Gladioli* was used with good effect, and an arch done with Iceland *Poppies* was very pretty.

THE HORTICULTURAL COLLEGE, Swanley, had a pretty table decoration of *Forget-me-nots* and *White Narcissis*; a simple but very tasteful arrangement. Sprays, boutonnières, and bouquets were also shown by the same exhibitors.

An exhibit of handsome funeral emblems was shown by Mr. M. STEVENS, of Victoria Street, Belgravia. Besides a beautiful cross and a fine wreath brightened with *Pansies*, there was an exquisitely simple little cross of green moss with just a spray of white *Gladioli* and *Asparagus*; and a splendid oval wreath of *Lilium Harrisii* on a foundation of *Berberis*. This latter design was particularly good.

Mr. PRESOTT, of Bayswater, sent a large exhibit of various patterns of his "Rural" stands for decorative purposes. Many of these designs lend themselves well to table use, owing to their extreme lightness. One little stand was arranged with *Pinks*, *Cornflowers*, and dark *Berberis* foliage, a most effective mixture. A somewhat larger arrangement was done with *Rosebuds*, and was very good.

Three rather heavy bouquets were shown by Mr. HENRY GARNER, of Stoke Newington.

Mrs. WALTER MOLE, of Kew, exhibited some novel designs in floral fire screens. They are composed of bamboo, and with care can be effectively decorated. The flowers can easily be removed and replaced.

#### Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., in the chair; and Messrs. Alex. Dean, W. Farr, W. H. Divers, G. Norman, Jno. A. Laing, T. H. Crisp, T. F. Rivers, O. W. Cummins, A. H. Pearson, O. Reynolds, Geo. Wythes, C. Herrin, T. Glen, William Crump, F. Q. Lane, Jas. Smith, Robt. Fife, H. W. Ward, O. T. Miles, J. W. Bennett, Jno. Wright, W. Iggulden, Geo. Woodward, T. B. Haywood, J. W. Bates, G. H. Engleheart, H. Balderson, Jos. Cheal, and G. H. Sage.

#### FRUIT.

However representative the other sections of the show may have been, the fruit exhibits were by no means numerous. Most fruits in season are solicited in the Society's schedule, but if we except the very satisfactory exhibitions of Apples and Nectarines, the display of fruit was meagre. Foreign samples of fruit appeared to be wholly unrepresented, yet this is also provided for in the schedule. It is very early for exhibitions of fruit to be made, but nevertheless there might easily have been shown more than was present.

As is usual at each succeeding "Temple Show," a glorious exhibition of Nectarine trees in fruit was made by the well-known firm of Messrs. T. RIVENS & SON, Sawbridgeworth, Herts. This year many of the trees appeared to carry an unusual crop, and the fruits (especially the more conspicuous ones) were of a very high colour. The varieties consisted of the popular early Nectarine, Early Rivers, and The Cardinal, a new early forcing Nectarine, which is said to ripen ten days earlier than Early Rivers under the same conditions. The fruit is of medium size, has melting flesh, and is of a capital flavour. A First-class Certificate was awarded.

Messrs. GEO. BUNYARD & Co., Maidstone, showed what can be done in the way of preserving Apples in their natural condition, by an exhibit of eighty-five varieties in as many dishes, all of which were good, and some particularly well-preserved. Cox's Pomona, for instance, a variety that ripens in October, was exhibited in a firm sound and remarkably fresh condition; Emperor Alexander, Belle Dubois, Rymor, Botley Pippin, Flanders Pippin, Bismarck, Betty Geeson, King of Tomki's County, Reine de Canada, Scarlet Nonpareil, Murfett's Seedling, Bramley's Seedling, Bess Pool, Seaton House, Sturmer Pippin, Hornmead's Pearmain, Tibbett's Pearmain, Washington, Wellington, Calville Rouge, Lord Derby, Lord Burghley, Striped Beefing, Foster's Seedling, Calville Malingre, Annie Elizabeth, Alfriston, Belle Poutoise, Norfolk Beefing, Newton Wonder, Lane's Prince Albert, Howell Souring, Margil, and Melon, will give some idea of the large number of varieties it is possible to keep until the summer, a season during which English consumers have usually to depend upon the supplies from abroad. Some Peach trees in pots from the cool orchard-house were also exhibited.

From Mr. GEO. MOUST, Rose Nurseries, Canterbury, was exhibited a collection of about twenty dishes of Apples, most of which were in good preservation. The varieties were Dumelow's Seedling, Lane's Prince Albert, Allen's Everlasting, Winter Queening, Lord Derby, Winter Scarlet Pearmain, Court Pendu Plat, Cox's Orange Pippin, Annie Elizabeth, Bismarck, Gooseberry, Winter Scarlet Pearmain, Hoary Morning, Northern Greening, and Cox's Pomona.

Messrs. VEITCH & SONS, Royal Exotic Nurseries, Chelsea, also exhibited a capital collection of Apples and Pears, embracing seventy varieties. Dessert varieties were shown better and more largely than culinary ones. Braddick's Nonpareil, Sturmer Pippin, Baldwin, Barnack's Beauty, Alfriston, Bismarck, Morgan's Seedling, Glona Mundi, Newtown Pippin, Easter Pippin, Scarlet Costard, Lamb Abbey Pearmain, Pine Golden Pippin, Seek-no-Further, Jon Athan, Claygate Pearmain, Betty Geeson, Baldwin, and Manchester Pippin, appeared freshest and best, but the whole collection was in good condition for this season of the year.

A collection of Strawberries and Figs was exhibited by Mrs. WINGFIELD, Amptill House, Amptill (gr., Mr. W. J. Empson). Some exceptionally well fruited plants of Royal Sovereign were shown, and dishes of fruits of this variety; Sir J. Paxton, Laxton's Noble, and Auguste Nicuse. A dish of brown Turkey Figs completed the exhibit.

A plant in fruit and a dish of fruits of Strawberry Duke of York, were exhibited by Mr. IRVING, Leigh House Gardens, Datchet; the fruits were of very fine quality.

Mr. GEO. FEATHERLY, The Vineries, Gillingham, Kent, showed a dozen or so bunches of Black Hamburg Grapes, well coloured and ripe; also two dishes of ripe Alexander Peaches, Gillingham Perfectio Tomato, and some very fine Covent Garden Favourite Cucumbers.

GRAHAM POWELL, Esq., Horticultural College, Swanley, showed five Strawberries of the varieties Royal Sovereign and Sir Joseph Paxton.

MESSRS. LAXTON BROS., Bedford, exhibited the variety of Strawberry known as Leader. Plants carrying fruits and gathered fruits also were exhibited. This is one of the newest of Messrs. LAXTON'S Strawberries (Vote of Thanks).

In addition to the excellent collection of vegetables from Earl Percy, Syon House, Breaford, gr., Mr. Wythes, a small collection of fruit came from the same garden. In this collection were included Black Hamburg and Foster's Seedling Grapes, the former of which were well finished and highly coloured; and a dish each of Lord Napier Nectarine and Amisen June Peach. A nice fruit of Syon House Melon was noticed, and also a dish of Brown Turkey Figs.

#### VEGETABLES.

These, as compared with other exhibits, seldom form prominent features at this exhibition, but all the same, beyond the very remarkable display of produce in pots made by Messrs. SUTTON & SONS, of Reading, there were three unusually good collections of gathered produce that merited high praise. The Messrs. SUTTON & SONS on this occasion, having none others to excel in the character of their productions, did at least excel themselves, so far as relates to previous exhibitions. So extensive was their collection, that a centre table 120 feet long by 6 feet wide, was filled throughout, though flowers materially assisted (see figs. 643, 651). All down the centre of the table stood in line Tender-and-True and Earliest-of-All, smooth Runner Beans, heavily fruited, and about 5 feet in height. Tomato plants in pots, in great variety, some erect as usual, others forming arches, for which the smaller-fruited varieties are admirably adapted, and very attractive they were. Also Cucumbers and Melons, in pots, on either side, all well fruited; in boxes and in pots numerous varieties of the firm's own Peas, splendidly grown and fruited—indeed, the Peas alone might be said to present a triumph of cultivation; it seemed impossible they could have been done better. The Tomatoes consisted of Golden Oem, finely fruited; Golden Nugget, Favourite, red, very

handsome; Vesuvius, intense red, fine cropper; Best-of-All, Dessert, bright red, Plum-shaped; Eclipse, Express, Sunbeam, &c.—these were all remarkably well-fruited, and admirably grown. The Melons were with the Cucumbers trained arch-fashion, and all well-fruited. The varieties consisted of Hero of Lockinge, Sutton's Scarlet, and Eureka, the fruits nearly ripe, and very handsomely netted. The Cucumbers in pots were Sutton's Magnum Bonum, and Matchless, both long, smooth fruits; whilst some very long, handsome fruits were shown on boards of Sutton's Progress, and Peerless. Of Peas it was difficult to distinguish which were earliest, where all had been grown specially to be at their best for the show, but particularly good, and in all cases heavily fruited, carrying fine green, well filled pods putting into the shade altogether a long way any other gathered pods that were shown, were May Queen, 3 feet; Excelsior, 2 feet; Sutton's Seedling, 15 inches; Favourite, 2 feet; Early Giant, 3 feet, a very fine long pod; the Sutton Foreing, 15 inches, very free; Sutton's A1, 3½ feet; and Empress of India, 2½ feet, pods remarkably fine and well filled. Never at any previous time has a similar collection of vegetables in pots been thus exhibited, and it will be very difficult to furnish a more attractive display of these products in any succeeding year. After so much was done to show their qualities, who can say henceforth that vegetables are neglected show subjects? No wonder that to such a fine exhibit a Gold Medal was awarded.

Of other Tomatoes MESSRS. FELLOWES & RYDER, Orpington, Kent, showed numerous plants in full fruit of their excellent market variety Duke of York; and Mr. FIFE, gardener, Lockinge, Wantage, showed plants of his free fruiting variety Champion. Messrs. DUNNIE & SONS had a small group of their selected Curled Parsley growing in pots. Mr. BOUSALL, Leeds, had some heads of Broccoli Universal, much like Methven's June. Mr. MONTIMER, Farnham, Surrey, put up in boxes twenty-four fruits each of Cucumbers, Sensation, the fruits being long, smooth green, and handsome, and to which an Award of Merit was made; and also of "Approved," a variety showing more of the Telegraph type. The first-named was from Fritzenwiler x Lockie's Perfection. Mr. G. FEATHERLY, The Vineries, Gillingham, Kent, had a basket of capital No Plus Ultra Dwarf French Beans, and a good sample of Covent Garden Cucumber.

#### COLLECTIONS OF VEGETABLES.

Gardeners showed three fine lots, the first of which came from Mr. W. H. Ward, gr. to the Earl of RADNOR, Longford Castle, Salisbury. This included huge Holborn Model Leeks, Champion Broccoli, White Emperor Onions, fine Asparagus, excellent Dwarf Beans, Short Horn and Holborn Forcing Carrots, Tomatos, Radishes in variety, First Crop Potatos, Early Nonsuch Turnips, Model Cucumbers, Cabbages, Lettuces, &c., all excellent. From Mr. G. Wythes, gr. to Earl Percy, Syon House, Brentford, came a much larger collection, though not otherwise more excellent than the former, but it was a remarkable one for the time of year, all the same. Here were Veitch's Model, Sutton's Late Queen, and Cattell's Eclipse Broccoli; Matchless, Ellam's, and early Offenham Cabbages; Cheltenham Black Beet; Syon House and Telegraph Cucumbers; Ashleaf, Wythes' Seedling, and early May Potatos; Dwarf French Beans, Musbrooms, Asparagus in plenty, Chelsea Gem and Gradus Peas, Golden Queen Lettuces, Excelsior Carrots, Radishes, &c. Last, but of excellent quality, came the collection set up by Mr. Empson, gr. to the Hon. Mrs. WINGFIELD, Amptill, who had superb Lyon Leeks, Sutton's Perfection, Standwell, and Late Queen Broccoli, fine heads; capital Asparagus in great abundance, Mustard and Cress in pans, Ashleaf and Victor Potatos; Cucumbers, Sutton's Progress and Improved Telegraph; Radishes in great variety and excellence; Milan Turnips, Dwarf Beans, several Cabbages, Earliest-of-All Tomatos, and other things all admirably displayed.

#### Prize List.

[The following is a list of the awards, furnished by the Society's officials.]

NOTE.—The Silver Cups are in order of merit, the other awards are not so. Duplicate Metals are not given to trade exhibitors for flowers and plants exhibited under different heads, but one award is made for the whole. Distinct awards are made for Fruit and Vegetables.

#### GOLD MEDALS.

Sir Trevor Lawrence, Bart., for Orchids; Messrs. Sander & Co., for Orchids; Messrs. Sutton & Sons, for vegetables and flowers.

#### SILVER CUPS.

Messrs. Rivers & Sons, for Nectarines; H. S. Lion, Esq., for Orchids; Sir F. Wiggin, for Orchids; Messrs. J. Veitch & Sons, for new plants, Caladiums, Gloxinias, Japanese plants, &c.; Messrs. W. Cutbush & Son, for Carnations, cut flowers, &c.; Messrs. Hugh Low & Co., for Orchids, Cannas, &c.; Messrs. Charlesworth & Co., for Orchids; Messrs. Backhouse & Sons, for Alpines and Orchids; Messrs. C. Turner, for Roses, Carnations, &c.; Messrs. W.

Paul & Sons, for Roses; The Rt. Hon. Earl Percy, for fruit and vegetables; W. S. Ellis, Esq., for Orchids; Mrs. Wingfield, for fruit and vegetables; Mr. George Mount, for Roses; Messrs. Paul & Sons, for Roses, herbaceous plants, &c.; Messrs. R. Smith & Co., for Clematis; Messrs. J. Peed & Son, for Caladiums; Messrs. W. & J. Birkenhead, for Ferns; Messrs. G. Bunyard & Co., for Apples.

#### SILVER-OLD FLORA MEDALS.

Messrs. Cypher, for Orchids; Messrs. Barr & Son, for herbaceous plants, &c.; J. G. Fowler, Esq., for Orchids; Major Joicey, for Orchids; Earl Percy, for Orchids; Martin R. Smith, for Carnations.

Prize List continued.

**SILVER-GILT FLORA MEDALS.**  
Mr. M. Prichard for herbaceous plants; Messrs. W. Balehni & Sons for Leschenaultias; Messrs. T. S. Ware & Co. for herbaceous plants and Begonias; Messrs. J. Water & Sons, for Rhododendrons; Messrs. Willis & Segar, for foliage plants; Messrs. Perkins & Co., for bouquets; Messrs. J. Kelway & Sons, for herbaceous plants; L'Horticulture Internationale, for new plants; Messrs. J. Laing & Sons, for Begonias, Gloxinias, Caladiums; Mr. H. B. May, for ferns and foliage plants; Messrs. H. Cannell & Sons, for Calceolarias, Gloxinias, &c.; Messrs. J. Carter & Co., for Calceolarias, Gloxinias, &c.; Messrs. L. S. Williams, for herbaceous plants; Mr. Box, for Begonias.

**SILVER-GILT KNIGHTIAN MEDALS.**  
Mr. G. Pe theby, for fruit; Messrs. J. Veitch & Sons, for Apples; Earl of Radnor, for vegetables; Messrs. J. Carter & Co., for vegetables.

**SILVER FLORA MEDALS.**  
Messrs. James & Son, for Calceolarias; Messrs. F. Mow & Son, for Rhododendrons and Acers; Messrs. G. Jackman, for Roses and herbaceous plants; Mr. W.

Rimsey, for Roses; Messrs. Wallace & Co., for Lilies, herbaceous plants, &c.; Messrs. Cripps & Sons, for Acers; Messrs. Dobbie & Co., for herbaceous plants; Messrs. Chad & Son, for herbaceous plants; Messrs. G. Cooling & Son, for Roses; G. H. Rolfs, Esq., for Orchids; Messrs. Lewis & Co., for Orchids; Mrs. Wingfield, for a group of plants; Mr. H. J. Jones, for Begonias and Pelargoniums; W. A. Gillett, Esq., for Gloxinias.

**SILVER BANKSIAN MEDALS.**  
Malcolm S. Cook, Esq., for Orchids; Mr. George Mount, for Apples; Mr. S. Mortimer, for Cucumbers; Messrs Fellowes & Ryder, for Tomatoes; Mr. Fyfe, for Tomatoes; Mr. M. Stevens, for table decorations; Mr. J. Frewitt, for table decorations; Horticultural College, for table decorations and Strawberries; Mr. J. R. Chard, for table decorations; Mr. B. Ladhams, for herbaceous plants and cut flowers; C. Tasker, Esq., for Cannas and Roses; Messrs. A. Roozen, for Tulips.

**SILVER-GILT BANKSIAN.**  
Mr. W. Icton, for foliage plants.

Awards of the Orchid Committee.

**FIRST-CLASS CERTIFICATES.**  
Odontoglossum crispum Augustum, from Messrs. Linden, Brussels; Cattleya Mossie Arnoldiana Low's var., from H. Low & Co., Clapton; Lelia purpurata Lewish, from Messrs. Lewis & Co., Southgate; Cattleya speciosissima Ernesti, from H. S. Leo, Esq., M.P., Bletchley Park (gr., Mr. Hislop).

**AWARDS OF MERIT.**  
Odontoglossum crispum Lowii, from H. Low & Co.; Odontoglossum expansum, from M. J. Hye -Leyson, Ghent; Miltonia vexillaria Canaan, from M. J. Hye-Leyson, Ghent; Cattleya Mossie "Beatrice," from Sir Fred. Wigan, Clare Lawn, East Sheen; Lelia purpurata "Arthur Wigan," from Sir F. Wigan; Oncidium varico-

sum giganteum, from ditto; Cypripedium Cowleyanum Aona Louisa, from L. Schofield, Esq., New Hall Hey, Rawntestall; C. X. Cornedeanii, from T. W. Swinburne, Esq., Corndean, Winchcombe; Odontoglossum crispum guttatum "Miss Victoria Ellis," from Welbore S. Ellis, Esq., Dorking; Cattleya Mossie "Charles Ingram," from C. L. N. Ingram, Esq., Godalming.

**BOTANICAL CERTIFICATES.**  
Epidendrum hastatum, from Sir F. Wigan; Meiracyllium gemma, from Messrs. Sander & Co.

**CULTURAL COMMENDATION.**  
To the Duke of Sutherland, Tenthum (gr., P. Blair), for Odontoglossum crispum with six spikes.

Floral Committee.

**FIRST-CLASS CERTIFICATES.**  
To Buddleia Colvillei, from W. E. Gumbleton, Esq., Cork; to Platycerium Veitchii, from Messrs. J. Veitch & Son, Chelsea; to Phoenix Roebelenii, from Messrs. F. Sander & Co., St. Albans; to Calamagrostis ciliaris, from Messrs. F. Sander & Co., St. Albans; to Asipholia atrovirens, from Messrs. F. Sander & Co., St. Albans; to Philodendron Devansyanum, from L'Horticulture Internationale, Brussels; to Anthurium triumphans, from Messrs. J. Laing & Sons; to Davallia Trifurcata, from L'Horticulture Internationale, Brussels.

**AWARDS OF MERIT.**  
To Clematis Crispum Beauty, from Messrs. Jackman & Son; to Pteris Boultoni, from Mr. Boulton, Amptill; to Adiantum lineatum, from L'Horticulture Internationale; to Bertonia Macne, from Messrs. Linden, from L'Horticulture Internationale; to Caladium Duchess of Kent, from Messrs. J. Feed & Sons; to Phyllocactus Ovis, P. elatior, P. Ena, P. Eurasian, from Messrs. J. Veitch & Sons; to Gloxinia Adela, from Messrs. J. Veitch & Sons; to Caladium Silver Cloud, C. Sir J. Goldsmid, C. Duchess of Connaught, from Messrs.

J. Veitch & Sons; to Begonia Souvenir de Jean Bert, B. Pride of Castlehill, from Messrs. F. Sander & Co.; to Sonerila Silver Queen, from Messrs. F. Sander & Co.; to Hypericum Moserianum tricolor, from Messrs. F. Sander & Co.; to Trollius caucasicus "Orange Globe," from Messrs. F. Sander & Co.; to Rhododendron H. M. Arderne, R. Helen Paul, from Messrs. Paul & Son, Cheshunt; to Cana Madame Pichou, from Messrs. Paul & Son, Cheshunt; to Begonia Duchess of Pite, from Messrs. J. Laing & Sons; to Gloxinia Stanstead White Gem, from Messrs. J. Laing & Son; to Iris australis, from Messrs. Kelway & Sons; to Single Pyrethrum Golconda, from Messrs. Kelway & Sons; to Carnation Mephisto, C. Mrs. Eric Habro, from Mr. J. Douglas, Bookham; to Tea Rose Grand Duc Adolphe de Luxembourg, from Messrs. W. Paul & Son; to Azalea M. Desbois, A. Diamond, from Messrs. Veitch & Son; to Souvenir de la Malmaison Carnation Lady Grimston, S. de la M. C. Lady Rosebery, from Martin R. Smith, Esq.; to Carnation Littie John, C. The Gift, C. Cardinal Welsey, from Mr. C. Turner, Slough; to Begonia Queen of the Begonias, from Mr. J. R. Box.

Fruit and Vegetable Committee.

**FIRST-CLASS CERTIFICATE.**  
To Nectarine Cardinal, from Messrs. Rivers & Son.

**AWARD OF MERIT.**  
To Cucumber Sensation, from Mr. Mortimer, Farnham.

The Royal National Tulip Society (Southern Section).

The Annual Exhibition by the members of this Society took place in connection with the Temple Show, but it was noticed that the leading flowers came from the North and a few from the Midlands, the South furnishing scarcely any. Still the exhibition was a very creditable one, and the Society does well by holding an annual exhibition in London, to keep the Tulip before the public. Certainly, there was no lack of admirers of the gaudy flower, for many visitors appeared to be much interested in them.

The feathered flowers of all classes were somewhat weak; while the flamed flowers were good; the breeders were also past their best owing to the hastening weather of the last fortnight.

There were five collections of twelve dissimilar rectified Tulips. Mr. C. W. NEEDHAM, Manchester, was placed 1st with four bizarres, viz. Albert and W. Annibal, feathered; Samuel Barlow and Sir J. Paxton flamed; byblomems, Queen and Elizabeth Pegg, feathered; Chancellor and Adonis flamed; roses—Mrs. Lec and Lizzie, feathered; Mabel and Annie McGregor, flamed. 2nd. The Rev. F. D. HORNER, Burton-in-Lonsdale, who had of bizarres—Storer Seedling and Henry Lowe, feathered; Sir J. Paxton and Samuel Barlow, flamed; byblomems, Dainty and Charm, feathered; Talisman and Carbuncle, flamed; roses, Mrs. Atkins and Charnier, feathered; St. Arnaud and Mabel, flamed. Mr. J. W. BENTLEY, Manchester, was 3rd; and two other prizes were awarded.

With six blooms, one feathered and one flamed in each class. The Rev. F. D. HORNER was 1st, having of bizarres, Sir J. Paxton, both feathered and flamed; byblomems, Seedling of Camps, feathered, and Talisman, flamed; roses, Mrs. Atkins, feathered, and Annie McGregor, flamed. Mr. J. W. BENTLEY, was 2nd, having of bizarres, William Wilson, feathered; and Samuel Barlow, flamed; byblomems, Elizabeth Pegg, feathered; and Talisman, flamed; roses, Julia Farnese, feathered, and Lady Catherine Gordon, flamed.

In Class 3, for the same number, exhibitors in the two previous classes being excluded, there was but one exhibitor, Mr. G. EDMOND, West Norwood, who took the 1st prize with bizarres, seedling, feathered, and Dr. Hardy, flamed; byblomems, Adonis, feathered, and Talisman, flamed; roses, Annie McGregor, feathered, and Mabel, flamed.

With three feathered Tulips, one of each class, and always a very interesting one, Mr. J. W. BENTLEY was 1st with bizarre Garibaldi, byblomems Mrs. Pickrell, rose, Sarah Heady. 2nd, Mr. C. W. NEEDHAM, with bizarre Sir J. Paxton, byblomems Elizabeth Pegg, and rose, Mrs. Lea. Mr. A. CHATEAU, Cambridge, was 3rd.

With three flamed Tulips, one of each class, the Rev. F. D. HORNER was 1st with biz. Sir J. Paxton, byb. Talisman, and rose, Triomphe Royale. 2nd, Mr. T. HAYNES, whose varieties were unnamed. 3rd, Mr. J. W. BENTLEY.

Class 5 was a special one for two rectified Tulips, one feathered and one flamed, the first prize being the Samuel Barlow Memorial Medal. This was won by Mr. C. W. NEEDHAM, who had biz. Sir J. Paxton, feathered; and byb. Eliz. Pegg, flamed. Mr. J. THURSTAN was 2nd, and the Rev. F. D. HORNER 3rd.

The Breeder Tulips were, as usual, very striking in their pleasing self-colours, though time had somewhat dimmed the freshness. With six blooms, two of each class, the Rev. F. D. HORNER was 1st with good blooms of biz. Sir J. Paxton and seedling; byb. seedlings, excellent in colour; roses, Lady Grosvenor and St. Arnaud. 2nd, Mr. J. W. BENTLEY with biz. Lloyds 47 and Goldfinder; byb. Leache's No. 1 and Eliz. Pegg; and roses, Queen of England and Mr. Barlow. 3rd, Mr. JAS. THURSTAN.

With three breeders, the Rev. F. D. HORNER was again 1st with biz. Sir J. Paxton; byb. seedling; rose, Lady Grosvenor. Mr. C. W. NEEDHAM was 2nd, and Mr. T. HAYNES, 3rd.

The class for collections of florists Tulips did not bring any competition, probably because they were provided for in the schedule of the Royal Horticultural Society.

The premier feathered Tulip was biz. W. Annibal, shown by Mr. C. W. NEEDHAM; the premier flamed, biz. Sir J. Paxton, from the Rev. F. D. HORNER, and the premier breeder, Lloyds 47, biz., shown by Mr. J. W. BENTLEY.

Three collections of florist's Tulips competed in the class set apart for them, the 1st prize going to Messrs. BARR & SON for a collection which formed a part of a large bank of cut flowers in another part of the tent, the particulars of which are given elsewhere. Mr. GEORGE ENO, South Norwood, took the 2nd prize with a number of bunches, and Mr. JAM. S. THURSTAN, Cannock, Staffordshire, was 3rd.

**A FATAL ACCIDENT.**—We regret to learn that Mr. S. MORTIMER's foreman met his death on Monday evening. He had been to the Temple Show on that day in connection with Mr. MORTIMER's exhibit. Mr. KNIGHT left London by a late train, and probably fell asleep, as his body was discovered on the line near Farnham Station, suggestive that he had jumped from the train as it was leaving the station.

HOME CORRESPONDENCE.

**VEGETABLES AND VEGETARIANISM.**—The short article in your journal for April 11, and the letter in a recent issue, are both worth consideration; we grow most of the succulent vegetables in this country—man sends the cooks! The distribution of green stuff and Potatoes in the metropolis has been so often noticed in these pages, is so imperfectly managed a business as to be almost a disgrace. It seems a farce to keep carting from market gardens into almost the centre of London, and then carting back again half the distance to the actual consumers. The County Council is, I am told, unable to move in the matter. Vegetarianism seems almost a misnomer where so many potential chickens, butter, milk, cream, and all sorts of spices are employed; and there are places in London where you cannot get anything in the "vegetable" line under sixpence! In these establishments the chefs know their business, and draw new dishes from Paris, Vienna, Venice, Florence, &c.; but as a rule cookery in London dining-saloons is of the most execrable description. Anybody with "cheek" enough may start as cook, or rather first as vegetable-girl, and in a short time turns out a full-fledged cook, who can cook neither fish, flesh, fowl, or hard-roe'd herring! Too often, also, the proprietor of these places does not know good ware when he sees it, and actually complains when he gets excellent vegetables that they will not cook—his cook says so! A good deal in the trumpeting line has been done as to the teaching of cooking in Board Schools—but the real proof has yet to be put in. Pretty sightly to see all the charming little maideus—hair nicely brushed and tied up out of the way, clean pinafores on, bright eyes and quick fingers at work; but not as a rule on vegetables proper—or (in season) jams, jellies, cakes—But Cabbage, "grass," Cauliflowers, Broccoli, Potatoes, Carrots, Turnips, Leeks, Artichokes, Seal-kale? I have questioned many youngsters on these, but they have not yet got to them. Perhaps better treatment, or more consideration for young cooks, and getting into touch with Board Schools might soon tell on the fare to be had at dining-saloons for most money; but here again there must be united action, I think, on the part of those who cater for lovers of humble succulent vegetables. Location of markets may be left to the London County Council, who may some day get to work on Mr. Delaroché's proposals, as printed in the last report on markets in London. E. C.

**THE SWEET PEA.**—This, in my estimation, is the finest of all annuals, not excepting the Viola, which is almost equally loved. Of the many precious Sweet Peas which have been raised by Mr. Eckford, the finest are Blanche Burpee, Mrs. Eckford, Primrose, Stanley, Dorothy Tennant, Countess of Radnor, Her Majesty, and Countess of Aberdeen. Of these, Blanche Burpee, and Mrs. Eckford are especially beautiful, the former surpassing even the famous pure white American variety, Emily Henderson, which, however, is one of the finest in existence. Tropæolum speciosum, when grown alternately in the manner I have indicated with the Eckford Sweet Peas, and especially those of delicate hues, produces a strikingly artistic effect. David R. Williamson.

**TOMATO CULTURE.**—With the month of May, preparations for outside Tomato culture should be taken in hand. If a wall facing south or south-west is available, the chance of making use of it for Tomato culture should not be lost. The plants having been raised from seeds sown some six weeks or two months ago, are now standing in a cool-house or frame in process of hardening off. In summers like that of 1895, it pays to take pains with the preparation of the soil. A trench 2 feet deep and 1 foot wide, measuring from the wall, should be dug out, and some broken bricks and mortar rubble placed in the bottom for drainage if the soil be heavy, and over this a layer of spent Chrysanthemum soil 1 foot thick should be placed, which will do very well to plant in, as not being too rich it will not cause rank growth, but the plants will develop clusters of flowers instead. I prefer early planting, so as to have a long season. If frame-lights are available, these may be used with advantage to cover the plants, leaning them against the wall; and if these are removed by day, which is not necessary at first, they should always be placed over the plant in the evening when the thermometer is likely to fall to 40°. Mats would answer if kept away from the plants by some

sort of contrivance. Plant at 2 feet apart, train the plants upwards on the wall, fastening them securely by means of ties or nails and shreds. Confine the plants to a single stem, and keep all side-shoots rubbed off, and do not mutilate the plants whilst young by cutting the leaves halfway back as some do, as a check is given by so doing. After the plants have begun to flower, they may be trimmed up with advantage, as the large leaves would keep the sun and air from passing on and around the flower. After a good set has been obtained, top-dress the ground with a fairly rich compost consisting of two parts turfy loam, one part leaf-soil, and one part half-decayed horse-droppings; and when the roots have seized upon this top-dressing, afford manure-water from the stables or cow-sheds twice a week, and occasionally sprinkle the surface with Thomson's Vine-manure, or the Chelsea artificial manure, at the rate of a teaspoonful to a plant. Syringe the plants twice daily in fine weather till they have come freely into flower, and should the white Tomato-fly be troublesome any time during the season, syringe them with soapy water or diluted tobacco-juice at the rate of one pint to one gallon of water, taking care to go over the plants with clean water after an interval of about a quarter of an hour, so that no stains are left on the fruits or foliage. Of course, we all know Tomatoes can be grown in the open supported by sticks, but walls are preferable, as they retain the heat which is so essential to the ripening of the fruits. The under-mentioned varieties are very suitable for outside culture in ordinary summers: Frogmore Selected, Hackwood Park, Large Red, and Sutton's Earliest of All. *H. Humphrey, Nutfield Priory, Surrey.*

**THE EXONIAN PEA.**—It may be interesting to your readers to know that the above culinary variety of Peas has proved very trustworthy and early, a customer of ours having picked to-day (May 16) a good quantity from rows growing in a fully-exposed position, from seed sown on January 6. *Elcombe & Son, Romsey.*

**LIGHTNING PEA.**—I enclose a sample of Messrs. Carters' Lightning Pea, the best early one I have ever grown. I sowed them the second week in January, and picked Peas on April 18, and we are still picking from them; they are growing in a cold vinery. *G. Whiffin, Ightham Court, Ightham, near Sevenoaks.*

**SHOOT-THINNING THE PEACH.**—Disbudding of the Peach, and of course, its relation, the Nectarine, in order to obtain fruiting shoots another season, must be unremitting care during the remainder of the present month and throughout June. Perseverance with this kind of work is very important, nothing working more harm to the trees than to allow an excessive number of shoots to form, and then to remove them at one operation, as is often done. Keep those shoots wanted to fill up spaces on the wall, and take the place of this season's fruiting shoots, resolutely removing all the others at short intervals of time. Quite young and partially-trained trees require somewhat different treatment to older trees, the object of the operator being the laying out the foundation of a tree in the first place, fruit being only a secondary object. In fact, much fruit production tends to hinder a desirable rapid formation of shoots. Being now towards the end of the month the thinning of shoots should go on apace, as one has no need to think of the shelter the shoots afford the fruit as against frost after this date. An important matter at this season is the destruction of aphids, and the removal of every leaf and shoot attacked by blister, burning these forthwith, or the spores of the fungus will spread to the Peach and other plants. Against aphid I generally make use of Quassia, three washings with this keeping the trees free from aphids for the whole season. *H. Markham.*

**APPLE ANNIE ELIZABETH.**—I quite agree in what "A. D." wrote recently respecting this variety of Apple. We have some bush trees here which always bear well, and last year the Apples were very fine in size, and beautiful in colour. Besides being a good bearer, it is a splendid keeping Apple, lasting till April and May. It is, I consider, one of the best Apples we have, especially suitable for this neighbourhood, and one that always fetches a good price in the market, the fruits being firm, and this and colour are important points in market fruit. Its only fault is its being a little spotty sometimes. Trees lifted the previous autumn bore good crops of fine, well-coloured fruits last year. *F. Q. C., Liffon Park Gardens, Devon.*

**PEARS v. DIPLOSI PYRIVORA.**—I forward specimens of Pears infested with Diplosis, showing that daily syringing with quassia, soft-soap, &c., right up to the time of the flowers opening were quite useless as a preventative, and showing also that heavy dressings of fresh gas-lime, strewn thickly under the trees last spring for the larvæ to fall into had not the desired effect. I begin to fear we have no real remedy for these almost invisible foes. Perhaps, in time, our entomological experts may be able to discover some means of prevention; however, it is not in my nature to await with patience such a millennium, and I must be up and doing all I can to keep down their numbers by gathering and burning all the affected small fruits of the Pear. Of course, this hand-gathering becomes an expensive business, but there is no other alternative. The fruits sent were gathered from a Beurré de l'Assomption Pear, and every fruit on this tree was affected, as many as eighteen larvæ being counted in one Pear. It appears that the earliest-opening flowers are worst affected. I should like to hear the experience of others. *W. Crump, Madresfield.* [Try Bordeaux Mixture or Paris Green, another time, but do not forget that they, especially the latter, is very poisonous. Ed.]

**THE GIANT SAW-FLY.**—Mr. William Cuthbertson has called my attention to a paragraph in your issue of 2nd inst. (p. 564), regarding the hornet or giant saw-fly—*Sirex gigas*—a specimen of which had been obtained at Dropmore. Mention is also made that the fly had probably been introduced from the north of Europe. For, at least, the last twenty-five years, numbers of these flies have been regularly seen by men employed felling trees in Bute and Arran, in connection with Mr. Halliday's sawmills here. I have several specimens of the female fly in my possession, which were caught alive during the last two or three years at the sawmill, when cutting up some Scotch Fir brought from Brodiek in Arran. There are three or four different woods in Bute, where these flies are seen by the woodmen every season. They are also got at Ormisdale on Loch Ridden in the Kyles of Bute. The wood sometimes contains so many of the larvæ of these flies, that it becomes quite "soapy or greasy" when cutting through it with the saws. It would be interesting to learn how these flies have got to this part of Britain if they are not indigenous. From the long time they have been known to the local woodmen, we can hardly believe they are "tourists." My own impression, from the information which I have obtained regarding them is, that the fly is native to and fairly common in Bute and Arran, and the surrounding districts. The fact that they are so often mistaken for the hornet, may have prevented their true nature from being recognised. *J. Ballantyne, Gasworks, Rotheray, May 12, 1896.*

**EARLY CABBAGES.**—"Mein's No. 1" is, as most gardeners know, a first-class early Cabbage, with small, compact hearts, fit for private use, but regarded as too small as a market variety. Mein's No. 1 and Ellam's Cabbages were planted side by side at I foot apart each way for removing early, and I have been cutting from Mein's since the first week in April, and Ellam's became fit for use last week; the former may, therefore, be regarded as a most useful early variety. Only a very few of our Cabbages bolted, although I hear complaints from gardeners and others about here of their having done so. Is it because seed was sown rather early, the autumn being favourable, and the winter mild? *F. Q. C., Devon.*

**FRUIT PROSPECTS IN NORTH DEVON.**—There is every appearance of a good fruit year. Most of the Apple trees are covered with bloom, and all that we want is freedom from frost. Bushes and pyramids are quite as full of bloom as the standards. Pear trees have set a fine crop, and on walls they are swelling away fast; the same may be said of Plums, which will be very plentiful, and of Cherries. Gooseberries are very abundant, and there will be plenty to remove in the green stage. *F. Q. C., Liffon Park Gardens.*

was for many years one of the chief centres for the distribution of new and rare plants, and especially of florists' flowers. In the *Gardeners' Chronicle*, April 11, 1846, we find Messrs. Garaway, Mayes & Co., announcing "that their catalogue of Dahlias, Fuchsias, Geraniums, Verbenas, Petunias, Cinerarias, &c., is now ready," and there they with justice term their place "this old-established nursery." Half a century has rolled away, since that date, and a good account did the establishment give of itself, always under the guidance of a Garaway, until bit by bit the encroachments of bricks and mortar in recent times have much reduced the once extensive grounds, and rendered the cultivation of some of the more delicate plants more difficult. Many old plant-lovers will be sorry to learn that another threatened encroachment will render it almost imperative to find a new site for the nursery. Many of the old houses are still devoted to the cultivation of florists' flowers, both for flowering in pots and likewise furnishing seeds of special strains for sale, the trade in seeds being an extensive one. The bedding, show, and decorative Pelargoniums were a specially fine lot of plants, and the Azaleas, Cytisus, *Spiræa astilboides*, Freesias, Bouvardias, Lilies, &c., each in their house, made a very good show, the plants being well grown.

The Orchids which are useful as cut flowers are being grown in still greater number, rather than curtailed; and in one of the lean-to houses we found a number of the large-flowered *Cattleyas* and *Lælias* in bloom; also some of *C. Schroderæ*, *C. Mossiæ*, *C. Mendeli*, *Lælia purpurata*, &c. Among *Cypripediums* in bloom were a number of *C. Lawrenceanum*, *C. bellatulum*, *C. Argus*, *C. Boxallii*, and varieties of *C. barbatum*. Among *Dendrobiums*, the chief floral display was found on plants of varieties of *D. nobile*, *D. Fudlayanum*, *D. Hildebrandii*, *D. infundibulum*, and *D. Jamesianum*, which last-named found a place in the *Odontoglossum* house, and the plants were doing well in the cool temperature. Of *Odontoglossums* there were varieties of *crispum*, *Pescatorei*, &c. In a large house devoted to decorative Palms were a number of vigorous plants of *Dendrobium Phalaenopsis Schroderianum*. A good batch of scarlet-spined *Anthuriums* was remarked.

MARKETS.

COVENT GARDEN, MAY 21.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Heliotrope, per doz.	4 0-8 0
Arum lilies, pr. dz.	6 0-9 0	Hydrangea, various	per doz. ... 9 0-24 0
Aspidistra, per doz.	12 0-30 0	Ivy Geranium per	dozen ... 5 0-8 0
— specimen, each	5 0-15 0	Lilium Harrisii, pr.	dozen pots ... 12 0-21 0
Chloraria, per doz.	6 0-9 0	— various, pr. doz.	12 0-24 0
Dracena, each ...	1 0-7 6	Ericas, various, per	doz. ... 9 0-24 0
— various, pr. doz.	12 0-24 0	Evergreen Shrubs,	in variety, doz. ... 6 0-24 0
Ericas, various, per	doz. ... 9 0-24 0	Ferns, sma l, doz. ...	1 0-2 0
Evergreen Shrubs,	in variety, doz. ... 6 0-24 0	Ferns, various, doz.	5 0-12 0
Ferns, sma l, doz. ...	1 0-2 0	Ficus elastica, each	1 0-7 6
Ferns, various, doz.	5 0-12 0	Foliage plants, doz.	12 0-36 0
Ficus elastica, each	1 0-7 6	Geonidas, per doz.	6 0-9 0
Foliage plants, doz.	12 0-36 0		
Geonidas, per doz.	6 0-9 0		

Roots and Bedding Plants in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.			
Apples, Tasmanian,	1st quality, p. bushel	10 0-15 0	Peaches, 1st size,	per doz. ... 12 0-15 0	
— do., 2nd do.	9 0-10 0	— do., inferior do.	6 0 8 0	— 2nd do., doz.	6 0-8 0
— do., inferior do.	6 0 8 0	Figs, per doz.	4 0-6 0	— 3rd do., doz.	3 0 4 0
Gooseberries, per	half-sieve ... 4 6-5 0	Grapes, Belgian, lb.	1 3-1 6	Nectarines, 1st size,	per doz. ... 12 0
— Muscats, p. lb.	4 0-5 0	— Foster's Seedling, p. lb.	3 0-3 6	— 2nd do., doz.	6 0-8 0
— Muscats, p. lb.	4 0-5 0	Grapes, Hamburg, per lb.	2 0-2 6	Pine-apples, St. Michael, each	2 0-5 0
— Foster's Seedling, p. lb.	3 0-3 6	Melons, each	2 0-2 6	Strawberries, morning-gathered, Paxtons, per lb.	8 0-4 0
Grapes, Hamburg, per lb.	2 0-2 6			— packed in bxs.	1 6-2 0
Melons, each	2 0-2 6			— seconds, per lb.	1 0-1 6

NURSERY NOTES.

MESSRS. GARAWAY & CO., BRISTOL.

Few horticultural establishments have introduced more new plants or done more in catprising for the needs of gardening generally than the firm of Messrs. Garaway & Co. Founded about 1786 by Miller & Sweet, and energetically carried on by them, and later of Messrs. Garaway, Mayes & Co., the nursery

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Arums, p. 12 blooms	2 0-4 0	Narcissus, Various,	0 0-1 6
Azalea, 12 sprays	0 4-0 6	per 12 bunches	...
Bluebells, doz. bun.	1 0-1 6	Orchids	...
Bougainvillea, per bn.	0 6-1 0	Cattleya, 12 blms.	6 0-12 0
Carnations, 12 bns.	1 0-1 6	Odonto-glossum	...
Dentzia, per doz.	...	crispum, 12 bn.	3 0-6 0
bunches	2 0-4 0	Peony, doz. blooms	0 6-1 6
Eucharis, per dozen	2 0-4 0	Pansies, doz. bun.	1 0-2 0
Forget-me-nots, p.	...	Pelargoniums, scar-	...
doz. bunches	1 6-3 0	let, per 12 bun.	4 0-6 0
Gardenias, per doz.	2 0-4 0	per 12 sprays	0 6-0 9
Iris, various, per	...	Polyanthus, 12 bun.	2 0-4 0
doz. bunches	4 0-9 0	Poppy, doz. bun.	1 0-3 0
Lapageria, per doz.	...	Pyrethrum, 12 bu.	2 0-4 0
blooms	0 6-1 6	Roses, Tea, per doz.	0 9-2 6
Lilac, French, per	...	coloured, p. doz.	2 0-4 0
bunch	3 0-5 0	yellow (Mare-	...
Lilium Harrisii, bu.	3 0-5 0	chal), per doz.	1 6-4 0
Lily of the Valley,	...	red, per dozen	2 0-4 0
per doz. bunches	2 0-6 0	Saffran, p. doz.	1 6-2 0
Maidenhair Fern,	...	Spiraea, doz. bun.	2 6-5 0
per 12 bunches	4 0-8 0	Stephanotis, 12 sps.	1 6-2 6
Marguerites, per 12	...	Tuberose, 12 blms.	0 6-1 0
bunches	2 0-4 0	Tulips, various, dz.	0 2-0 6
Mignonette, 12 bu.	4 0-6 0	Violets, 12 bunches	1 0-1 6
Narcissus, White,	...	Czar, do.	2 0-2 6
12 bun.	2 6-4 0		

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Asparagus, Worces-	...	Peas, Channel Is-	0 10-1 0
ter, p. bundle,	...	lands, per lb.	...
100 heads	1 0-1 3	Tomatoes, home-	...
Colchester, p.	...	grown, smooth,	...
bundle, do.	1 6-1 9	p. doz. lbs.	9 0-10 0
Beans, per lb.	1 0-1 0	Channel Is-	...
Cucumbers, per dz.	2 0-3 0	lands, per lb.	0 6-0 7
Mint, per bunch	0 2-	ordinary home-	...
Onions, English, p.	...	grown, p. doz.	...
cwt.	3 0-4 0	punches	8 0-
Mushrooms, per lb.	0 6-0 7		

POTATOS.

JERSEY arrivals not heavy, prices firm at last week's quotation. Malta consignments have been small this week. Canary fairly heavy. State of market about same as last report. J. B. Thomas.

SEEDS.

LONDON: May 20.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, S.E., report to-day's market bare of buyers. The recent prolonged and mischievous drought has naturally stopped all sowing orders; meantime, holders of Clover and Trefoil seeds express considerable confidence as to a higher range of values in the near future. For Tares there is a better sale. Mustard and Rape-seed keep firm. New Turkish Canary-seed for September shipment is now offering at attractive rates. Hempseed is firm. As regards Peas and Haricots, holders, in view of an early shrinkage in the supply of green vegetables, ask full prices. Buckwheat keeps strong. Linseed is dull.

POTATOS.

BOROUGH: May 19.—Quotations:—New sorts ranging from 5s. 6d. to 12s. per cwt.; Old from 40s. to 8s. per ton.

SPITALFIELDS: May 19.—Quotations:—Old: Bruces, 30s. to 50s.; Main Crop, 35s. to 50s.; Graut, 35s. to 50s.; Scotch, 40s. to 50s.; Blacklands, 20s. to 30s. New: Jersey Kidneys, 10s. to 12s. per cwt.; do. Flukes, 11s. to 12s. dz.; Lishons, 4s. 6d. to 6s. (do.); Canary, 7s. to 8s. do.; Maltese, 7s. to 9s. do.; St. Malo, 9s. 6d. to 11s. do.

STRAITFORD: May 19.—Quotations:—New: Jersey Kidneys, 10s. 6d. to 11s.; do. Flukes, 11s. to 11s. 6d.; Cherbourg, 9s. to 9s. 6d.; St. Malo Flukes, 10s. to 10s. 6d.; Lishon, 6s. 6d. to 7s.; Canary, 7s. to 10s. 6d. per cwt. Old: Dark soil, Bruces, 15s. to 20s.; light do., 50s.; Reading Giants, 20s. to 50s.; Sutton's Abundance, 20s. to 40s.; do. Magnums, 20s. to 40s. per ton.

FARRINODON: May 21.—Quotations:—Old, 30s. to 60s. per ton. New: Best Flukes (Jersey), 11s. to 12s. per cwt.; Ashleaf Kidney, 10s. 6d. to 11s. 6d. do.

FRUIT AND VEGETABLES.

BOROUGH: May 19.—Quotations:—Cabbages, 2s. 6d. to 3s. 6d. per tally; Onions, 5s. to 5s. 6d. per cwt.; Spring do., 1s. 3d. to 1s. 9d. per dozen bunches; Rhubarb, 1s. 3d. to 2s. per dozen bundles; Horse-radish, 8s. to 12s. per dozen rolls; Apples, Tasmanian, 8s. to 12s. per case.

STRAITFORD: May 19.—Quotations:—Cabbages, 2s. to 5s. per tally; Greens, 1s. to 1s. 6d. per bag; do. 1s. 6d. to 2s. per dozen bunches; Cauliflowers, 1s. 6d. to 2s. per dozen; do. 7s. to 10s. per tally; Beetroot, 4d. to 6d. per dozen; Horseradish, 1s. 9d. to 2s. per bundle; Parsley, 6d. to 1s. per dozen; Rhubarb, forced, 1s. to 1s. 3d. per dozen bunches; do. field, 2s. to 2s. 6d. do.; Leeks, 1s. 3d. to 2s. do.; Spring Onions, 1s. to 1s. 6d. do.; Salad, 1s. 9d. to 2s. per dozen punnets; frame Cucumbers, 1s. 9d. to 2s. per dozen; Asparagus, 7s. to 14s. do.; Turnips, 2s. to 2s. 6d. per dozen bunches; Carrots, household, 20s. to 40s. per ton; do., cattlefeeding, 10s. to 20s. do.; Mangels, 11s. to 15s. do.; Onions, Egyptian, 90s. to 100s. do.; Apples, Tasmanian, 10s. to 11s. per box.

SPITALFIELDS: May 19.—Quotations:—Cabbage, 1s. 6d. to 2s. 6d. per tally; bunch Greens, 1s. to 1s. 6d. do.; Cauliflowers, 4s. to 5s. do.; Spinach, 9d. to 1s. per bushel; Rhubarb, 1s. 6d. to 2s. per dozen bundles; Radishes, 4s. to 5s. per tally; Lettuce, 9d. to 1s. per score; Leeks, 1s. 6d. to 2s. per dozen; Mint, 2s. per dozen bunches; Parsley, 1s. to 1s. 6d. do.; Cucumbers, 2s. to 3s. per dozen; Asparagus, 9d. to 1s. per bundle.

FARRINODON: May 21.—Quotations:—Cabbages, 4s. 6d. per tally; Cauliflowers, 8s. do.; Greens, 1s. 3d. per bushel; Spinach, 2s. do.; Leeks, 2s. per dozen; Mint, 2s. per dozen bundles; Rhubarb, 3s. do.; bag Onions, 5s.; Carrots, 9s. per dozen bunches; new Turnips, 10s. do.; Horse-radish, 1s. 9d. per bundle; Asparagus English, 1s. 4d. do.; do., French, 1s. to 1s. 3d. do.; Tomatos, English, 11s. per dozen lb.; do., foreign, 1s. 6d. per tray; Cucumbers, 3s. 6d. per dozen; Lettuces, flat, 6d. per dozen; Peas, 4s. per flat; Gooseberries, 6s. per half-sieve; Apples, Tasmanian, 12s. to 14s. per case.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 55s. to 87s.; inferior, 35s. to 60s.; Hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 20s. to 49s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending May 16, and for the corresponding period last year:—1896: Wheat, 22s. 7d.; Barley, 21s.; Oats, 14s. 5d. 1895: Wheat, 22s. 10d.; Barley, 23s. 6d.; and Oats, 15s. 3d.



(The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fabr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.)

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.	
	Above (+) or below (-) the Mean for the week ending May 16.	ACCUMULATED.					
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.			Below 42° difference from Mean since December 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Inch.	
0	5 +	75	0	+ 149 - 365	5 -	98 22.2	53 24
1	6 +	85	0	+ 167 - 235	4 -	68 6.3	55 32
2	4 +	71	0	+ 134 - 218	4 -	56 4.8	53 30
3	3 +	79	0	+ 80 - 223	4 -	66 6.3	64 32
4	5 +	92	0	+ 128 - 243	4 -	59 5.4	56 30
5	5 +	101	0	+ 116 - 237	4 -	56 5.2	66 31
6	6 +	94	0	+ 177 - 224	5 -	77 14.6	62 29
7	6 +	99	0	+ 184 - 254	5 -	69 10.1	62 32
8	8 +	115	0	+ 180 - 205	5 -	62 7.9	71 35
9	7 +	102	0	+ 212 - 230	4 -	78 11.6	61 27
10	6 +	106	0	+ 232 - 208	6 -	67 10.1	68 31
* 6 +	113	0	+ 278 - 109	4 -	67 5.4	78 40	

The districts indicated by number in the first column are the following:—0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending May 16, is furnished from the Meteorological Office:—

"The weather was again fine and dry generally, but thunder and lightning, accompanied by slight rain, were experienced over the eastern and northern parts of the kingdom on Tuesday, and a little rain fell at many of our northern stations later in the week.

"The temperature was much above the mean, the excess ranging from 3° in 'England, E.,' and 4° in 'England, N.E.,' to 7° in 'Ireland, N.,' and to 8° in 'England, S.W.,' The

highest of the maxima were registered, as a rule, on the 12th, when they varied from 85° in 'England, S.W.,' 81° in the 'Midland Counties,' and 80° in 'England, N.E.' and 'Scotland, E.,' to 75° in 'England, N.W.,' and to 72° in the 'Channel Islands.' The lowest of the minima were recorded either on the 10th or 11th, and ranged from 34° in 'England, E.,' to 42° in 'England, S.,' and 44° in the 'Channel Islands.'

"The rainfall was reported from our more northern and north-eastern districts only, where some very slight amounts were measured on two or three occasions.

"The bright sunshine was very prevalent in all districts, the percentage of the possible duration ranging from 53 in 'Scotland, N.' and 'England, N.E.,' to 66 in 'England, S.,' 71 in 'England, S.W.,' to 78 in the 'Channel Islands.'"

MANCHESTER HORTICULTURAL AND BOTANICAL SOCIETY (Telegram).

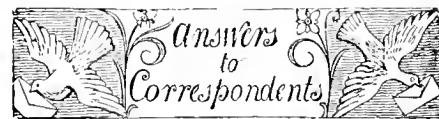
—The annual Whitsuntide Exhibition by the Manchester Royal Botanic Society in the gardens at Old Trafford was opened on Thursday by the Earl of Derby in magnificent weather. Orchids were the chief plants shown. E. Ashworth, Esq., Harefield Hall, Wilmslow, took the principal prize, and was followed by F. Hardy, Esq., Tyntesfield, Sale. T. Statter, Esq., Standhall, White field, Manchester, had the best collection of Cattleyas. Amongst nurserymen Mr. J. Cypher, Cheltenham, took the 1st prize for Orchids, Messrs. Robson & Heath following. Messrs. F. Sander & Co., St. Albans, staged a grand lot, and they took in all a large gold medal and sixteen 1st class certificates; Messrs. Charlesworth & Co., Heaton, followed. Messrs. Sutton & Sons, Reading, and B. S. Williams, Holloway, showed well in miscellaneous groups; and Mr. C. Turner, Royal Nurseries, Slough, had a very fine display of Roses, Pelargonium, &c.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

A CORRESPONDENT asks for information as to the names and addresses of local horticultural societies in India and Australia, and of horticultural papers existing in those parts of the empire?

Can any of our readers kindly inform *Scrutator* whether they have ever known the Double White Narcissus when grown in bulk out-of-doors develop single flowers in lieu of double?



A PLAGUE OF MICE: W. E. G. Having failed to lessen the evil by the use of traps and poison, would it not be advisable to employ our ancient friend the domestic cat, who if it be unable to devour "the army of mice," may be capable of scaring the rodents out of the houses. Neither we ourselves nor any of our readers can have any notion of the way in which they have got into your houses.

ARTIFICIAL MANURES FOR CHRYSANTHEMUMS: A. R.

For suitable soils and the inorganic constituents of the plant, see the issue of *Gard. Chron.* for May 2 this year. The Chrysanthemum requires a good deal of manure applied in the liquid form soon after the roots have permeated the soil of the pot in which it is to bloom. Various substances are employed—farmyard drainings, diluted with water if strong, sheep and deer dung, say half-a-bushel put into a sack and soaked for twenty-four hours in forty gallons of water. Soot may be employed in the same manner; nitrate of soda at the rate of half-a-teaspoonful to a 10-inch pot applied dry and watered in; sulphate of ammonia in smaller doses, dissolved in water first, to well-rooted plants, none other. Only a very few applications of this manure are needed or safe. In affording manure to these and other plants, it should, for the first few weeks, be afforded in feeble doses; gradually increasing the strength of them, but at no time using it of great strength. The gardener must be guided by the appearance of the plant, which should have foliage of a healthy green colour, leathery in texture, with stout, short-jointed stems. The plethora that is productive of fasciation in the shoots, and excessively gross leaves of a bluish-green tint, are better avoided.



**BOOKS:** *Hoozeven. ON THE ROSE: The Book of the Rose*, by Mr. W. PAUL, Waltham Cross, Hertfordshire. **TOMATOS:** *The Tomato: its Culture and Uses*, by Mr. Iggulden; published at the Office of *Journal of Horticulture*, 171, Fleet Street, E.C. **MANURES:** *Artificial Manures*, by M. Georges Ville; translated into English by W. Crookes; published by Longmans, Green & Co., London. The last-named publishers, or Blackwood & Sons, Bedford Street, Covent Garden, W.C.; Blackie & Sons, Glasgow and London, would furnish you with a list of horticultural works.

**CARNATIONS IN AN UNHEALTHY STATE:** *G. C.* The Carnations are not affected by any fungus disease. There are plenty of the spores of *Macrosporium* upon the dead leaves, but this occurs only upon dead tissue. We find no symptoms of bacteriosis, or of *Heterosporium*, and yet the plants are not in a healthy condition. It looks like a functional weakness, confined to one consignment of plants. *M. C. C.*

**COLOURING PAMPAS-GRASS PLUMES:** *Pampas.* Supposing that the plumes have been bleached in a sulphur-chest, or in the sun, they will be fit for taking any desired colour. The dyes used are now wholly those known under the name aniline, or colours allied to these, and almost all are soluble in water. The mixed colours should be preserved in stoneware wide-necked jars or tin bottles, ready for use, and the corks with which they are stopped should be furnished with a piece of lead-pipe of the thickness of a lead-pencil, which is of use in carrying off the steam produced on dissolving the dye. Having put water (distilled is best) into a bottle, hang it in a vessel of hot water, and bring the contents almost to the boiling-point; now put in the dye-stuff, and shake the contents vigorously. Only tinned, or enamelled, or earthen vessels, should be used to lay the goods to be dyed in. As a rule, grasses take dyes less readily than flowers; and it is advisable to lay them in a pickle of soap 85 gr., soda 210 gr., and 10 litres of water, for one to two hours, stirring them about in it, and washing them several times in warm water, and then applying the dye. For cardinal-red, bring 10 quarts of water to nearly boiling-point, and then put as much dissolved colouring out of the jar or bottle as will bring the water to the right tint; place the grasses therein, and bring the mixture almost to the boiling-point—no alum is required. Ruby-red is similarly managed, and a blue shade can be given by the addition of methylviolet, and a yellow one by using chrysoline; and many other tints can be got by using these two colouring agents. Scarlet (dark), water and cooking as before, but 150 gr. alum must be added to the mixture; a lighter shade may be obtained by using aniline orange or naphthaline-yellow. The proceedings in general are much the same as those we have given, but we would advise you to obtain a little work in the German language, entitled *Das Trocknen und Färben Natürlicher Blumen und Gräser*, by Heinrich Hein, Weimar, Bernhard F. Voigt (Aug. Siegle, 30, Lime Street, E.C.).

**CUCUMBERS:** *G. S.* Your Cucumber plants are in a very bad condition, and in so far as our experience goes, are suffering from a new form of disease, which differs in its manifestations from the bacteriosis of Cucumbers and Gourds in the United States (*Botanical Gazette*, November, 1891). These are about the most difficult of all plant diseases to diagnose or remedy. In the present case, all the falling parts contain an immense number of minute spore-like bodies, but without spontaneous motion. Externally on all decaying portions a delicate white "bloom" indicates the presence of a white mould, with thin verticillate branches and small elliptical conidia (about  $5 \times 3 \mu$ ). Doubtless this mould is a saprophyte, and occurs only on the decaying tissues. The speedy decay of all the parts attacked is accompanied by a strong foetid odour. Although only a prolonged investigation can fully determine this disease, it seems to indicate a condition of bacteriosis. We can only suggest the application of Bordeaux Mixture or some other similar fungicide, although we fear that the disease is too deep-seated to be affected by any external application. *M. C. C.*

**CYCLAMEN WITH "DOUBLE" FLOWERS:** *J. M. K.* A fine example; still, we hope that the Cyclamen will not be spoiled by endeavours to perpetuate doubling.

**FIVE GARDENERS' DUTIES:** *Anxious.* It would be proper to give the head gardener the control of the other four men, making him solely responsible for the work of the garden and houses, and their condition. He should take a share in the manual labour, that is, he should perform much of the pruning, certainly that of the wall and espalier, bush, pyramid, and cordon fruit trees, Roses, flowering, deciduous, and evergreen shrubs, or at the least look closely after work of this nature. The work in the houses and pits should be primarily under his direction, but carried out by his second in command, who should have occasional assistance from one or several of the other men when the work requires it. The head gardener should also take a hand in the houses as a matter of regular practice, and this can be easily done, if the garden is not remote from them, without neglecting the superintendence of the work elsewhere. The rest of the work should be apportioned between the other men, getting the mowing, sweeping, and general clearing up in the gardens and walks just round the dwelling finished up before 10 A.M. It may be taken that, as a rule of general application, the labour must be massed where it is most required; but these are matters which can only be decided by the responsible head man, and to him alone the apportioning of the duties of the gardeners ought to belong.



FIG. 110.—*CYNIPS QUERCUS RAMULI*: WOOLLY OAK-GALL.

**LAURUSTINUS:** *H. M.* The variety with flowers which are sometimes rose-coloured before they open and for a short time afterwards is *Viburnum Tinus*; the type *V. T. virgatum* has oblong-lanceolate leaves. We do not recognise the plants from your description of them. There are five varieties of *Viburnum Tinus*.

**LEAF DISEASES:** *D. N. J.* The Orchid leaves are diseased from some faulty cultivation, probably. The Peach leaves have been scalded by the sun shining on the leaves while wet. The Carnations are attacked with eel-worms. Burn the affected parts, and get fresh soil.

**NAMES OF FRUITS:** *A. S., Barnet.* Apple, Tower of Glamis.—*X. Y. Z.* Apple sent to be named a week or two ago, and address of sender mislaid, was *Mère de Ménage*.

**NAMES OF PLANTS:** *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*J. H. Ball.* Leaf of some Umbelliferous plant, which we cannot name without a good specimen with fruit.—*H. H. D.* 5, *Saxifraga tricuspidata*; 7, *Sedum spathulifolium*.—*H. T.* *Iberis corifolia*, with short linear-ovate or spoon-shaped leaves, the petals dead white, broad and deflexed, so that those of one flower overlap those of the flower beneath. The spelling of the name varies much, that above given is in conformity with that in the *Index Kewensis*. 2, *Iberis sempervirens*, leaves linear-oblong, petals narrow, spreading, or only slightly deflexed.—*R. B.* *Prunus Padus*.—*P. P.* *Cattleya Mossiae*.—*T. W.* 1, *Nandina domestica*; 2, *Spiraea Thunbergiana*;

3, *Magnolia acuminata*; 4, *Spiraea prunifolia*, double; 5, *Akebia quinata*.—*H. B.* 1, *Gomezia planifolia*; 2, *Asperula odorata*; 3, *Sedum Rhodiola*; 4, *Campanula muralis*; 5, *Cereus speciosissimus*; 6, *Viburnum Lantana*.—*R. C. F.* *Cephalanthus ensifolia*.—*G. D.* *Pruus Padus*.—*T. F.* *Dendrobium formosum giganteum*; and the other next week.—*Paddy from Cork.* *Phlomis lanata*, a South European Labiate.—*Nemo.* 1, *Daphne Cneorum*; 2, *Daphne collina*; 3, hybrid *Azalea*; 4, *Cerastium*; 5, *Phlox subulata* var.; 6, *Cheiranthus ochroleucus*; 7, *Asperula odorata*; 8, *Euphorbia Cyparissias*; 9, *Lithospermum purpureo-ceruleum*; 10, *Elymus glaucescens*. Another time do not send more than six.—*H. B.* 1, *Spiraea confusa*; 2, *Genista aetensis*; 3, *Manettia bicolor*.—*E. H. C.* 1, perhaps an alpine Willow, *Salix repens*; 2, *Amelechier vulgaris*; 3, *Cytisus purpureus*; 3bis, *Polygala chamaebuxus*. There were two plants labelled 3.—*J. M.* *Hesperis tristis*.—*T. C.* *Menyanthes trifoliata*.—*Joe.* 1, *Ornithogalum umbellatum*; 2, *Agathea celestis*; 3, *Pulmonaria officinalis*; 4, *Magnolia Soulangeana*.—*H. G.* *Cattleya gigas*.—*J. C.* 1, *Cercis siliquastrum*; 2, *Cytisus*; 3, *Spiraea callosa*, *Cytisus Adami*, supposed to be a graft hybrid between the *Laburnum* and *Cytisus purpureus*.—*S. M.* *Bougainvillea glabra*.

**PURPLE BEECH:** *H. M.* As in the case of other trees grafted out-of-doors, the stock should, in regard to growth, be in advance of the scion; and to ensure this being so, the latter should be taken off in February and laid-in in a cool shady border till required. The Beech, being rather late in leafing, may be worked early or late in April, according to the character of the season.

**SEEDS:** *T. F.* Seeds of *Ormosia coccinea*, a tropical climber.—*A Subscriber to Gardeners' Chronicle.* A species of *Pyrus*, probably japonica.

**SPOTTED CYPRIPEDIUM LEAVES:** *E. H. A.* These leaves are not affected by any internal disease. The spots are caused by something external. In each case spots occur at exposed places, but in no instance where the imbrication of the leaves shelter the part beneath. It is remarkable that, looking down upon the leaves, these spots are only to be seen on places fully exposed to the light, and wherever the projection of a leaf places the one beneath it in shadow there is no spot. This fact is so evident to any one looking down upon the leaves that it conveys the impression of some poisonous fluid having been sprinkled on the leaves. This fact is inconsistent with the idea of any organic disease, for in that case it would develop itself everywhere irrespective of whether the leaf were sheltered from the light by the leaf above or not. *M. C. C.*

**THRIPS ON VINES:** *Foreman.* The article mentioned will not harm the Grapes. Two applications may, however, be needed.

**TOMATOS:** *Margaret* and *G. B.* Too well-known—a fungus. Spraying with Bordeaux Mixture earlier in the season might have been of service. Often described and figured in these columns.

**TULIPS:** *B. S. W. & Co.* The Tulip bulbs are in a remarkably vigorous and healthy condition, but the foliage is in a poor state. We can find in them no trace of fungi or specific disease. Nothing in the plants themselves can account for the failure in flowering. *M. C. C.*

**WOOLLY OAK-GALL:** *D. C.* Produced by *Cynips quercus ramuli* (see fig. 110).

**COMMUNICATIONS RECEIVED.**—*J. H. B.*—*J. C. & Co.*—*T. W.*—*Sif C. S.*—*T. F.* (next week).—*H. G. H.*—*W. Goddard.*—*F. P.*—*P. W.*—*J. McDonald.*—*D. T. F.*—*C. W. D.*—*E. C.*—*J. Mel.*—*A. D.*—*C. R. D.*—*Messenger & Co.*

**PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.**—

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**IMPORTANT TO ADVERTISERS.**—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

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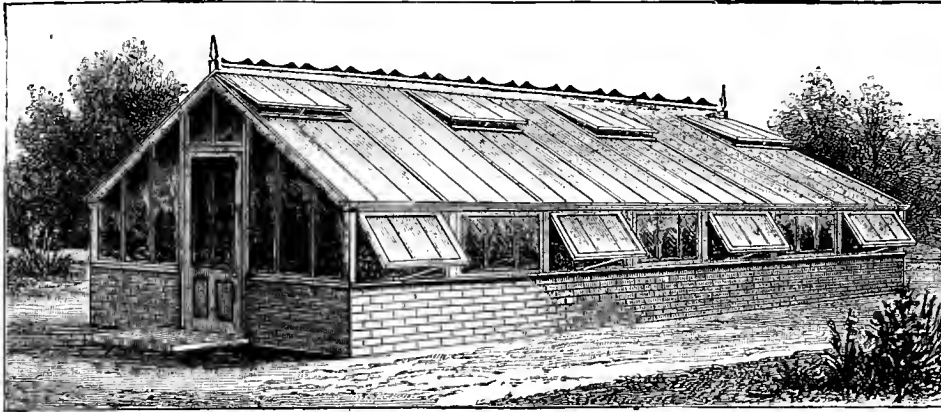
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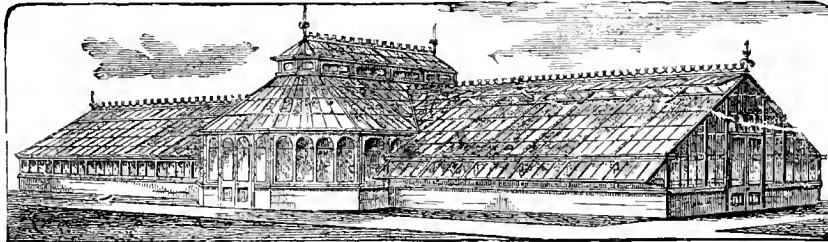
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NOTE.—Specimens on view at the Bath and West of England Agricultural Show, at St. Albans, commencing Wednesday, May 27, to June 1, 1896. Stand 229, Open Space.

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### GARDENING APPOINTMENTS.

- Mr. A. GREENHAM, late Gardener, Stockwood Park, Luton, as Head Gardener to THOS. E. TATTON, Esq., Wrythen-shawe Hall, Northand, Cheshire.
- Mr. JOSEPH WHEELER (ex-Trustee of the United Horticultural Benefit and Provident Society), as Head Gardener to H. COOPER, Esq., Spring Lawn, Bexley, Kent.
- Mr. GEORGE CARPENTER has been appointed Head Gardener and Bailiff to F. C. SPOOP, Esq., West Hall, Byfleet, Weybridge, Surrey.
- Mr. S. G. BRUNT, until lately Foreman in the gardens of The Cedars, Harrow Weald, as Gardener to R. REIL, Esq., Barra Hall, Hayes, Middlesex.
- Mr. EDWARD DENNIS, for the last five years Gardener to the late G. COOPER, Esq., of Broomfield Hall, Swanley Junction, Kent, as Head Gardener to Mrs. COSTAR, The Woodlands, St. John's, Redhill, Surrey.

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Canvassing will disqualify any Candidate. Applications in Candidate's own handwriting, stating age and previous experience (endorsed "Park Foreman"), accompanied by copies of testimonials, to be sent to me on or before SATURDAY, MAY 30, 1896.

ARTHUR CHALLINOR, Town Clerk.

Town Clerk's Office, Hanley, Staffordshire.

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WANTED, a MAN to MANAGE Wholesale Shop in North.—Apply, DICKINSON, Shardlow.

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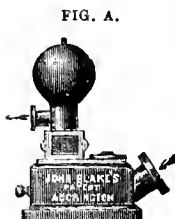
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## CONTENTS.

Appointments for June ...	678	Rhubarb... ..	681
Book notice ...	676	Smyrna and neighbour- hood ...	669
Cabbages, bolting ...	681	Societies—	
Campanula Regina ...	681	Swiss National Horti- cultural Exhibition ...	680
Conference, the coming, at Chester ...	680	Manchester Royal Bot- anical and Horti- cultural ...	685
Ferula Asafoetida ...	680	Stratford House Gardens, co. Kildare ...	680
Florist's flowers ...	674	Temple Show ...	681
Flower-beds, telling ...	681	Trees and shrubs ...	671
Flowers by post... ..	679	Typha minima ...	682
Franda, a, in the Orchid trade ...	674	Variation after birth ...	678
Genm Heldreichi ...	682	Victoria Park, London, in May ...	671
Glasgow, notes taken around ...	674	Vines, the bleeding of ...	671
Larch disease, the ...	670	Week's work, the—	
London in May ...	682	Apiary ...	677
Nursery notes—		Flower garden, the ...	677
Heath & Sons, Chel- tenham ...	672	Fruits under glass ...	676
Oak-apple Day ...	679	Hardy fruit garden ...	677
Obituary—		Kitchen garden, the ...	676
Fuller, Andrew S. ...	684	Orchid houses, the ...	677
Oliver Goldsmith's tomb ...	680	Plants under glass ...	676
Pansies, a contribution to the history of ...	684	Widford Lodge, Chelms- ford ...	683
Pond weed ...	681	Ve- neris, Paulownia im- perialis at ...	679
Propagation, methods of Rose show fixtures, fur- ther ...	679	Yucca gloriosa in bloom near Peterhead, N.B.	677
Royal Botanic Gardens, Manchester ...	679, 686		

## ILLUSTRATIONS.

Cynpis quercus Ramuli ...	687
Meconopsis cambrica, double var., flowers of Temple Show—	671
Caladium group, Veitch's, Laing's, Peed's, at the ...	673
Rivers' group of Nectarines at the... ..	683
Sander's group of plants at the ...	676
View in the gardens at Streffan House, co. Kildare (Supplement)	

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

### Plants for the Garden.

**H. CANNELL AND SON** have for a great number of years been known to possess the largest and completest stock of the above, and will be glad to quote or send their Floral Guide free, stating prices. Their Nurseries are now very beautiful. All lovers of good gardening are asked to "come and see." Pelargoniums are now a grand sight. **SWANLEY, KENT.**

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**NOTICE.**—The American Plants at Knap Hill are now in bloom, and may be seen daily, *Sundays excepted.* The Rhododendrons and Azaleas in Rotton Row are from Knap Hill. **ANTHONY WATERER, Knap Hill Nursery, Woking, Surrey.**

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SALES BY AUCTION.

Southwick, within 2 1/2 miles of Brighton (West). IMPORTANT SALE OF MARKET GARDEN LAND.

MESSRS. WM. WOOD, SON, AND GARDNER will sell by AUCTION, in a Marquee on the Estate, on TUESDAY June 2, 1896, at 3 o'clock, several plots of very rich MARKET GARDEN LAND. Free conveniences. Easy instalments.

Normandy, near Guildford, Surrey.

MODEL FRUIT GARDEN and NURSERY, of 41 a. 3r. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade, and in splendid condition; 16 modern Greenhouses, heated and fitted upon the best hot-water principles; ranges of newly built Stables, Coach-houses, Van, Cart, and Store Sheds, Piggeries, &c. The soil is of the best quality, and there are 1580 feet of frontage to existing roads.

MESSRS. PROTHEROE AND MORRIS beg to announce that this valuable and productive Freehold Model Nursery and Fruit Garden was NOT SOLD at their Sale at The Mart, London, E.C. on WEDNESDAY LAST.

The Trustees being anxious to wind-up the Estate, this property can be obtained by PRIVATE TREATY on most advantageous terms.

Auction and Estate Offices, 67 & 68, Cheapside, E.C.

Friday, June 12.

IMPORTANT SALE OF DUPLICATE and SURPLUS ORCHIDS from the collection of the Right Hon. JOSEPH CHAMBERLAIN, M.P., of Higby Moor Green, Birmingham, amongst which will be found:—

- Cattleya Claesiana
Exoniensis
Trianaei Warscewiczii
amanda
Trianaei alba
Mosses Hardyana
Parthenia Vernalis
Dendrobium Wardianum
Dalhousieanum luteum
nobile album
hybrid Thalia
splendissimum grandiflorum
Dendrobium Cheltenhamensis
hybrid Wigianae
Epi-Cattleya guatemalensis
Laelia elegans Turneri
Goudiana
anceps alba
Chamberlainiana
Laelia-Cattleya albanensis
Lycaste Skioneri alba
Odontoglossum elegantiae
Andersonianum
Miltonia Bleuena
Masdevallia Shuttryana
Sobralia xantholeuca

Unnamed Seedling Cattleyas and Dendrobiums, together with a large quantity of other Cattleyas, Odontoglossums, Vandas, Dendrobiums, Celogynes, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, June 12, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

DUMBARTONSHIRE.

ARDDARROCH COLLECTION

ESTABLISHED CATTLEYS and LAELIAS, So well known for the grand varieties contained, HIGHLY IMPORTANT SALE.

By order of R. Brooman White, Esq., Without Reserve, who is giving up the Cultivation of Hothouse Orchids.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by AUCTION, on the Premises, Arddarroch, about 3 miles from Garelochhead Station on the West Highland Railway (frequent boats leave Oraigendoran Pier for Garelochhead Pier, which is about 3 miles from Arddarroch), on TUESDAY and WEDNESDAY, June 9 and 10, at half-past 12 o'clock precisely each day, entirely Without Reserve, the above valuable collection of ESTABLISHED CATTLEYS and LAELIAS, together with about 100 ODONTOGLOSSUM ALEXANDRE, in Flower and Bud. Many plants have secured First-class Certificates and Awards of Merit, and have been specially mentioned in the leading horticultural papers and reviews. Amongst the principal plants the following may be mentioned:—

- Cattleya gigas purpurea
Hardyana
labiata varieties
Mendeli Bluntii
Kina variety
Empress of India
Whitei
Rajah
Wallisii
Mrs. Brooman White
superbissima
Sea-gull
Morganiae type
J. O'Brien
Argus
Adonis
Enchantress
Duchess of Montrose
Cock of the North
Mossia Wagnerii
Horsmanii
Rex
Trianaei alba, 3 plants
Cattleya Trianaei lilacina
roses grandiflora, 2 plants
Atalanta
var. Mrs. Brooman White
Geraldina
Edith le Doux
albida
hybrid Lawrie-Mossiae
Warnerii magnifica
Gar's variety
Cologyne cristata alba
Dendrobium hybrid
Laelia elegans, in variety
grandis tenebrosa
Lucasiana
purpurea Hardyana
Schroderae
Odontoglossum excellens
elegans, Pollett's variety
Pescatorei Thomsoni

100 Plants of CATTLEYA AUREA, also about 150 Plants of ODONTOGLOSSUM ALEXANDRE in flower and bud.

May be viewed any day prior to the Sale on application to Mr. G. Roberts, the Gardener. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London E.C.

Friday Next, June 5. By order of Messrs. F. Sauer & Co.

MESSRS. PROTHEROE AND MORRIS will sell by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 5, at half-past 12 o'clock.

VARIOUS SELECTIONS OF IMPORTED ORCHIDS, including a consignment of a DENDROBIUM SPECIES, most remarkable looking plants, found growing near D. sanguinolentum, but they are evidently quite distinct from that species. The flowers were not seen by the Collector, but the old flower-spikes are borne at right angles to the stems at their tops, and show from fifteen to twenty flower-seats. Every one received is offered, and they are in grand order.

DENDROBIUM NOBILE, LANG TANG Var.—The finest of all. A consignment just to hand, and containing many fine specimens.

DENDROBIUM CLAVATUM, D. CARINIFERUM. GRAMMATOPHYLLUM MEASURESIANUM, COELOGYNE OCELLATA MAXIMA.

A PHALENOPSIS SPECIES, either P. Duboyssoniana or P. Esmeralda. The flowers are bright purple, borne on erect scapes.

A COELOGYNE SPECIES from Upper Burma. Very distinct-looking plants, with conical-flowered bulbs on stout rhizomes, and foliage resembling that of C. Dayana.

A CYPRIPEDIUM SPECIES, found growing near C. Curtisii, but with brightly-marked foliage.

VANDA CEBULEA, DENDROBIUM DENSIFLORUM, CYMBIDIUM Eburneum, ONCIDIUM IRIDIFOLIUM (?), THUNIA BENSONLE, DENDROBIUM AUREUM, VANDA PARISHII, CYPRIPEDIUM VENUSTUM, BURLINGTONIA FRAGRANS, TRICHOSMA STAVIS.

CYPRIPEDIUM INSIGNE MONTANUM, Sanderae section. MILTONIA MORELLIANA, atro-rubens type.

A COELOGYNE SPECIES—The flowers are said to have white sepals and petals, and chocolate markings on the labellum, and are highly fragrant.

On view morning of Sale, and Catalogues had.

WANTED, good Second-hand 4-inch HOT-WATER PIPES and CONNECTIONS; also a quantity of small ordinary WATER PIPE, about 1/2 and 2 or 3-inch. Address, O. E., care of Wm. Dawson & Sons, 23, Craven Street, Strand, W.C.

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TO FRUITERERS and FLORISTS.—An unexceptional offer of a Genuine BUSINESS. Been under Female Management. Health giving way cause of selling.—Apply, 58, Willesden Lane, Brondesbury, N.W.

FLORIST'S BUSINESS for SALE.—Good neighbourhood, a few doors from station. Rent low; good living trade; same hands thirteen years. Cause of selling, ill-health. Any further particulars, apply to—Messrs. NEWELL & RAMLYN, 487, New Cross Road, S.E.

To Gardeners, Florists, Fruiterers, and Others. TO BE SOLD, the LEASE, WORKING-PLANT, and CROPS, at the GREAT LODGE GARDENS, Tunbridge Wells.—Been established nearly 20 years. Only requires to be seen to be appreciated, and every information will be given. Good reasons for selling. For further particulars, apply to RICHARDSON and GARAWAY, Auctioneers and Estate Agents, 30, Mooson Road, Tunbridge Wells.

Nursery for Sale.

TO BE SOLD, as a Going Concern, a compact MARKET NURSERY, all glass, consisting of 11 Houses: 8 Houses, 45 feet by 12 feet; 1 House, 45 feet by 25 feet; 2 Houses, 65 feet by 25 feet; well-heated with 4-inch pipes, worked by two powerful Rochford Boilers. Nineteen years' unexpired lease.—Ground-rent, £15 a year. Seven miles from Covent Garden.—For further particulars, apply to W. A. CULL, Northumberland Park Nurseries, Tottenham, London.

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Royal Agricultural Show, Leicester.

FURNISHED HOUSE TO LET, or in APARTMENTS, with attendance: two sitting and six bedrooms; ten beds if required. Price for whole, 30 guineas for week; 35 guineas ten days.

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BOX'S BEGONIAS, for quality and quantity, are unequalled; obtained highest award for Begonias exclusively at the Temple Show. Exhibition, June 1st September, at West Wickham Nursery, near Station. A visit solicited. JOHN R. BOX, Croydon.

SPECIAL OFFER.—Raspail Geranium, 6s. per 100; Calceolaria Golden Gem, 4s. per 100; Lobelia Empress William, 2s. per 100; L. primula magnifica, 2s. 6d. per 100; Verbena, mixed colours, 4s. per 100; White Marguerite, 4s. per 100; Coleus, in 25 varieties, 2s. 6d. per 100; C. Verschaffeltii, 6s. per 100. Free on rail. Cash with order. P. BOULTON, Beechenlea Nursery, Swanley.

EXHIBITIONS.

CHESTER HORTICULTURAL SHOW and FETE—AUGUST 5 and 6, 1896. Upwards of £400 in HORTICULTURAL PRIZES. For Schedules apply to the Hon. Secretary—Mr. J. WYNN FFOULKES, Crypt Chambers, Eastgate Row, Chester.

CLAY CROSS HORTICULTURAL SOCIETY. THIRTY-NINTH ANNUAL SHOW, August 11, 1896. PRIZES, £275. Schedules may be had on application to—Mr. G. LAMB, Clay Cross.

CARDIFF HORTICULTURAL SOCIETY. President—The Worshipful the MAYOR of CARDIFF. (The Right Hon. Lord Windsor). The EIGHTH ANNUAL SHOW will be held in the Cardiff Exhibition Grounds, on August 12 and 13 next. For Schedules, &c., apply to—66, Woodville Road, Cardiff. H. GILBERT, Secretary.

MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock. May 19, 1896.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

PELARGONIUMS.—GARAWAY & Co. offer good plants, in 5-inch pots, of the best market and decorative varieties, at 1s. per dozen. GARAWAY AND CO., Clifton, Bristol.

10,000 TREE CARNATIONS, for Joliffe Improved, Winter Blooming, out of 2-inch pots, Miss Green, per dozen. EOUVARDIAS, well rooted, P. Cleveland, P. Gardfield, A. Newnes, Vreelandii variegata, Mrs. R. Green, 2s. 6d. per doz. JAMES GREEN, Reliance Nurseries, March.

CELERY.—200,000 Clayworth Pride Pink; proved the best market kind, and all guaranteed transplanted, 6s. per 1,000. Wroxton BRUSSELS SPROUTS 4s. 1,000. Stiff sturdy plants. Cash with all orders. G. YORKE, Plantist, Retford.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS. H. and F. SHARPE are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, CORN 1895, at exceptionally low prices, which may be had on application. SEED GROWING ESTABLISHMENT, WISEBOEH.

STANDARD ROSES, in pots for planting now, very good stuff, 2 1/2 to 3 feet stems, 21s. per dozen; 3 to 4 feet, 24s. per dozen.

IBIS IVIES, in pots, 4 to 12 feet, 1s. to 3s. 6d. each. CLIMBERS of all kinds, in pots. BEDDING, DECORATIVE, and FURNISHING PLANTS, of all kinds. Special quotations for quantities. W. FROMOW AND SON, Sutton Court Nurseries, Chiswick, W.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

CARNATIONS, Souvenir de Malmaison.—Strong plants, showing flower, in 5-inch pots, 12s. per dozen. GARAWAY AND CO., Clifton, Bristol.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonial. Per bushel, 5s. R. and G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

FOR SALE (Expiration of Lease).—Five large PALMS, Latania borbonica; twelve large AZALEAS, six white, six coloured, very large; 2000 MAIDENHAIRS in 48's; RANGE OF HOUSES, 675 ft. Must be sold.—TREDEGAR NURSERY, East Dulwich Road, Peckham Bye, S.E.

FERNS and DECORATIVE PLANTS!—(TRADE).—Ferns, in 2 1/2-inch pots. Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100. 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralia, Grevillea, Spiraea, Rhodantha, & Geranium; in 48's, 6s. doz.; Marguerite, Heliotropes, Mignonette, Fuchsia, Ivy Geranium, in bloom, in 48's, 8s. doz.; Ficus, Palma, Dracena, Crassula, Pelargonium, & Hydrangea, in bloom, in 48's, 12s. doz.; Liatris free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.



**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**

**THE 57th ANNIVERSARY FESTIVAL DINNER**, in Aid of the Funds, will take place at the "Hotel Metropole," on **SATURDAY MAY 30, 1896**, when the **Right Hon. the EARL of LATHOM, G.C.B., F.C.**, will preside. The Committee have the pleasure to announce the following further amounts, which have been promised or received, and added to the Chairman's List:—

Per N. SHERWOOD, Master Elect of the Worshipful Company of Gardeners:—

Randolph Fritz ... £1 1 0	G. Maycock ... £2 2 0
J. Smith ... 1 1 0	K. Jones ... 2 18 6
Henry Wood ... 3 3 0	J. Hurton per W. Bennett, (annual) 1 1 0
C. E. Osman ... 1 1 0	Earl of Cork & Orrery, per A. Young ... 5 0 0
H. Pyle ... 2 2 0	Mrs. Graham, ditto 0 10 0
Alfred Fuller ... 1 1 0	T. H. Crisp ... 21 8 0
Charles Beart ... 0 10 6	F. J. Mermelles, per Geo Payne ... 1 1 0
C. E. Goldsmith ... 0 10 6	Hon. F. C. Farrer ditto ... 1 1 0
Alexander Clark ... 2 2 0	F. Seaton, ditto ... 0 10 6
Chas. J. Percival ... 2 2 0	J. Cos, ditto ... 0 10 0
H. Butler ... 1 1 0	Anon., ditto ... 0 10 0
R. L. Devonshire ... 1 1 0	Rev. E. Dean, ditto 0 5 0
Gen. Turner (annual) ... 1 1 0	N. C. Cookson, per W. Murray ... 1 1 0
R. Inman (annual) ... 1 1 0	E. P. Dixon ... 0 10 0
R. Curtis ... 1 1 0	W. J. Sanderson, ditto ... 1 1 0
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Hugh Aiton ... 2 2 0	W. G. Head ... 1 1 0
J. H. Andrews ... 1 1 0	Verditto ... 5 5 0
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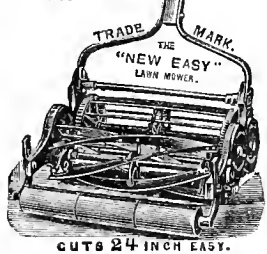
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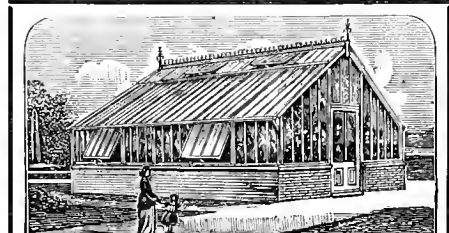
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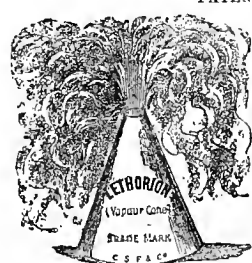


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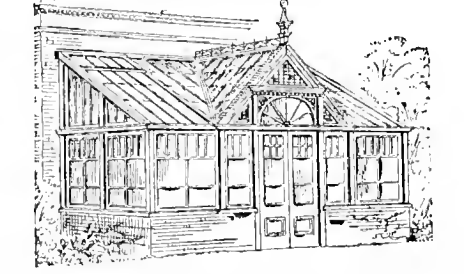
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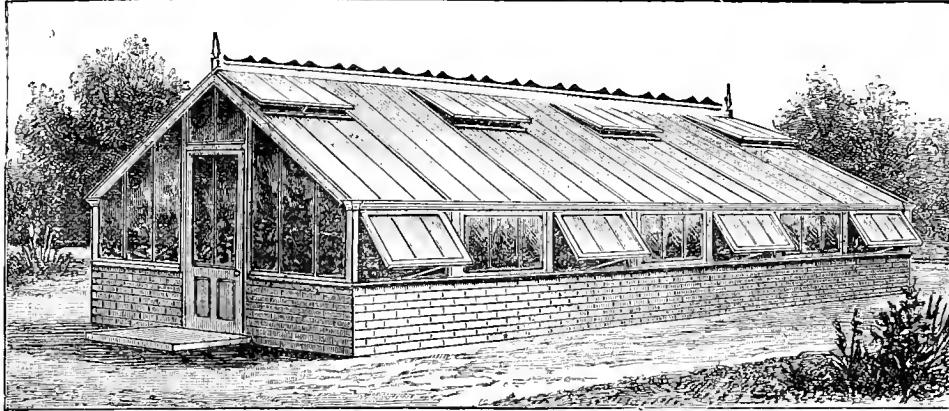


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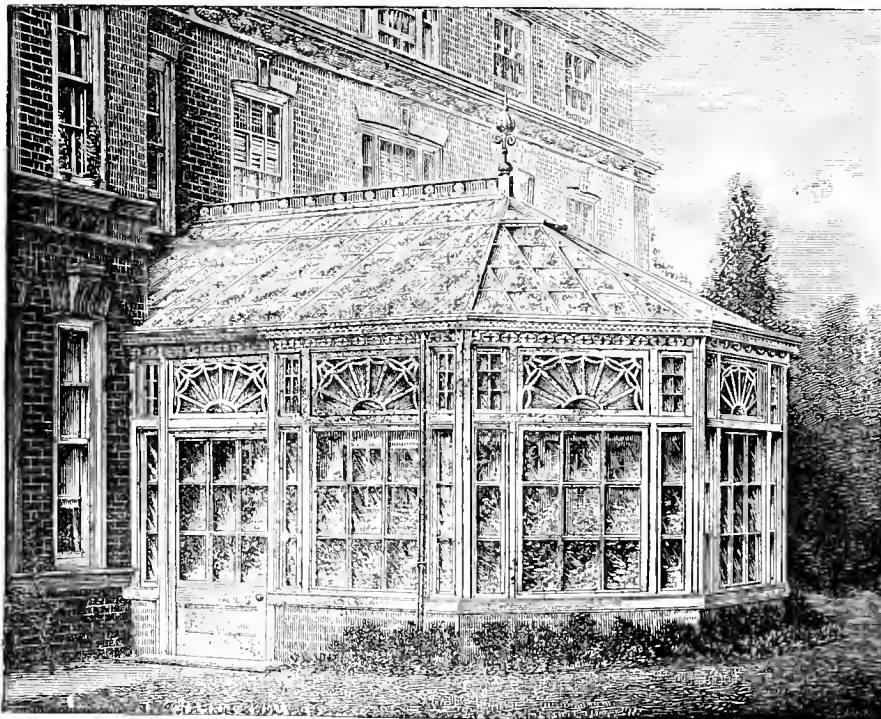
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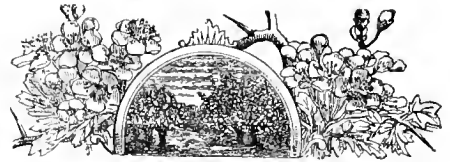
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## THE Gardeners' Chronicle.

SATURDAY, MAY 30, 1896.

### SMYRNA AND NEIGHBOURHOOD.

**D**URING a stay of a month or so at Smyrna, involving numerous excursions into the surrounding hills and vales, mountains and gorges, I have seen so much of their present wealth of flower and promise of future fruits, that I think a few notes may be of interest to your readers.

Smyrna is the centre of the dried fruits industry, Figs and Sultanas especially, and we consequently find the broad plain, on the edge of which the town (200,000 inhabitants) stands, to be covered over a large part of its extent, with the small Vines which bear the diminutive Sultana Grapes. Most of these Vines are evidently very old plants, with short thick stocks kept down by vigorous pruning to about 1 foot, and placed at intervals of about 6 or 8 feet. At this moment (April 28), the new growth is rapidly becoming conspicuous, bearing the incipient fruit in abundance, and this growth will speedily cover all spaces with a continuous sheet of verdure. The young leaves of these Vines are gathered and sold for table purposes, chopped meat being wrapped up and cooked in them, deriving therefrom a pleasant acidulous flavour. Among these Vines in many instances are found the Fig and Olive trees, though usually these are in separate orchards. The Fig here is a tree, and not grown vine-fashion as in England; it usually has several short trunks, and is evidently kept well down by pruning. The light grey smooth bark gives the bare trees a very dead look before the leafage appears. These trees are monoecious, and it is the custom to collect the small male Figs and hang them about among the female trees; a brood of flies is generated in the male fruits, and these escaping fertilise the others. The Olive trees must in many cases be of immense age, their huge gnarled, twisted, and knotty trunks being often quite out of proportion to the mass of their dark grey-green foliage. Gustave Doré evidently derived the weird and fantastic presentations of foliage so often seen in his drawings from the Olive, figuring, as it does, almost as prominently in the landscapes of Southern France as here. Oranges and Lemons thrive here, and fruit in abundance. The blossom is just commencing to open, and will flood the air with its perfume in the next fortnight; meanwhile, the fruit, where unpicked, is still in perfection on the boughs. The Orange trees are small and densely leafy, the fruit being all outside. The Lemon is of more open growth. Almonds and Apricots are plentifully grown, and here and there Pomegranates. The Apple, Pear, and other British fruits, are conspicuous by their absence; they do not do well. The Strawberry, however, is well to the fore in the gardens, and already beginning to be gathered. Of their quality I have had no opportunity of judging. Great use is made of the Arti-

choke, which, once established, yields a perennial crop, and only requires keeping in bounds. It figures at almost every meal.

The climate from now on is normally all but rainless for six months, and becomes extremely hot in July and August; though since I have been here 7° of frost have been registered. This cut some of the Vines in exposed situations, but otherwise I have seen no sign of damage, though Agaves are plentiful, and Palms of several species (Washingtonia, Chamærops, &c.) grow splendidly in the open. The shoots of the wild Hop are collected and boiled for the table, and are very palatable. Mustard is the weed of the district, its yellow flowers appearing everywhere; it does not, however, seem to be utilised.

Leaving the cultivated plain and taking to the hills, the wild flora is speedily seen to be extremely rich. Unfortunately, I arrived too late for the bulk of the spring bulbs, though happily, as we shall see, I found a capital substitute for their observations *in situ*. The common field Poppy is very plentiful, but of an intense crimson, as distinct from the scarlet of our home flower. With these on the hill-slopes, scarlet and blue Anemones are intermingled. The prevailing drought of the year is doubtless the reason that Ferns are generally scarce, though I hear they are locally abundant where springs or streams secure persistent humidity. *Ceterach officinarum* is naturally at home, and frequents the chinks of rocks in many places, and curiously enough, I found *Gymnogramma leptophylla* associated with it in one case. So far, a *Lastrea*, unfortunately unaccessible, is the only other species met with to date.

As regards the entire flora, it is overwhelmingly rich, as by the courtesy of Mr. Edward Whittall I have had a splendid opportunity of judging. This gentleman, one of the chief merchants of Smyrna, has for years devoted his leisure to the collection of indigenous plants, a number of which have been recognised by Kew as not only new, but valuable acquisitions to the horticultural world. In his garden I found growing a great variety of bulbous plants, to which I propose specially to refer, while indoors I was regaled with the perusal of over a dozen thick volumes containing the dried flowers and specimens of these and other genera collected within a radius of some 300 miles or so. The names as given are all derived from Kew, to whom specimens are regularly sent, and many of which I noticed were starred as desirable for the growing collection there.

The Snowdrop (*Galanthus nivalis*) appears in very varied forms, dwindling in size as it goes southwards, warmth evidently dwarfing it. *G. Elwesii* appears as a larger variety, about a foot high, associated with the normal form. On Mount Ida a very fine broad-leaved variety, with a tendency to yellow, occurs on the slopes, and has been named *G. E. var. oebrospeila* (?). Near the summits of mountains of the Tmolus range, 4,500 feet up to 6,000 feet, this variety grows 18 inches high, with much larger flowers than *G. Elwesii*, and broader and erecter leaves, the bulb is also long instead of round. This, Mr. Whittall has named *G. cassabarensis*, after the locality, and it would certainly be a great acquisition among our spring bulbs. I saw the foliage, and as it was growing under precisely same conditions as the smaller forms accompanying it, its form is obviously not due merely to soil or position. It is certainly distinct, and grows, moreover, in marshy ground, which the normal form does not.

Near Smyrna is found also *G. unguiculata*, as named at Kew, very floriferous, and bearing

often two flowers on one stem. Another variety also occurs, so far unnamed. This is akin to *G. cassabarensis*, but bears more globular flowers, and wider, often inch-broad leaves. Finally, *G. Ikarie* is another fine form, and, according to Kew, quite new. This has very white and waxy flowers, and glossy green leaves, and seems adapted for hot situations. *Leucojum aestivum*, about 18 inches high, figures only in one form, and that is normal.

The *Chionodoxas* grow in profusion, and, as may be expected, have yielded numerous varieties. *C. sardensis* and *C. Luciliae* are the species, and Mr. Whittall informs me that not unfrequently hybrids between *C. Luciliae* or *sardensis* and *Scilla bifolia* occur, the flowers being intermediate. The dried specimens I saw of the varietal forms showed much range in size and colouring. A form called *C. L. Tmolusii*, very dwarf with bright flowers, grows in snow-water on Mount Tmolus absolutely in caves of snow, which accumulates to a great depth in the upper gorges. It blooms in dense masses with bulbs no larger than peas, but curiously enough its diminutive size cannot be wholly imputed to environment, as a very large form of *C. L. gigantea* accompanied it. *C. Alleni* is a distinct rosier form of *C. Luciliae*, and so large as to be classified as *gigantea*, the bulbs of which latter are, however, reddish instead of brown, like those of *C. Alleni*, and also longer in shape. A lilac-pink self-coloured *Chionodoxa* has also been found by Mr. Whittall, but this, so far, has not been introduced; it occurs some 200 miles from Smyrna, and would be a desirable acquisition. Pink and white, and also double varieties have turned up, but the latter, unfortunately, perished, or possibly lost character on removal. A form of *Galanthus*, with eight petals and no cup, shared a like fate. *C. T. Druery*.

(To be continued.)

## THE LARCH DISEASE.

(Continued from p. 584.)

ACCORDING to promise, I shall now summarise the various statements made in my former articles on this subject, assigning reasons by way of proving some of the more important but obscure points upon this very important subject.

1st. That it is on the young, immature bark of the tree, which is affected by frost and moisture in the spring of the year, that the blister is produced. I have with great care, dug up trees of different ages quite leprous with blister, and found the roots, the neck of the plant, and a portion of the stem joining the root, quite sound and healthy. It is also a very common thing to find trees producing shoots from the lower part of the stem, below the blisters, and these shoots afterwards producing healthy trees, all of which combine to prove that it is not any constitutional defect in the tree which causes blister, nor because it was raised from seed from diseased trees, &c.

2nd. That the blister takes effect upon the bark up to that stage only, and never beyond, where it puts on the corky scaling covering, which in all future stages of growth effectually prevents its occurrence.

3rd. Out of a hundred sections of wood cut from vitally-diseased trees, only one section showed the disease as having originated in the bark at over fourteen years' growth, and the wound shown on that exceptional section gave strong presumptive evidence of having been the result of an accident such as that of another tree falling against it, a gun-shot, or perhaps the work of a squirrel, rather than having been produced by frost and damp in the usual way. By referring to the issue of April 4, 1896, p. 434, fig. c, it will be seen that the disease took effect when the tree was making its fourth or fifth year's growth, and continued growing for two years longer, when, it appears the tree was cut down. Fig. b was attacked

at the third year of its growth, and continued growing for five years when it was cut. The branch a shows the blister all over the surface of the bark, and is evidently of long standing, but at what age it was affected cannot be known, as the rings are of course concealed.

4th. That the wound originally made in the bark extends to the wood underneath, and eats into the solid wood so as to form a cavity in it, is almost wholly illusory, and is produced in the following manner. The cambium because of the wound on the stem has now less surface of the tree to cover than before, and is consequently much thicker at both sides of the wounded part than it otherwise would be. The new-formed wood closely resembles the lips, gradually enclosing the wound or mouth. This, however, is much better understood by looking at the figures referred to than by any description that can possibly be given.

5th. That the blister is not the result of frost as is generally supposed, but may be seen on trees in many localities, clearly demonstrating the difference. Where frost occurs after the tree is in leaf, it acts upon the branches and leading top-shoots, by beginning at their extremities and taking effect backwards, killing the entire branch or leading top-shoot as it proceeds. On the other hand, the blister, whether upon top, branch, or stem, affects the tree in quite a different way, by producing spots at intervals here and there all over the tree, sometimes in one form and sometimes in another, and in certain cases where it appears as if the whole upper part of the tree was uniformly killed, as by frost, it is not so, but the cause of such death is produced by the wound in the bark extending quite round the stem and thereby stopping the circulation of the sap, and killing the tree or part of it. When the branches of a tree are killed, either by frost or any other means, one common result is that resin is produced in clear, thin globules near the base of the dead branch, and which, as the season's heat intensifies it, becomes more copious and liquescent, and runs down the stem of the tree in unsightly streams.

6th. Severe droughts, cold, hard, dry winds, or frost, brown the foliage, and deprive the sprigs or spray of their vitality; but if they still possess sufficient recuperative power, they only die back to such a point, as there is strength in, to reproduce a new series of shoots; and the tree after, perhaps, a prolonged struggle, yet attains the true character and dignity of a tree, and grows and flourishes as if nothing had happened.

7th. The Larch, while at once the most tender and easily injured of all our common forest trees in respect to its bark, is yet the most tenacious of life of any of them, and will grow to a stately tree in the poorest soil, and in situations, and at altitudes where the Scots Pine is only a worthless creeping shrub.

8th. It is scarcely worth while to call in the physician only to tell the patient or his friends that he is unwell, and likely soon to die under his complaint. It is to be hoped that the doctor at least could administer something for the relief, if not for the entire recovery of the patient. In like manner, if we have at all properly diagnosed the disease of the Larch, let it be hoped that at least some small modicum of good may come out of it to prevent such disastrous results as we are but too familiar with, whether in the culture of the tree as a pleasurable luxury, or in growing it for economical purposes. Frost, combined with dampness, is doubtless destructive to the tree, which indicates that cold soils, cold situations, and cold climates should be avoided, and the opposite conditions carefully chosen and adhered to. Excess of moisture is also fatal to the tree and must likewise be studiously avoided. If true, as I have endeavoured to show, that the Larch is one of the hardiest of all our forest trees, why then are all these precautions and provisions to be made for its safety? The reason of this is, that the Larch tree, like most, if not all other things, has its weak points and its strong ones. Its weak points are its bark, at the sap-flowing period of its growth, namely, April or May, and its strong ones in its power to resist intense winter frosts, and withstand our lowest temperature, suffering nothing

either in its root, stem, bud or branch, from the elements. More items may still be forthcoming at a future time, meanwhile I have said (however imperfectly it may be) most of what I intended to say on the subject. *C. Y. Michie, Cullen House, Banffshire.*

TREES AND SHRUBS.

CYTISUS SCOPARIUS ANDREANUS.

THIS, as its name implies, is a variety of the common Broom (*Cytisus scoparius*), from which it differs in the colour of its flowers, which have a rich bronze-coloured blotch upon their wings. It possesses a charming appearance when in blossom, which it does as freely, even in quite a young state, as the type. The plant is well adapted for planting in masses together, and thus treated in suitable positions, it makes beautiful features. Flowering simultaneously with the common variety, it succeeds our earliest flowering species of shrubs, such, for instance, as *Forsythias*, *Malus floribunda*, *Prunus Pissardi*, *P. triloba*, *Berberis Darwini*, *B. stenophylla* x, &c. I conclude that it can be raised true from seed; but however this may be, it appears to be quite as hardy and free in growth as the more common varieties.

THE WHITE PORTUGAL BROOM, *CYTISUS ALBUS*, although not so showy as the foregoing, is nevertheless very pretty when in blossom. Its long racemes of small white flowers, arranged, as they are, upon slender, grass-like shoots, have a graceful effect. This variety also flowers freely in a young state, and is most attractive when planted in masses.

BERBERIS STENOPHYLLA x.

This beautiful flowering shrub is, according to Mr. G. Nicholson, a hybrid between *B. Darwini* and *B. empetrifolia*. It much resembles the former, flowers about a week later than that old favourite, and is certainly one of the best, if not the best, of the numerous family to which it belongs. It rivals *B. Darwini* for ornamental planting, inasmuch as its flowers are equally rich in colour; it is also equally floriferous, while it is quite as hardy, and its habit is more graceful. For planting in the foreground of large shrubberies, or for forming clumps, it is very suitable; but perhaps it is seen to best advantage as specimens, in open situations, upon massive rockeries, or upon lawns, where its long curved shoots, with their neat foliage, and abundance of flowers, may be seen in their greatest beauty. Like many of its genus, it is not over-particular as to soil, and grows free in both heavy and light loam. *Thos. Coomber.*

LONDON IN MAY.

VICTORIA PARK, SATURDAY AFTERNOON.—If there are any still among us who doubt the educational, social, and sanitary advantage of such fine open spaces as this park and the adjoining common affords, one visit on a Saturday would surely suffice for their conversion. The ample open spaces, the well-furnished parks and gardens, with their supply of seats, are crowded with their thousands of happy men, women, and children, in search of health, happiness, and the higher education of sweetness and light which close fellowship with Nature at her best cannot fail to impart. Surely never was there such a rich spread of tree, leaf, and flower beauty than was to be seen here throughout this May-tide in London. The progress made by the larger trees in this park, especially round the lake, is marvellous. Oaks, Elms, Planes, Beeches, drooping Willows, and many others form verdant or other sky lines of many shades of verdure, whilst the golden drapery of the Laburnums, the flowering Chestnuts, the mass of many colours from China-white to ruddy-crimson and glowing pink vie with each other in the beauty and prodigality of their blossoming. The more dwarf shrubs such as *Lilacs*, *Weigelas*, *Rhododendrons*, *Guelddres Roses*, were in full beauty, while *Japanese* and other *Roses* were

beginning to follow suit. There were still also many flowers and a few good Tulips left, though the bulk of the bulbs had faded or had been cleared off. Notable among Tulips about May 20 was a huge bud centred with the orange *Doronicum* broadly banded with the Tulip *Gesneriana*, the whole edged with London Pride or pretty Solomon's Seal, the white *Iberis*, *Lupines*, mixtures of *Stocks* and *Lupines*, grounded on or edged with *Pansies*; while Tulips fringed with bronze *Pansies* were among the showiest flowers. The glory of the *Daffodils* had faded, though sufficient of the double white and *Pheasant-eye* still remained to show what it had been.



FIG. 111.—MECONOPSIS CAMBRICA: DOUBLE-FLOWERED; COLOUR, DEEP YELLOW, IN TEMPLE SHOW.

(This variety, in which the stamens are petaloid, appeared spontaneously in Messrs. Backhouse's nursery.)

Two great features of the Victoria Park pleased me most this May. The first was the teeming thousands of happy faces. The second the silent but sure progress made in the rich clothing and colouring of the lakes. Perhaps a deeper dash and a greater variety of colour, and a little more variety and grace of form might be had in silver and other Maples, purple Beech, drooping Willows, Bamboos, Birches, Grasses, Irises, &c. But the lake, as it is to-day, is a marvellous advance on its primary coldness and bareness for some years after planting, and is an object-lesson full of inspiration and encouragement, showing how plant-life, and growth, and time mellow the raw lines of our lakes and landscapes into grace and beauty. *D. T. F.*

THE BLEEDING OF VINES.

THE bleeding of Vines is a subject which appears to have been studied scientifically as long ago as 1725, and Hales' investigations in this connection are said to have served as an introduction to the determination of the mechanism of the circulation of liquids in plants. It is interesting to note that a translation of Hales' work, which was published in 1727, was made by Buffon, the celebrated French naturalist, in the year 1779. It is, of course, a matter of common knowledge that the fluid which is contained in the albumum, or younger portion of the woody tissue, of dicotyledons occurs in special abundance in the spring, when it flows out freely from incisions made in the bark, and it is this crude sap which becomes converted into elaborated sap in the leaves, whence it passes in various directions, and is used in the cambium and other formative tissue of plants.

It is not the intention to enter fully into the widely-diffused phenomenon of the exudation of sap through "wounded" parts of plants, and which, according to Wieler, occurs in no fewer than 188 species belonging to 135 genera and 65 families. Moreover, the observations which have been made in this connection are so numerous, and the individuality of plants in this respect is so important, that various contradictions are met with in a study of the subject. Reference will, therefore, only now be made to the bleeding of Vines, which, as a particular case of the circulation of the sap, is of special interest as an instance of the great activity which is thereby displayed, of the ascent of watery liquid in plants in the early spring.

There is an instance on record where the total quantity of bleeding by one single Vine-stem amounted to no less than 5 litres (1 1/2 gal.); and although the mass of liquid which may thus be exuded is not rich in manurial matter, it contains a proportion which is by no means a negligible quantity. It is, indeed, this loss of fertilising material which gives more than a scientific importance to the phenomenon of bleeding. Neubauer was the first investigator who made a complete analysis of the liquid which constitutes the bleeding of Vines, and he showed that glucose is present in greatest abundance together with a gummy substance whose composition does not appear to have been yet determined. Next in order are certain contained organic acids (including oxalic and succinic acids), and several organic substances to which further reference will not now be made.

As regards the mineral contents of the liquid, as was shown by Neubauer, and since confirmed by Chuard, lime is present in a very considerable proportion (37.60 per cent.). The three essential constituents of manures viz., nitrogen, phosphoric acid, and potash, are contained in the liquid in the ratio 1, 3, 6; and according to Chuard, these three substances, but potash in particular, are necessary for the growth of the Vine from the commencement of vegetation, and not for the development of the fruit only, as is sometimes maintained.

It has been estimated by the two French observers to be presently named, that a litre (.22 gal.) of the liquid contains, on the average, 2 grammes (1/8 oz.) of dry matter, two-thirds of which is organic and the remainder mineral matter; but that these ratios may vary in different branches of the same Vine. The proportion of mineral constituents would, however, appear to be generally constant as regards the same variety of Vine during the whole period of "bleeding," although the organic contents may vary to a certain extent in this respect.

A very elaborate series of investigations regarding the bleeding of Vines was published in the last volume of the *Revue de Viticulture*, wherein Profs. Houdaille and Guillon, of the Montpellier Agricultural School, discussed the subject, more particularly with reference to the rate of the exudation, and to the various circumstances which affect it; and also with a view to determine the relation of the various climatic influences of different districts. Nor are these investigations without practical interest and utility, because it is admitted that there is a certain loss of fertilising



material when the pruning of Vines is effected within a certain period of the manifestation of "bleeding." In certain soils, and with certain varieties of Vines, the process of grafting may moreover be seriously prejudiced if the "bleeding" be too abundant; and recent investigations tend to show that the application of iron salts as a remedy for chlorosis (*chlorose*)—a disease which is widely prevalent in France—is, in its efficacy, not without relation to the period at which the bleeding of Vines takes place.

It is not possible to describe the admirable methods which were employed in the investigations under reference, or to give more than a *résumé* of the results which were obtained, and of the conclusions which were drawn. The relation between the absorbing power of the roots, which produces an upward pressure in the stem, to the amount and rate of "bleeding," formed an important part of the researches in question. It was observed that different parts of the same Vine "bled" in very unequal quantity, even when the sections were made in stems of the same diameter and at equal distances from their point of origin. This observation was also found to hold good as regards stems of different varieties of Vines of the same age and under identical conditions. The period which intervenes between the commencement of "bleeding" and the opening of the leaf-buds, also appears to vary according to the different conditions of growth, although the main shoots of the same Vine, as a rule, begin to bleed at about the same time.

It was further observed, as indeed seems only natural, that the internal pressure has a correlative effect on the amount of liquid "bled," and that when the pressure decreases, the quantity of the exudation is also less. In other words, the maximum amount of "bleeding" corresponds with the maximum pressure in the stem. Not that this relation can be drawn in a hard-and-fast line, but when both these factors are represented diagrammatically by a series of curves, as is done in the original report, the general truth of this observation is seen almost at a glance. It may be mentioned incidentally that the ascent of the sap takes place almost exclusively through the vessels of the woody tissue, which thus become almost completely filled with a column of liquid, in which are intercalated bubbles of air to which an important function has been assigned in this connection by many physiologists. This part of the subject will, however, not be discussed beyond stating that the effect of this imprisoned air, at any rate as regards the bleeding of Vines, would appear, according to Houdaille and Guillon, to have been much exaggerated. Indeed, they are rather of opinion—because the bleeding of Vines takes place when transpiration by the undeveloped leaves is at a minimum—that the phenomenon is altogether due to the root absorption, and to the simultaneous activity of which they trace the sudden manifestation of the bleeding. The general effect of internal influences having thus been demonstrated, Houdaille and Guillon also investigated the action of external surroundings on the exudation. No direct relation was, however, observed by them to exist between the temperature of the air or of the soil, and the action of bleeding, which, as a rule, begins suddenly, continues at a considerable rate, and then gradually decreases. Nor in their various experiments did they trace, during the period of bleeding, any correlation between changes in the temperature of the soil or air and changes of internal pressure in the stem, their observations tending to show that the diurnal pressure varied generally to a slight extent only, the maximum pressure occurring variously at different hours of the day.

The temperature of the soil would, nevertheless, appear to possess an indirect effect in this connection, and the same observers showed that the manifestation of bleeding occurred in different varieties of Vines only when the soil in which they grew had attained different degrees of minimum temperature. But they are of opinion that it is at this minimum temperature that the commencement of root absorption severally takes place, and to the activity of which, as already stated, they trace the direct cause of the bleeding of Vines.

The observations, of which a *résumé* has been given, do not appear to have included the effect of the humidity of the soil which has long been known to be intimately connected with the subject in question, the abundance of "bleeding" depending to a considerable extent on the amount of water which is available to the root-system of the plant. It may, therefore, be mentioned in conclusion, that Wieler has lately recorded and proved that certain plants, e.g., the Gooseberry and Plane trees, which do not normally show signs of "bleeding," can be made to do so when they are placed in suitable conditions in this respect. The effect of the temperature would, moreover, appear in such cases to have a considerable influence on the exudation, which increases very distinctly with the relative amount of heat. A Vine-plant grown in water has, for instance, been shown by Wieler to bleed four times as much at 35° C. (100° F.) as when the temperature was only 8° C. (58° F.) during the same interval of time. *Vitis*.

## NURSERY NOTES.

MESSRS. HEATH & SONS, CHELTENHAM.

ORCHIDS and florists' flowers are the leading characteristics of this neat and compact nursery, every department of which is maintained in good order by Mr. Treseder, the manager, whose business capacity makes the establishment more widely known than are many others of far greater extent. On a recent visit, we found the Orchids making a very good show with their handsome flowers, among which the Phalenopsis, which are exceptionally well-grown here, were prominent, some of the plants of *P. Aphrodite* having very fine blooms. Recently in flower was the pretty hybrid, *P. × Veitchii*, with its clear rose-pink and white tints, and among others, *P. grandiflora* and *P. Stuartiana*. *Miltonia Roezlii* is also cultivated largely and well at this nursery, and often hundreds of spikes are open at once, and seldom are the blooms of this pretty and fragrant plant absent. One very fine white form, with only a yellow marking on the lip, was in bloom, and many of the purple-marked typical kind. In the houses devoted to Cattleyas, *Laelias*, &c., was a good show of Cattleya Schroderae, one a very pretty white; *C. Mendelii*, *C. Lawrenceana*, *Laelia purpurata*, and other showy kinds; and in an adjoining house a pretty arrangement of well-flowered plants of *Cymbidium Lowianum*, varieties of *Lycaste Skinneri*, *L. aromatica*, &c.

The display in the cool Orchid-houses was chiefly composed of varieties of *Odontoglossum crispum*, *O. Pescatorei*, *O. Hallii*; the varieties of *O. Andersonianum*; the showier *Masdevallias*, among which the hybrid *M. × Heathii* showed up well; and the violet *Odontoglossum Edwardi* and scarlet *Sophranitis*. *Cypripediums* are largely grown, and many hybrids are here in the course of development. One batch fully in flower presented a pretty appearance, although they were held not to be quite up to the mark. The cross was *Harrisianum × callosum*, and the progeny resembled *C. × ceanthum* but with larger flowers, with more or less chocolate spotting on the petals. Some 3,000 seedling Cattleyas, *Laelias*, and *Laelio-Cattleyas* are also in the small stage, and doubtless many good things will result, though probably only a small proportion may mature. One house is nearly filled with *Cœlogyne cristata* and *Cypripedium insigne*, of the best varieties. In another warm and moist house are a fine lot of *Dendrobium Phalenopsis Schroderianum*, and other *Deudrobes*, both species and hybrids. Here, too, in flower is the fine *Cypripedium villosum superbum*, and some good varieties of *Odontoglossum citrosimum*, &c.

In other houses is a fine stock of Tree Carnations, among the varieties a new one, with large and handsome flowers of much the same hue as *C. Miss Jelliffe*, but a true perpetual flowerer. In the houses of Tea Roses is another novelty which will prove of great value to florists, viz., a pink-coloured *Niphotos*, said to have sported from the original. In another house

is a fine show of Azaleas, and with them some very handsome Moutan *Pæonies*, which have been gently forced into early bloom. The many houses devoted to Palms and other ornamental plants and Ferns are all well stocked and neatly kept.

## METHODS OF PROPAGATION.

(Continued from p. 640.)

I PROPOSE to take as my subject now the grafting of ornamental trees, which will enable those who desire to propagate this class of tree in the proper season to make early preparations another year by selecting suitable stocks, and, in some few cases, potting them. Also by the early planting of some in desirable positions in the first days of October, preparatory to putting in buds in July and August, or grafts the following March and April. It frequently happens that in gardens and ornamental grounds there is one tree planted that even to a casual visitor appears something out of the ordinary way; naturally the gardener in charge of this establishment will desire to possess more than one specimen, seeing in his mind's eye many spots where such may be tellingly introduced; a few hints, therefore, on this subject may be acceptable to our readers.

The Willows are very readily propagated by cuttings; indeed, pieces cut 6 to 10 feet long and 6 inches in circumference, and sharpened by three clean cuts with a hatchet, may be dropped into holes made by a crowbar along the margin of a pond or stream, trod firm, and left to grow; such will form capital stocks on which to graft the Weeping Willow (*Salix babylonica*), or its somewhat hardier form, *S. Solomon*; while the extremely elegant weeping variety of *S. viminalis*, called in nurseries the American Weeping Willow, may be put on this stock; either of these do on the common Willow (*S. amygdalina*). The kind known as the Kilmarnock, however, prefers the stock, called in the Weald of Kent and Sussex the "Sally," no doubt a corruption of its Latin name "Salix." Foresters call it the Plum-leaved Willow, and large numbers are planted in wet woods in Kent and Sussex to grow Hop-poles; for now the "creosoting" system is adopted, Willow and Poplar poles last almost as long as those cut from Ash, or even Chestnut-stools.

Poplar rods, too, if cut from the clean, straight branches of the Black Italian Poplar (*Populus aladescica*), may be used exactly as the Willows to form convenient stocks, and on these can be put scions of Belle's Silver-leaved Lombardy Poplar, or Van Geert's Golden form of *Populus canadensis*, both of which form useful trees for planting in some situations, where a marked contrast is desirable. Then we have two weeping forms that make excellent lawn trees, especially in moist situations, viz., the Weeping Aspen, *P. tremula pendula*, and the Greek Weeping Poplar, with its small but deeply-cut leaves, both do well on the black Italian variety, or on the Aspen.

The Maples are best budded, but the false Planes (*Sycmores*) exhibit one or two startling deviations from the type, and should be grafted, such as King Leopold's Sycamore, with tricolor foliage, resembling in its young state a zonal Pelargonium of the Mrs. Pollock class; the other being a somewhat erect-growing tree, having dark green foliage, the underside of which is of a deep bluish-purple colour, giving it a most striking appearance on a windy day. Some fine trees I once saw at Baron Rothschild's struck me as particularly handsome. These were planted in close contrast to some fine variegated *Negundos* (*A. Negundo foliis variegatis*), than which there is, perhaps, no more useful or striking tree. Some of these planted among Purple Beech and the *Prunus Pissardi* (Purple Plum) were most attractive and effective in the landscape.

Everyone admires the Horse-Chestnut when it is exhibiting its wealth of white blossoms; indeed, Loudouers often make a pilgrimage to Bushey Park to see the Chestnut avenue there. Nurserymen have improved (?) this, by selecting a double variation from seed, while from North America we get a yellow and red form, the latter called in nurseries the Scarlet

Horse-Chestnut. These, as well as the Parias, may be budded on the common stock, but the one alone worth attention is that called "californica" (*P. macrostachya*) in nurseries; this makes but a bush or low tree, and flowers in June and July with an elegant loose spike of creamy-white flowers.

The Beech is one of the difficult trees to graft, but by following the method here indicated the careful operator is sure to succeed. The stock is the common white Beech, the usual practice being to graft these close to the ground, and then to earth up over the pug or wax like a Potato ridge, the reason for this being that the bark is very thin and apt to dry and curl, the moist earth preventing this. The selection of the scion, however, is the main difficulty.

growth, but the kind known as the Nettle-leaved Weeping is by a long way the most lovely, and should have a place on every lawn. The centre rises straight up, and the laterals droop in unmatched elegance around it, giving one the idea of a pale green fountain, while the bole is nut-brown, banded by pure ivory-white, adding greatly to the beauty of this lovely tree.

The False-Acacias, too, should be grafted low in the same way as the Beech, but may be budded at standard height if desired, the stock being the common Acacia (*Robinia pseudo-Acacia*). The round-headed Acacias, *A. inermis*, at one time exclusively seen in continental parks and road margins, had better be budded or grafted standard high

the celebrated John Waterer, of Rhododendron fame, has long pendulous racemes of flowers which have the merit of grateful fragrance. The so-called golden-leaved kind sent out by Mr. R. Smith, of Worcester, is desirable only in its early foliage, as later in the year the distinct golden hue leaves its foliage, which then assume a sickly appearance, and soon turn brown and drop. The distinct *Cytisus* received into our gardens from the Balkan Mountains, known as *Shipkaensis*, having large white flowers, would be grand worked on low stems of *Laburnum*; while *Cytisus scoparius* var. *Andreanus*, alluded to in my early articles, would, with care, graft on *Laburnum*, as I have had the pretty white Portugal Broom do well on this stock. The *Caragana*, however



FIG. 112.—GROUP OF CALADIUMS AT THE TEMPLE SHOW.  
(See Report, p. 650, in our last issue.)

When cutting these from your purple or copper Beech, look carefully along the two-year-old shoots, and you will see in places a series of fine rings indented in the bark, as though formed by a thread wound round it tightly. Cut your tongue through these peculiar marks, which I have not yet been able to account for, and you may count upon successful work [They are the scars left after the fall of the bud-scales. Ed.]; but if this advice is disregarded, you will court failure. The scions are then encouraged to make strong growth, the laterals stopped back to one or two buds, but left to thicken the bole, and this cut back at the desired height will form a good head. Being rarely strong enough to support itself, a good stout stake should be put to it till it can stand alone.

The Birch should be grafted in the same way, though marching is the best plan, and will be taken in the next paper. Few ornamental trees can compete with the common Birch in light elegance of

on free young stems of Pseudo-Acacia, while hispida, the Rose Acacia, is better grafted low down. The wood of this is so brittle that it should be fastened to a good stout stake while growing, as any attempt to straighten it when hardened will snap or split the shoot. This kind produces the largest and most showy racemes of flowers, which are bright rose, and is thus worthy of culture. There are many fine Continental kinds, for there the Acacia is a favourite tree, Decaisne's and Besson's being perhaps the two finest and most distinct.

In vivid contrast to these, we have the favourite *Laburnums*, by no means easy subjects to graft; but by choosing clean young stems of the English or upright growing variety, and putting on the scions when the leaf-buds begin to expand, using stout scions, one may succeed. One of the most elegant is *Alsingeri*, this has large foliage, and very long racemes of flowers, often 15 to 18 inches in length. Another named after

though near relatives, do not live on it long, the best stock for them being the tree *Caragana* (*C. arborescens*).

I believe I was the first operator to graft *Cotoneasters*. This genus makes very pretty small trees, grafted low on the *Thora* (*Crataegus*), but I had some seeds of *Cotoneaster frigidula* from the Cambridge Botanic Gardens which is by far a better stock, and this is now common in shrubberies, where it forms a loose spreading tree, flowering in May, and producing bunches of small coral-red berries in the autumn. The seeds, cleaned by rubbing the berries in sand, and sown in deep propagating-pans, will vegetate the next summer. When these get mature or ripe, pot them singly, or line out in the garden, when they will soon make nice clean straight stocks for *Cotoneaster* in any of its many varieties. The most useful and showy, however, is *Hookeri*, sometimes called *C. Simonsi*. This is of free, diffuse

upright habit, flowering very freely, and producing its fine coral-red, almost scarlet berries, which, if the birds permit, remain on the branches till the spring. Either grafted low, or about 3 feet from the soil, this forms an extremely pretty ornamental tree for the conservatory, the bright berries being very appreciable in the winter, or at Christmas. Either of the recent kinds—*C. microphylla*, *thymifolia*, &c., grafted thus, make neat and pretty weeping trees for shrubbery decoration.

The "Japonica," as it is popularly called (*Cydonia* (*Pyrus*) *japonica*), and usually seen trained on walls and fences, where it exhibits its brilliant blossoms to perfection, may be worked as a standard on the Thorn or Quince, the latter being preferable, as on it it makes a good large head, flowering and fruiting very freely. *C. umbilicata* and *C. Maulei superba* are the two most desirable, the latter, in addition to its brilliant flowers, giving in late autumn plenty of its golden-yellow, red-flushed fruits, which may be used like Quinces to flavour Apple-tarts, or to make preserve or marmalade, but being somewhat strong-flavoured, are best mixed with the fruits of the ordinary Quince. *Erperieno*.

(To be continued.)

## FLORISTS' FLOWERS.

### HIPPEASTRUMS.

WHEN the plants pass out of bloom is the time they require most attention. Both the flowering bulbs and the seedlings then require to be kept growing in a warm temperature; above all, they must be kept clean from mealy-bug, thrips, and red-spider. The mealy-bug clusters around the crown of the bulb, close to the surface of the ground, and will even burrow under the ground. They also attack the base of the leaves, causing them to decay long before they would do so naturally. Any bulbs so injured that they lose their leaves thus prematurely, are not likely to flower the following season. When fewer than 90 per cent. of full-grown *Hippeastrum* bulbs produce flower-scapes annually, it is most likely due to the premature destruction of the leaves during the previous season, or to improper culture. Under good treatment the disposition of every bulb is to flower. Red-spider and thrips will sometimes injure the leaves, but they seldom do much injury if a suitable temperature exists in the house, and proper culture is given them. I would particularly draw the attention of young gardeners to the importance of attending to the plants at the correct moment. It is now a busy season in most gardens, and I well know how difficult it is to keep all the work up to date, but the effort should always be made. However much the work may be in arrears it has still to be done, and if work that ought to be done this week be left a week or two longer, it will probably take a longer time to do it. These remarks apply with special force to rapid growing plants like the *Hippeastrum*. One of the most essential points in their culture is to see that they are encouraged to make plenty of roots, and this is effected by plunging the pots quite beneath the tan. It is astonishing how the roots grow in moist tan a year old, of which about half has become reduced to fine mould. They will penetrate every part of the bed, and they seem to derive a great deal of nutriment from it. The entire bed should be well watered once a week, and this will be sufficient to keep the plants in vigorous growth. If they receive any serious check during the present month, this may cause many of them to make a second growth after midsummer, which is undesirable. Maintain the first-formed leaves in vigorous health, so that they increase in size and substance until the end of the season, and treated thus a second lot of leaves is not likely. The seed is now ripening, and as soon as it is ready to sow, prepare a bed over a mild bottom-heat, and sow the seed thinly in flower-pots or pans. The young plants soon appear above-ground, and when 2 inches high, they ought to be pricked-out, a dozen of them in a 6-inch flower-pot. They will grow freely up to the end of the season, and indeed all through the winter. The leaves remain green upon seedling plants the second winter as well as the first. I have kept the seed until the second year, but it did not vegetate.

At present, the minimum temperature of the house should be from 69° to 65°, and in such bright days

as we now have, shading is necessary. The plants must be kept in this temperature and a comparatively moist atmosphere until July.

### THE AURICULA.

Show, fancy, and alpine types, now require considerable attention, green-fly working great injury; also the woolly aphid (*Trama auriculae*), which frightened growers some years ago. This last can easily be kept down, and does not seem to injure the plants much, but green-fly takes the outer leaves off, and cripples such as remain.

I find fumigation with tobacco is the best remedy. The present is the best time in which to re-pot the plants. I am now attending to the collections in these gardens, and will re-pot all of them excepting such as are seed-producers. Seedlings should be potted when they need it, and thus brought into good flowering condition, being put into the flowering-pots by the month of September. It is also a good practice to plant some of them in boxes, if space be limited, at 4 inches asunder, and the plants will make a fine show in this way in the spring. I have had some in boxes in flower for eight weeks. The Alpine Auriculas may be planted out-of-doors, and in that position they flower freely, a border not too much exposed to the sun being best suited to their needs; on the other hand, they should not be put under trees. A good deep, rather heavy soil suits them best, and it is not desirable that they suffer for want of water at the roots. When dry weather sets in, afford one good watering, and mulch the surface of the bed with rotten manure. I ought to add that the best potting-soil consists of four parts good loam, one part decayed manure, and one part leaf-mould; sand of a coarse quality is usually added to keep the compost open.

### CARNATIONS AND PICOTEES

In pots, and planted out, all require attention. The pot-plants are all now in an open position out-of-doors, and sticks have been placed to them; but where they are too much crowded with flower-buds these ought to be thinned out. The exhibitors usually allow only about three flowers to each stem. One amateur who exhibited very large blooms allowed one only to be on a plant; this was not safe, as the "crown" bloom is generally open about one week before the side blooms, and fades by so many days before them. The side blooms will win at a flower-show when the crown blooms have passed away. In hot weather, syringe the plants freely to refresh them, and clear off dust and green-fly from the grass. Tie the flower-stems to neat sticks before they fall over, and allow no weeds to grow in the pots. Seedlings should be pricked out in beds at 3 or 4 inches asunder, and as soon as they are large enough, they should be planted out 14 or 15 inches asunder where they are to flower.

### POLYANTHUSES

Will have passed out of bloom, and as the plant forms roots very freely, it is good practice to divide those that are taken up from the beds, and plant out the divisions in a shady, moist place. In dry, shallow, light soils it is of no use to plant hard Polyantuses, as the leaves get eaten up with red-spider and green-fly. Seedlings grow more freely than named varieties, and will make a good display of bloom where named varieties will scarcely exist. They do best if the soil is deeply worked, and some rich manure placed about 1 foot below the surface, to attract the roots downwards. I have found them succeed well in soil where the Cowslip grows naturally.

### TULIPS.

These have now passed out of bloom, and but little attention will be needed now beyond removing the shading, hoeing the ground, and breaking off seed-pods. The bulbs may be lifted and dried in an airy loft as soon as the stems can be bent without breaking, a test the old florists always adopted.

### THE RANUNCULUSES

Must be watered with a rose-water-pot between the rows, or they will soon show signs of distress in hot, dry weather. The plants should have a thoroughly good watering, and unless the season is very dry, the earliest-planted tubers will not need it often. Tubers of *Ranunculus* planted so late as April, or even May, for succession-bloom, would have to pass through a drier period, and would need more water. The old-fashioned florists' *Ranunculuses*, with perfectly-formed globular flowers, do not seem to have the vigour they used to have. The fact is, they require renewal from seed, and unless this is done, they will in time pass out of cultivation. We must go back to

the papers written by the late Mr. Cary Tysoe, of Wallingford, for the best information. He flowered thousands of seedlings annually, and surpassed everybody, even professional gardeners. He states in a paper, published just sixty years ago, that "four or five varieties in a hundred seedlings are equal to the best-named sorts in cultivation; and it is certain that those who grow only the old sorts cannot successfully compete with those who grow seedlings." In an unfavourable season when the old roots did not bloom more than ten in a hundred, the seedling-beds presented masses of bloom. Those who have *Ranunculuses* in bloom, or coming into bloom, should save seed. Sow in the autumn. The plants will flower the next year. *Jas. Douglas*.

## FOREIGN CORRESPONDENCE.

### BOGOTA.

A FRAUD IN THE ORCHID TRADE.—Amongst all the Orchids imported to England, probably the most popular as well as the most extensively cultivated is *Odontoglossum crispum*. Every year many thousands of this plant are imported from Colombia for the English market. It is no secret that the most famous type is that of Pachó, and this is becoming more and more scarce, and consequently more expensive to collect in its native habitat. When it is mentioned that the Pachó type is the most prized, it should be stated that inferior types are procurable in great abundance other than in the Pachó region; thus, the inferior types abound at a distance of two or three days' from the Pachó centre. In England there are some expert *O. crispum* growers who can, as a rule, distinguish the Pachó forms from the worthless forms; but even experts are sometimes at a loss to distinguish the legitimate Pachó forms when they are exposed in the market for sale as imported, i.e., plants with bulbs devoid of leaves. Where experts are sometimes puzzled, the ordinary purchaser at sale-rooms is, of course, easily duped. Forms or types of the plant are thus frequently bought that are not worth growing. Not only worthless forms are in this way acquired, but thousands of plants come to England under the pseudonym of *O. crispum*, that turn out after being cultivated for a lengthened time, with attendant expense, not even inferior forms of *O. crispum*, but *O. Lindleyanum*, &c., plants that are subsequently consigned to the rubbish-heap.

This year a new departure in the *O. crispum* trade has sprung up; scores of thousands are being exported from Colombia. The vast majority of the plants thus obtained come from regions whence only the worst known types of *O. crispum* come—amongst them a large intermixture of *O. Lindleyanum*, &c. But this is not all. These despised types of *O. crispum*, &c., are conveyed several days' journey on mules' back to Pachó, in order to pack them there, and to label each case with the name of "Pachó!" *Criterion*.

### GLASGOW NOTES.

THOUGH this district has long been noted for its well-cultivated gardens, there never was at any time more interest taken in, and encouragement given, to gardening than at present. Though horticultural exhibitions are not given the support from the public which they deserve, there are indications that a more encouraging state of matters has commenced.

I made a special visit lately to see the principal features in some of the parks and gardens which have attracted much public attention of late, and was glad to note that nothing has been over-rated. Accompanied by the able and courteous park-superintendent, Mr. Whitton, I made an early visit to the spacious

### QUEEN'S PARK

(designed by the late Sir Joseph Paxton), and which has an imposing appearance from the long street which leads to it from the town. A wide avenue, well-furnished with trees on each side, forms a noble entrance to this beautifully-embellished park, from which many beautiful views can be enjoyed. Many

gentlemen's seats are prominent on the rich landscape, eastward, southward, and westward. Looking northward, from an elevation reached by steps, a view is commanded over the great city, and a great contrast is presented to the hills and dales on the opposite side. We passed hurriedly through the gardenesque portions, where gay Tulips with other flowers and dwarf shrubs clothe the beds until the summer bedders can with safety be planted in them. The chief object of our visit was to see the large block of glass-houses which has been erected during the past year. Elegance in form and usefulness for plant culture have been points which have received careful consideration.

A large span-roofed house filled with Camellias, Palms, Phormiums, Dracaenas, Azaleas, Tree-Ferns, and other plants form the centre; and from this a number of lower span-roofed houses run onward on

MAXWELL PARK,

which is comparatively new, well laid out, there being no crowding, and there is plenty of space for promenading on grass and walks. Numerous beds filled with flowers, Tulips, &c., were very gay, and had been arranged tastefully in beds and borders. Bustard was doing extra well among the crimson-flowered varieties, and Yellow Prince was very showy and effective.

Leaving this garden-park and others till later, time being limited, we hurried on to accomplish what we had further in view. It is well known that in this part of Glasgow many species of Orchids are cultivated with great success. Dendrobiums at

REDLANDS

have long been a speciality in the hands of Mr. Russell. We were too late this year to see the

among the best of the specimen plants. We passed some fine plants of *Dendrobium Wardianum* and *Lycaste aronatica*. A house full of *Anthuriums* was a special attraction; and two dozen *Cutleya labata* in good health are much valued—it is probable the number will be increased. Passing through other structures in which were *Dendrobiums* and *Palms* in quantity, we went on westward after expressing our gratitude to Mr. Russell for his courtesy and communicativeness. I was accompanied all the while by a keen Orchid specialist. Not being satiated with Orchids, we went to—

ROSEMOUNT,

where a good collection of Orchids is to be seen in the highest state of cultivation. The collection is in the charge of the enthusiastic gardener, known far and near as "Mr. Davie Wilson," but, unfortunately,



FIG. 113.—SANDER'S GROUP OF FOLIAGE PLANTS AT THE TEMPLE SHOW.  
(See Report in our last issue, p. 651.)

each side at right angles, all of which can be easily entered from the main building. These smaller but most useful houses contained Orchids, Palms, and stove and greenhouse plants. Many plants are forced during winter for decorative purposes. Cinerarias from seed, *Primula obconica*, and some hundreds of double white *Primulas*, were worthy of note. *Deutzias*, *Azaleas* in variety, *Spiraeas*, and *Rhododendrons*, contributed largely to the floral display.

Leaving these, we proceeded to inspect the additions now being made to the park—roads are being formed, excavations made, levelling, turfing is being done, and altogether a deal of labour is employed. When the new additions are completed, the public will have every facility for enjoyment which green-sward and foliage of trees afford. In this addition every good feature of the old ground will be carefully conserved, and made fit for the public enjoyment, where all may pass without let or hindrance. We passed from this to the—

flowers, but the plants were robust and healthy. Orchids in flower included *Odontoglossum gloriosum*, *O. crispum*, *O. c. guttatum*, and *O. triumphans*. There were also some fine forms of *O. Rossi majus*. We passed through many other plant structures, where Orchids are used with excellent effect among foliage plants. When entering the elegant conservatory attached to the house, in a small division was a beautiful arrangement of choice *Gloxinias*, interspersed with Ferns, *Caladiums*, and *Dendrobium Devonianum*. Passing into the large building, there are some wire stands, circular in form, about 9 feet across, which revolve. They are placed at regular distances, and are beautifully arranged with flowering and foliage plants. There is no stiffness, and plenty of room is left to walk around among the plants. The sides are lined with tables containing choice flowering plants. Some *Dicksonias* growing up into a lofty dome were in extra vigour. *Rhododendron* var. *Monarch* was extra fine, and *R. Veitchii* was

our friend was away from home. When entering this well-managed place, an immense bank of *Rhododendrons* is passed, and notwithstanding that the atmosphere is always charged with smoke from the city, the *Rhododendrons* were as clean, healthy, and full of flower-buds as anything we saw in *Argyleshire* a few days afterwards. In the houses first-rate culture of plants seemed to defy the power of smoke or any other pests so common in all such localities. Ascending flights of steps we passed into the beautiful glass structure, a house full of remarkably fine-foliaged plants was entered; then a long ornate house, filled with a choice collection of flowering plants, from which Orchids were not absent. The roof of the house was clothed with *Lapagerias*, in fine condition. Another stove full of choice plants was admired, in which were splendidly-grown *Cyanophyllums*, *Anthuriums*, and grand specimens of *Eucharis*.

The *Odontoglossum*-house contains a collection of



plants than which it would be difficult to find a finer or healthier. This was, perhaps, the strongest proof of our good friend Davie's ability. *O. crispum*, numbers of which were flowering, included many large flowers which provoked the admiration of my friend the specialist. He noted one spike of large flowers which he believed could hardly be equalled in the north. In fine condition also were *O. Halli*, *O. Jenkinsianum*, *O. triumphans*, *O. Pescatorei*, *O. Andersonianum*, the last-named being a plant with two extra fine spikes, and nearly fifty blooms on each! *Lycaste Skinneri* and *Oncidium serratum* were among the most thriving specimens. Leaving this fine house of plants, we passed through another structure full of fine-foliage plants, with many specimens of *Dendrobium nobile* in vigorous health. Before leaving, we had a peep at the vineries. The foliage was large, leathery, of deep green colour, and there were abundant crops for mid-season and late supplies. Mr. Wilson exhibits Orchids largely at the Edinburgh and Glasgow shows. *M. Temple, Carron, N.B.*

## BOOK NOTICE.

### UNITED STATES NATIONAL HERBARIUM.

The United States Department of Agriculture, Division of Botany, issued on April 1, the final part of a preliminary revision of the North American species of Cactaceae. This work, which is from the able pen of Prof. John M. Coulter, is the completion of the North American Cactaceae, which was begun by the preliminary revision of *Cactus*, *Anhalonium*, and *Lophophora*, published as contributions from the United States National Herbarium, Vol. III., No. 2 (issued June, 1894). As the work progressed it became more and more evident that the revision could consist only of the systematic collection of present knowledge, based upon the study of the very inadequate material accessible in herbaria and gardens. It seemed, however, proper to contribute to the knowledge of the group such facts as had come to light in the course of several years of study, especially as an excellent opportunity had been given to examine Dr. Engelmann's types and unpublished notes. The work includes all known forms within the United States, but only such Mexican and West Indian forms as could be personally examined.

## THE WEEK'S WORK.

### FRUITS UNDER GLASS.

By W. Pore, Gardener, Highclere Castle, Newbury.

**THE PINERY.**—Those plants which were placed in their fruiting-pots in March, and are rapidly growing, should not be too heavily syringed overhead, nor have more water afforded them at the root than suffices to keep the soil moderately moist, as any excess in these directions, or too high a temperature, with much humidity, will cause soft growth. On the other hand, an insufficient quantity of water will cause the leaves to become brown, and the plants stunted. The syringe should be used on sunny afternoons, and then lightly, the surface of the beds between the pots being moistened so as to afford a genial atmosphere. On fine, warm days, artificial heat should be sparingly used by day, but applied sufficiently early in the afternoon to prevent the temperature falling below 70° after closing the house for the night. To provide ripe fruit in the autumn months, some of the plants should be induced to throw up their fruits during the next few weeks, keeping them somewhat on the dry side, and fully exposed to sunshine for a week or two, and in a bottom-heat of 90°. As soon as fruit shows, water copiously if the soil is in the least degree dry. Winter-fruiters should also be kept rather dry, as well as cooler, preparatory to starting them in July. Plants whose fruits are rapidly swelling, will require a plentiful supply of water at the roots, more being required at this season than earlier. At this stage the Pine-stove should be closed by 2.30 or 3 o'clock, the plants below the leaves and the bed being lightly syringed. Commence to ventilate in the morning when the thermometer indicates 80°, and close at 85° or 90° with sun-heat. Weak guano-water or other stimulant may be afforded as required, withholding these when the fruits show colour. The bottom-heat should keep steady at

85°; do not let more suckers remain on a plant than one or two. Suckers of early plants of the Queco may be potted as soon as they get well-rooted, and if given a good shift, and liberally treated, these will come into fruit in good time next year.

**MIDSEASON AND LATE VINERIES.**—Vines with bunches now growing fast should have the crop finally reduced, and the berries thinned for the last time. Grapes for winter consumption must be more freely thinned than others. All Vine-borders should be examined from time to time, and when water is really needed, it should be afforded freely, mulching afterwards being not neglected. Ventilate freely all vineries in calm warm weather, leaving a small amount on all night, increasing it early in the morning. The bunches on late Vines will now require thinning without delay. The berries of short-stalked varieties, such as Black Alicante, if neglected for a very short time, become closely wedged together, and very difficult to thin without doing more or less injury to them with the scissors. Look closely to the stopping and rubbing-off the lateral growths, never allowing the production of these to go on for a length of time, and then giving a severe thinning.

### THE KITCHEN GARDEN.

By C. HERRIN, Gardener, Droghare, Maidenhead.

**TURNIPS.**—Notwithstanding the prevailing drought, early Turnips have done fairly well here; but those now bulbing need copious waterings occasionally. Continue to make sowings at intervals of about a fortnight, choosing cool spots for the sowings, such as a border at the back of a south wall, or on the shady side of a plantation of tall trees. The sowing last made should be afforded a good watering after the thinning of the plants is done, if rain do not fall. The old Snowball and Red Globe represent two good varieties for present sowing.

**HERBS.**—The present is a suitable time to make-up beds of Spear and Peppermint, and form new beds. The simplest and easiest method of increasing these useful herbs is by cuttings, made of the tops, taken off 5 to 6 inches in length. The lower leaves should be stripped off, and the cutting inserted firmly in the soil of the open border, where they strike readily. The rows of cuttings should be about 8 inches apart, and in the row they should stand 4 or 5 inches apart. A good watering should be afforded the ground after the planting, using a water-can with a rather fine rose, and a few branches stuck in the bed for affording shade for a few days, providing the weather be very sunny, otherwise, if the cuttings have an occasional sprinkling, they soon strike root, and grow away freely. Spearmint struck after this method affords a nice supply of tops for use late in the summer. Seeds of Thyme may still be sown, and the plants from the earlier sowings should be transplanted 6 inches or so apart each way. Sweet and bush Basils and Sweet Marjoram should be ready to plant out on to the herb border at similar distances apart as those given above, and other sowings made in the open, if necessary. Tarragon roots transplanted some time since should be supplied with water during the dry weather, until they begin to grow freely, and if a slight mulch can be given this will be advantageous. Pennyroyal is a sweet herb much used in some establishments. The best situation for this is on a cool border with a north aspect, where, if it be carefully planted, it requires little more attention than to replant it once a year in the spring months, and affording it water once or twice, if dry, until re-established. Seeds of Chervil should be sown occasionally, to ensure a constant supply, as in dry weather this plant soon runs to flower, producing then but few leaves; and it should be grown in a shady place. The earlier sowings of Parsley should be thinned, leaving the plants 4 inches apart at the least; the stronger thinnings may be used to fill up spaces under walls and odd corners.

**LEEKs.**—Early-sown Leeks should now be ready for planting out into trenches thrown out to a depth of 6 inches or rather more, and 18 inches from centre to centre, and having some good rotten dung forked into the bottom of each. Before planting, make the surface-soil fine with the fork or rake. If the Leeks are standing in boxes, lift them carefully with a trowel, so as to bring away a ball of soil with the roots, and make the soil firm about the roots when planting. The plants may stand 1 foot apart. Water should be freely supplied to Leeks in dry weather. This kind of treatment will produce large blanched roots for exhibition or special home use. For all ordinary purposes, and providing the land be in good

condition, good Leeks may be grown by simply drawing out drills about 5 inches in depth and 15 inches apart, and planting in these without further preparation of the soil, at 1 foot apart in the rows.

**GENERAL WORK** will now consist of thinning the Parsnip, Carrot, Salsafy, and Onion crop; and unless large roots are required, it is a mistake to thin too much, as for ordinary use medium-sized roots, bulbs, &c., are both more useful and economical than big ones. It is advisable to go over the beds twice rather than to remove all surplus plants at one time. Parsnips may stand at 8 inches apart, Carrots at 6, and Onions at 4 inches apart, but where large size is necessary, these distances may be doubled. Recently-planted Celery should be kept moist at the root always. Prick off the plants from later sowings into cold frames, and avoid retaining the seedlings in the seed-beds to get drawn and weak, which no after management of the plants can turn into good stout heads.

### PLANTS UNDER GLASS.

By Jno. McINTYRE, Gardener, Woodside, Darlington.

**BOUVDIARIS.**—Those gardeners who require large quantities of choice flowers for cutting in the autumn and winter seasons, will do wisely to give every attention to the Bouvardias during the next few months. The planting-out method may be strongly recommended to those who may have spent hot-beds at their service, these being excellent for planting-out upon in frames. If cuttings were struck in accordance with directions, the little plants being nicely established in 3-inch flower-pots will be fit either for being planted in the spent hot-bed frames, or repotted. If the frames that will be made use of are those that were employed for growing the earliest crop of Potatoes, a part of the soil therein remaining should be thrown out, and some leaf-mould and loam of a light nature in equal parts added, so as to make a bed 8 inches deep, the height from the lights being 1½ feet. Make the bed smooth and firm before proceeding to plant out. Set out the plants 9 inches square, afford the bed a thorough watering, close the frame, and shade and keep closed for a few days, by which time the plants will have taken to the soil and begun to grow. Now is the time to pinch all of the points of the shoots, continuing to pinch as the new shoots acquire a length of 2 or 3 inches. In this way nice bushy plants are made. The season of flowering may also be regulated by pinching, as eight weeks will elapse from the time of the last pinching till the plant flowers. If Bouvardias are grown in flower-pots these should be plunged to the rims in garden-frames filled with half-decayed leaf-mould.

**HINTS ON WORK IN GENERAL.**—Numerous jobs now require attention, as the repotting of Balsams, Cockscombs, Celosias, Browallias, and other summer-flowering plants of the greenhouse. The early sowings of *Primula sinensis* and *P. obconica*, will now require to be pricked off into shallow pans or boxes filled with a light kind of compost. Seeds of *Cineraria* may be sown to bloom early, and of *Humea elegans* for raising specimens for use next spring.

**COLEUS.**—These plants, although not so much grown in gardens as was formerly the case, are of some value as decorative subjects where much furnishing has to be done, coming in, as they do, as substitutes for more valuable plants, and whose loss is of small account. Cuttings of Coleus may be struck in quantity in thumb-pots filled with finely-sifted leaf-mould and silver-sand, one cutting in each pot; when rooted they should be shifted into 5-inch pots, a size sufficiently large to furnish suitably-sized plants for vases, &c., although a larger size will be required for greenhouse specimens. Specimen *Clerodendrons* now coming to perfection should be taken from the stove to a slightly cooler and dryer house; a conservatory, if not too much ventilated, will suit these plants. The overhead syringing of the plants should be discontinued, but farm-yard liquid-manure may still be afforded. The shoots of trained specimens will require regulating, the flowering shoots being so disposed that the best effects are obtained, which, if done forthwith, will give the flowers time to assume a less constrained appearance.

**DIPLODENIAS**, if secured to strings stretched to the rafters of warm pits in the manner recommended in a former calendar, should be showing for flower, and any which are intended for flowering early—say, the middle of the month of June to the end of July—may be taken from the strings and trained to balloon frames of wire. When wooden stakes are used, the job is less difficult, the shoot and the twine

being simply taken together and fastened around the framework of stakes, which should be neatly made and painted green. The growing shoots of Dipladenias are easily injured, and it is a good method to have the pot with the balloon or stakes so placed that each shoot, as it is taken from the rafters, can be readily fastened in its proper place. Late-flowering plants may remain on the strings for some time longer, but always allowing a period of three or four weeks to elapse after detaching them, for the leaves and flowers to assume their natural appearance. Sheep's-dung makes a good stimulant if used in a liquid state for Dipladenias, and may be afforded the plants at short intervals during the season. As soon as the plants are well in flower, remove them to a house having a temperature of 60° to 65°, and which is carefully ventilated.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**WALL-TREES OF ALL KINDS.**—The various operations of nailing or tying-in of all growth left for extension, should be followed up to prevent their being bruised or broken by the wind; also the stopping of shoots, to form fruiting-spurs; and whilst this kind of work is in progress, a sharp look-out should be kept for caterpillars, which are very numerous this season on fruit and other trees.

**PYRAMID, CORDON, AND BUSH** Plums and Cherries are much infested with aphides, and a few Plum trees are getting infested with red-spider. To destroy the latter, heavy syringings with clean water must be applied before the insects make much headway. For the destruction of aphids, an insecticide is required, which should be applied to the trees in the evening, at 100° of warmth, using a sprayer, and being careful to wet the underside of the leaves. The points of the leading shoots, if badly infested with the insects, may be dipped in the insecticide, the leaves being gently rubbed between the finger and thumb. All lateral growths may have their points pinched back to within six leaves of their base, which will have the effect of relieving the trees of numerous individuals. These and other prunings should be burned forthwith. The pyramidal, bush, and espalier Apples and Pears should be frequently examined, and the dead petals and other rubbish which congregate in the clusters of young fruit removed, these forming hiding-places for caterpillars, difficult to clear them out of.

**GOOSEBERRIES.**—The larvæ of the Gooseberry saw-fly have just made their appearance on the bushes, and where plantations are extensive and hand-picking costly, fresh-slaked lime should be well dusted among the branches, early in the morning, whilst wet with dew. The gardener should wear a glove on one hand, as the lower branches must be held up, so that the lime may be brought into contact with the caterpillars, which, if thoroughly done, is a very efficacious remedy, and has no bad effect on the foliage or fruit; at the same time it does away with any prejudice still remaining in the minds of some against eating the fruit, if such a poisonous insecticide as Hellebore is used. If red-spider should show itself, give the bushes two or three good syringings of clear lime-water, made by mixing 1 lb. of quicklime in 3 gallons of water, letting it stand for twenty-four hours, pouring off the water and leaving the sediment. The dry weather gave gardeners a good chance of killing weeds growing in the fruit quarters, but the suckers from the roots of the Plums and Pears have given much trouble here. A few of these may be pulled up, but mostly they have too good a hold to be removed in that way, and it is best to clear away the soil down to the roots, and cut off the suckers with a sharp knife, as then there is no injury done to the roots.

**NETS** to be used in protecting the ripe fruit of Strawberries, Cherries, &c., should be overhauled, and got in readiness for use, and if more netting is required it should be obtained from the dealers.

### THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

**DENDROBIUM PHALÆNOPSIS.**—Without doubt this is one of the most beautiful of all Dendrobiums in cultivation, and it is decidedly a great acquisition, especially as a cut flower. Its habit the plant does not vary, but the colours of the flowers do so considerably, being pure white in some instances, and rich crimson-purple in others. They remain in perfection on the plants for a very long time, and also when cut. For the past six months the plant has been entirely at rest, and if the proper kind of attention has been afforded

during that time they will be now about to start into growth. At first the growths are thin and weak, but they gain strength rapidly and swell out. When the new shoots are a few inches high a number of young roots push out from their bases, and just before these are visible, the plants, if they require it, should be repotted; or if not in need of repotting, the old material should be picked out from between the roots, and fresh compost afforded. If greater root-space be really necessary, the operation of repotting should be done with but very little root disturbance. The plants will thrive in pots, wooden baskets, or shallow pans, only it is important that these should be small in proportion to the size of the plant that will go into it. New baskets of teak are preferable to old ones, and the pots and pans should be quite clean. Plenty of drainage should be afforded, and over this place a very thin layer of fibry peat and sphagnum-moss, with a few thick crocks intermixed. The compost should be packed firmly around the plants, as the roots delight to ramble amongst the hard, porous material. The crocks being hard do not retain moisture for any great length of time, which is in every way conducive to the health of the plants. After repotting, place in the hottest and sunniest position available, and, until the new roots are re-established, only a small quantity of water is necessary; but afterwards, and till growth is complete, it may be afforded copiously. A very thin shade is required even at the hottest part of the day, and then only for two or three hours. Experience has shown that plants grown under plenty of sun-light surpass those afforded ordinary stove treatment in vigour and rapidity of growth. Such plants also produce stronger flower spikes, richer-coloured flowers, and they pass through their long resting season in a satisfactory manner. While the plants are exposed to strong sunshine, air should be allowed to circulate freely around them; but when shading becomes necessary, the amount of ventilation must be slightly reduced; and at about 2.30 p.m., when the shading is removed, it should be increased, and so remain for about half an hour. With the sun shining full on the plants, the house should be closed and well damped down, and the plants slightly dewed overhead with tepid rain-water. The temperature of the house will quickly rise to 100° or higher with advantage to this plant. Other species of Dendrobium which luxuriate under this kind of treatment are *D. superbie*, *D. bigibbum*, *D. stratiotes*, *D. lineale*, *D. streblceras*, *D. secundum*, *D. taurinum*, *D. Bensonie*, *D. macroplyllum Veitchianum*, and *D. atroviolaceum*. At present, the new *D. speciosissimum* appears to enjoy this kind of treatment also, the young growths, although they advance but slowly, being strong and healthy. Such tall-growing Dendrobiums as *D. Dalhousieanum*, *D. moschatum*, *D. clavatum*, *D. calceolus*, and *D. fimbriatum*, also require fresh material to root in at this season.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**BEDDING-OUT.**—Although much of this kind of work has been done, the planting-out of the more tender kinds should not be proceeded with for a few days. It is unsafe to put out *Alternantheras*, *Coleus*, and similar plants, until the first or second week in June, the recent sudden change in the weather showing that, except in very sheltered positions, only those plants capable of withstanding 3° or 4° of frost should be placed in such positions where protection cannot easily be afforded. Arches may be planted with such climbing plants as *Tropæolums*, *Lophospermum scandens*, *Ipomœas*, *Maurandya Barclayana*, &c. Rustic baskets, vases, and similar objects may also be planted with similar plants, or those of a trailing habit, Ivy-leaved *Pelargonium* being especially useful. Beds occupied by standard Rose trees may be planted with dwarf-growing plants, such as Harrison's Musk, *Violas*, *Verbenas*, to form a pleasing groundwork to the Roses. Only surface-rooting plants should be used for this purpose. Any odd borders or beds may be made gay by planting them with African and other *Mari-golds*, *Phlox Drummondii*, *Petunias*, and such-like plants that have been raised from seed. Sheltered nooks and corners may be planted with groups of *Eucalyptus*, *Acacias*, *Solanums*, and similar plants. They afford a pleasing change in the general appearance of the shrubberies.

**BOCCONIA CORDATA** is an excellent herbaceous perennial for planting by the side of a stream, or in any moist position, and if used in conjunction with the *Giant Fennels* the effect is more telling; the flower-spikes of the former being shown with greater effect by contrast with the Fern-like foliage of the latter.

**HERBACEOUS BORDERS.**—Keep these free from weeds, and maintain general neatness and order. *Rudbeckias* should receive a surface-dressing of wood-ashes and soot, to prevent attacks from slugs, which are frequently the cause of considerable annoyance.

**LONICERA SEMPERVIRENS** is just now coming into flower; the blossoms are of a bright red colour, and are very freely produced, contrasting well with the bright green foliage. The plant appears to thrive best if planted at the foot of a wall rather than on an arch or isolated trellis work, unless the position is quite sheltered from rough winds.

**DAHLIAS** may shortly be planted out. Give the plants ample room, so that they may not become drawn. Secure each plant to a stout stake, and in tying allow space for the stem to expand. Mulch the ground afterwards with short manure, and afford a good supply of water.

**GENERAL WORK.**—There being much work to be done in all departments at the present time, considerable judgment is necessary in arranging its performance. The weeding of paths and shrubberies, the removal of seed-pods and dead flowers from *Rhododendrons* and hardy *Azaleas*, the mowing of grass, clipping of verges, and much other work will keep the men in this department busy for some time.

### THE APIARY.

By EXPERT.

**SUPERING.**—By this time all section crates and shallow frames should be ready to put on the hives, as this often prevents swarming by allowing the bees more space, even if they do not commence working in them for a few days. Where bees are kept in skeps and likely to swarm, it is a good plan to slightly raise the skep about 1 inch, by means of two small pieces of wood placed a little distance from the entrance; by this means they get more air, and so cool the temperature of the hive—of course, this alludes to cases where honey is preferred to swarms. There are several methods of working skeps, namely, by small straw supers, bell-glasses, or in crates containing from twelve to eighteen sections. Where bell-glasses are used, I would recommend the use of a piece of wood to stand the glass on, with a fair-sized hole in the centre, from 6 inches or more, according to the size of bell, this prevents the combs falling down in very hot weather; it is also a good plan to fix the board on the skep firmly by means of a little dough, this prevents any draught, which bees greatly object to. The easiest way of fixing combs for starters is to heat the glass with warm water, the foundation will then adhere to the glass by means of a little gentle rubbing.

In some cases in supering bar-framed hives, it is necessary where the stock is very strong, to add an extra frame or two; these should be filled with full sheets of worker foundation, as when only half-sheets are used, the bees are apt to build drone-comb. It is also a good plan to wire the frames, which prevent any damage in manipulation. In putting on supers, great care should be taken to clear off all pieces of comb and rubbish from the top of the frames, so as to allow the crate to fit down evenly; strips of carpet about 2 inches wide should be placed round the crate on the top of the frames, so as to prevent the bees from escaping, or any draught, and cover up warmly with two or three pieces of clean carpet. In all cases use the best foundation for filling sections. Zinc dividers will be found better than wood or glass, as the bees do not propolis metal so firmly. A simple way of fixing foundation in sections is to slightly wet the handle of a knife, and rub the comb sharply on to the middle of the section, and gently pull straight; this will be found better than using glue, particularly for show purposes, as no dark mark can be seen, as is the case with glue. It must not be forgotten that a good smoker, and a cloth soaked with carbolic acid (Calvert's No. 5), one part of acid to three of water, should always be at hand; when not in use the cloth may be kept in a small air-tight tin, which will keep it damp and ready for use for several weeks.

**YUCCA GLORIOSA IN BLOOM.**—A splendid specimen of the *Yucca gloriosa* is at present in full bloom in the garden of Mr. WILLIAM HESLOP, Howe o' Buchan, near Peterhead, N.B. It is nearly twenty years since Mr. HESLOP entered into possession of this house and garden, but until the present time he has never seen the plant in flower. The flowers are very abundant, and the specimen is regarded by experts as being a remarkably fine one.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR JUNE.

THURSDAY, JUNE 4	Linnean Soc. Meet.; Anniversary Meeting at 8 P.M.
FRIDAY, JUNE 5	Roy. Bot. Soc. Lecture
SATURDAY, JUNE 6	I. of W. Hort. Assoc. Soc. Franc. d'Hort. de Londres Meet.
SUNDAY, JUNE 7	Roy. Hort. and Agr. Soc. of Ghent Show.
TUESDAY, JUNE 9	Roy. Hort. Soc. Coms.
WEDNESDAY, JUNE 10	Roy. Bot. Soc. Floral Fête. Geneva Ex. temporary Sh (14 days).
FRIDAY, JUNE 12	Roy. Bot. Soc. Lecture.
SATURDAY, JUNE 13	Roy. Bot. Soc. Meet.
SUNDAY, JUNE 14	Brussels Orchidiféerie Meet.
WEDNESDAY, JUNE 17	York Floral and Hort. Fête (3 days)
THURSDAY, JUNE 18	Linnean Soc. Colchester Rose and Hort. Show.
FRIDAY, JUNE 19	Roy. Bot. Soc. Lecture.
TUESDAY, JUNE 23	Roy. Hort. Soc. Coms.
WEDNESDAY, JUNE 24	Nat. Rise Soc. Ex. at Reading. Richmond Hort. Show.
THURSDAY, JUNE 25	Hereford and West of England Rose and Hort. Show. People's Palace Hort. Sh. (3 days).
FRIDAY, JUNE 26	Roy. Bot. Soc. Lecture.
SATURDAY, JUNE 27	Canterbury Rose and Hort. Windsor Rose and Hort. Royal Bot. Soc. Meet.

SALE FOR THE ENSUING WEEK.

FRIDAY, JUNE 5	Orchids from Messrs. F. Sauter & Co., at Protheroe & Morris' Rooms.
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CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—59°.

MR. L. H. BAILEY contributes a paper with this title to the *American Naturalist* (Jan. 1, 1896, p. 17). "We are told," he writes, "that variation which is useful to the species is congenital or born of the union—or the amalgamation in varying degrees—of parents which are unlike each other. From the variations which thus arise, "natural selection" [as it is asserted by Neo-Darwinians], chooses those which fit the conditions of life and destroys the remainder. That is, individuals are born unlike and unequal, and adaptation to environment is wholly the result of subsequent selection."

It is the object of the paper to show that the variations in plants are largely, if not entirely, due to the action of the environment during the life of the plant, and if the environment be constant for generations, then the new characteristics thus acquired "after birth," may become fixed and hereditary.

Commencing with germination, most plants "start practically equal, but they soon become widely unlike. . . . It is the effort to adapt itself to circumstances which gives rise to the variation." Now we all know that no two individuals are absolutely alike, but slight individual differences will not account for "the wide divergences which may occur between the members of any brood before they reach maturity." It is important to bear this in

mind, for it is on such differences that Mr. WALLACE originally based his theory of the origin of species by means of natural selection.\*

That author, however, has lately drawn a distinction "between specific and non-specific or developmental characters."† The latter are those innumerable individual differences which occur between any offspring even from the same parent, because plants cannot grow with mathematical exactness, like crystals, which, whatever their size, have always their facets inclined at the same angle in the same mineral. It is only when some new forces are brought to play upon a plant—as by a new environment, especially that of an artificial soil and treatment, that variations in structure appear of a more pronounced character than the usual individual and inconstant fluctuations.

"The whole structure of agriculture is built upon this fact. All the value of tillage, fertilising, and pruning lies in the modification which the plant is made to undergo." In every crop of any kind it is seen that though the plants started equal, they remain equal or become unequal according to the nature of the soil, &c., for "we know that variations in plants are very largely due to diverse conditions which arise after birth."

"All these variations in land and other physical conditions are present in varying degrees in wild nature. . . . Dandelions in the hollows, on the hillocks, in the roadside gravel, in the garden—they are all different Dandelions, and we know that any one would have become the other if it had grown where the other does."

Besides the inorganic physical conditions of the environment, there is also the mutual effects due to the struggle for existence among the plants themselves, i.e., as seen in the necessary adaptations to be made to meet and overcome this struggle. Though many weaklings die, for many more seeds germinate than ever come to maturity, an interesting experiment of Mr. BAILEY's showed how many there were that survived on a limited area. "I staked off an area of 20 inches square," he writes, "in a rich and weedy bit of land. When the first observations were made on July 10, the little plot had a population of 82 plants belonging to 10 species. Each plant was ambitious to fill the entire space, and yet it must compete with 81 other equally-ambitious individuals. Yet a month later, the number of plants had increased to 86; and late in September, when some of the plants had completed their growth, and had died, there was still a population of 66. The censuses of the three dates were as follows:—

	July 10	Aug. 13.	Sept. 25.
Crab-grass ( <i>Panicum sanguinale</i> )	22	20	15
Black Medick ( <i>Medicago lupulina</i> )	16	17	15
Parslane	14	15	12
White Clover	12	11	8
Red Clover	9	11	8
Red-root ( <i>Amarantus retroflexus</i> )	4	4	4
Ragweed ( <i>Ambrosia artemisiifolia</i> )	2	2	2
Pigeon-grass ( <i>Setaria glauca</i> )	1	2	3
Pigweed ( <i>Chenopodium album</i> )	1	1	0
Shepherd's Purse	1	1	1
	82	86	66

As the number had increased by August, the question arises, if they had all grown bigger,

how could so many as eighty-six plants been maintained? In two ways: first, the plants were of widely different species of unlike habits, so that one plant could grow in a place where its neighbours could not. . . . The second and chief reason for the maintenance of this dense population was the fact that each plant grew to a different shape and stature, and each one acquired a different longevity; that is, they had varied, because they had to vary in order to live."

The value of this experiment, as far as the origin of species is concerned, of course, lies in the test whether any characteristics resulting from this struggle were "impressed upon the seeds for resurrection in following years," as Mr. BAILEY expresses it. To a large extent, we expect it will not be so, for Mr. BAILEY seems to refer to the manner and habit of growth, and does not describe any structural changes upon which varieties and species are founded. Thus many plants growing in a soft moist soil and crowded, grow erect; but in a dry, hot, barren, and rocky soil, they assume at once a prostrate habit. Or again, in a poor soil, plants are dwarfed as on the chalk downs, but elsewhere, the same species will grow tall, as, e.g., the stem of *Cnicus acaulis* will; so that survival and growth under the above-described struggle would seem to be more a matter of innate vigour, coupled with some temporary adaptation of habit to the circumstances under which each plant found itself to be. Still, the struggle for existence is one element of an environment, and there is no *a priori* reason why structural adaptations to it, if they occur, should not become relatively fixed, as in any other kind of environment. This requires testing, and we are glad to see that Mr. BAILEY proposes so doing.

Mr. BAILEY then tried an experiment with precisely similar cuttings of *Petunias*, growing them in pots, but treating them with various nourishing salts, &c.; the results were as follows:—

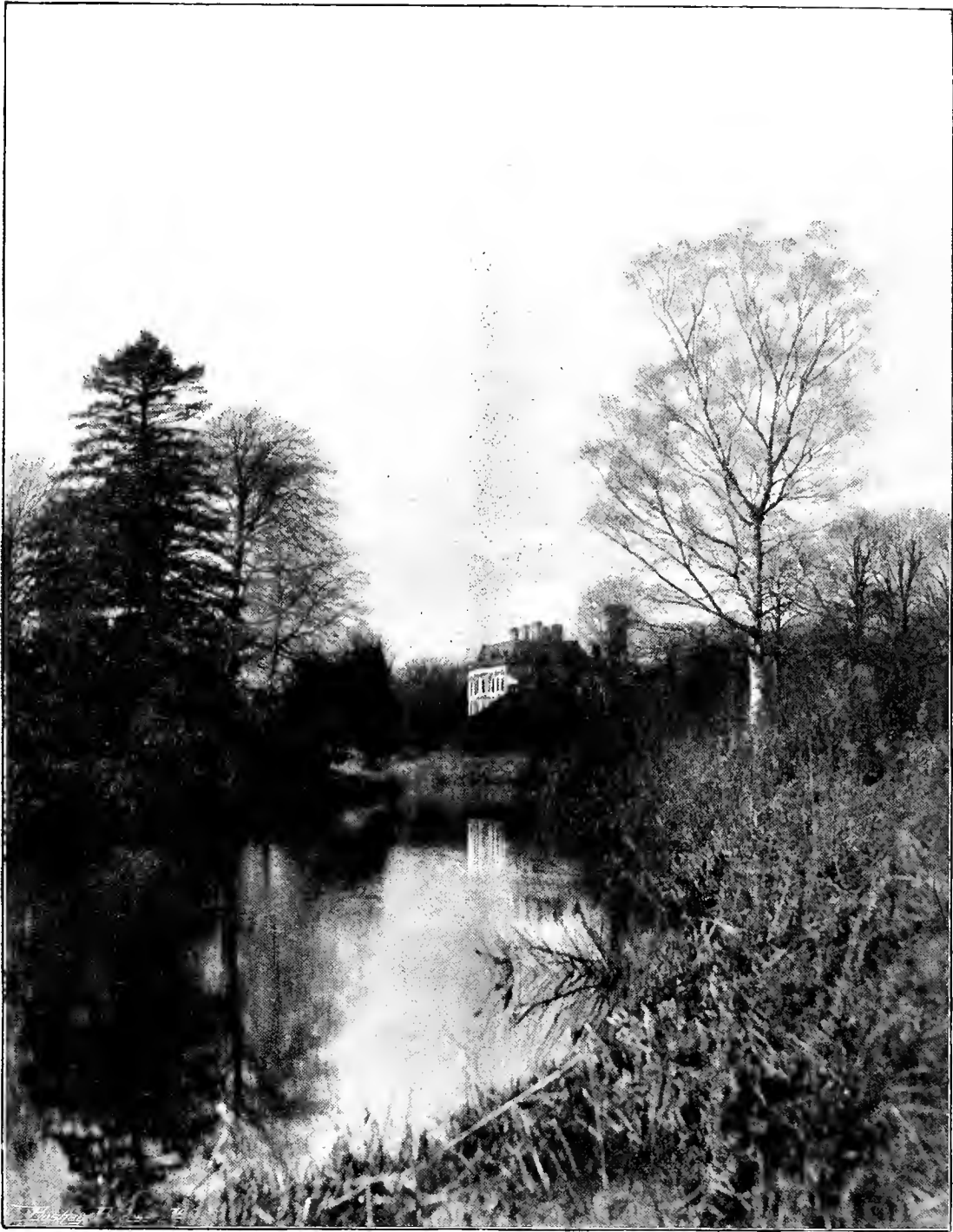
Check.	Phosphate of Potash.	Sulphate of Potash.	Phosphate of Soda.	Phosphate of Ammonia.
67 days	68 days	99 days	65 days	104 days
295 blooms	235 blooms	18 blooms	275 blooms	33 blooms

"Here is a variation of thirty-nine days in the time of first bloom, and of an average of fifteen flowers per plant, in asexual plants from the same stock, all of which started equal, and which were grown in perfectly uniform conditions, save the one element of food. But these or similar variations in cuttings are the commonest experiences of gardeners. Whilst some philosophers are contending that all variation comes through the sexual union, the gardener has proof day by day that it is not so. . . . Very many of our best domestic plants are selections from plants which are always grown from cuttings or other asexual parts." The author mentions a case of a new variety of Blackberry raised from a sucker of the "Snyder." In a previous paper he described the Apples of the United States, which varied according to the country they grew, though not raised from pips.\*

The evidence, in fact, is abundant and accumulative that "plants which start to all appearances perfectly equal, may be greatly modified by the conditions in which they grow, and the seedlings of these plants may show these new features in few or many generations;"

\* "The Plant Individual in the Light of Evolution" Address before the Biological Society of Washington, Jan. 12, 1895 (*Science*, new series, vol. i, p. 281. March 15, 1895).

\* On *Natural Selection*, p. 266  
† *Fortnightly Review*, 1895, p. 444



STRAFFAN HOUSE, CO. KILDARE, IRELAND. FROM THE BANKS OF THE RIVER LIFFEY.





the necessary condition being that the external conditions must be constant till the characters become relatively fixed. Such is the origin of new varieties in cultivation, and ultimately of new species in Nature. It is the method recognised by DARWIN, but thought by him to be exceptional and not a law of Nature, viz., by the direct or definite action of the environment through the responsiveness of protoplasm in the organism itself. DARWIN'S words are as follows:—"By the term definite action, I mean an action of such a nature that, when many individuals of the same variety are exposed during several generations to any change in their physical conditions of life, all, or nearly all, the individuals are modified in the same manner. A new sub-variety would thus be produced without the aid of natural selection."

**FLOWERS BY POST.**—Almost every family that takes an interest in flowers, and the decoration of their rooms, knows that most beautiful boxes of flowers are sent from the south of France and from Italy to private houses in this country, and it is acknowledged that cut flowers may be sent by post, and there is a special rate in Italy and France for sending them to this country, to Russia, and to Germany, and it is duly entered in the conditions of the Postal Union. Having occasion to send some hothouse flowers to Belgium, I applied to the local post-office, asking them under what rate they were to go, and they informed me that there was no rate and that there were no instructions in the *Postal Guide*. I then thought it would be as well to clear up the whole matter with the General Post Office, and I wrote to them on the 14th inst., asking them if they would inform me upon this subject, and I enclose you herewith a copy of their reply. Surely such a commercial country as England, which is now largely developing the cultivation of flowers under glass, especially Orchids, ought to be in a position to send flowers to the Continent at a similar rate to that at which they can be sent from abroad to this country. At the present time the only chance we have is to send them as "samples." The question is, "Is this a satisfactory arrangement?" T. W. Christy.

COPY.

General Post Office, London.—May 21st, 1896.

In reply to your letter of the 14th instant, I beg leave to inform you that it is the custom in France and in Italy, where there are large industries in cut flowers, and where there are found to be great difficulties in discriminating between flowers sent as samples by florists and flowers of trifling value sent by private individuals to their friends, to treat small boxes of flowers as samples of merchandise, and send them to England and other countries of the Postal Union at the rate of postage applicable to samples. In this country consignments of flowers are not regarded as samples, and are only transmissible by the letter post or the parcel post.

I am, Sir, your obedient servant,  
(Signed) H. BUXTON FORMAN.

**A RECORD NUMBER.**—We printed and circulated last week in the ordinary manner a larger number of copies than ever before during our fifty-five years' existence, not even excepting the special occasions when we have given supplements, as of *Windsor, Hatfield, or large coloured plates of as Roses and Lilies*. During the last few years the circulation, as the publisher tells us, has doubled.

**THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—We may remind our readers that the annual dinner in aid of the funds of this, the gardeners' own Institution, will be held at the Whitehall Rooms, Hôtel Métropole, this day (Saturday), at 6.30 for 7 P.M. The Earl of LATOON will preside. We earnestly hope that the Institution will largely benefit, and the fellow-feeling among the members of the craft be strengthened.

**ROYAL BOTANIC GARDENS, MANCHESTER.**—The flowering Thorns just now are quite a sight

along the promenades. Most of the trees are on clean stems 8 feet or more, and then bush out into considerable bulk. The vividness of the colours of Paul's Double Crimson, and the profusion of the umbels, might be equalled, but could not be excelled, and that, too, under the influence of town smoke. The scarlet Horse-Chestnuts are equally full of bloom, and present a profusion of Hyacinth-like spikes that one does not often see. The trees are all so shapely that they keep the eye lingering in admiration. The Gueldres Roses ranged along the side of the show-house are only plants about 6 or 7 feet high, but they are simply loaded with their bell-like trusses of greyish-white flowers. The Schizanthus, grown in pots in the houses, are one feast of lilac and white beauty, made up of pinnatus, papilionaceous, and Grahami. These are grand and cheap plants for furnishing, requiring only cool treatment to get them to perfection.

**THE DROUGHT.**—We are not the only sufferers. A Massachusetts correspondent writes:—"No rain for weeks, and the country is in a deplorable condition. The New England hay crop is ruined, and I do not remember to have seen pastures dried up before in May. Seeds do not germinate, and flowers are poor, and last but a short time. Altogether, for those who love gardens, the outlook is deplorable."

**PAULOWNIA IMPERIALIS AT VENTNOR.**—During the past fortnight the numerous visitors to this charming resort in the Isle of Wight have had the opportunity of witnessing the exceedingly pretty flowers of the Paulownia. Most of the trees we saw were growing in the small public park at the commencement of the Undercliff, but other and isolated specimens were noted in several of the gardens in the same vicinity. On most of the trees about a fourth of the shoots appeared to have been killed back a short distance during the winter, or the dead wood had not been removed last season. As the plant produces its blooms terminally from the old wood, any severe injury to the ends of the shoots during winter prevents them flowering, but the shoots not so affected were blooming well and quite strongly.

**MESSRS. SUTTON & SONS' NEW PEAS.**—Readers will be interested to learn that the fine exhibit of Messrs. SUTTON'S new Peas which was a striking feature of the Temple Show, was, by special consent, forwarded to Windsor Castle and placed in the Grand Entrance Hall, where it was inspected by Her Majesty the QUEEN on Friday, the 22nd inst. Messrs. SUTTON have received a letter from the Master of the Household conveying the thanks of the Queen for the beautiful Peas and Tomatos kindly sent for Her Majesty's acceptance.

**THE SACRED TREE OF KAM-BAM.**—Dr. DYER writes:—"I gave in *Nature* for March 5 last, a full account of this tree. The study of authentic material leaves no doubt in my mind that it is *Syringa villosa*, a Chinese species. I conclude my note with the remark:—"the phenomenon is not consistent with itself at different times. This confirms the opinion of M. BLANC, that it is an elaborate fraud." W. T. THISELTON-DYER, *Kew*."

**SCOTTISH HORTICULTURAL ASSOCIATION.**—On Saturday afternoon, May 23, the members of the association, to the number of fifty, drove to Hopetoun House, where, on their arrival, they were met by Mr. SMITH, the Earl of HOPETOUN'S head gardener, who conducted them through the well-kept gardens, deer-park, and pinetum.

**NATIONAL TRESPASS PREVENTION AGENCY.**—A Society has been formed with the following special objects:—The keeping in stock and prompt supply of suitable public and private notices for the use of patrons of the agency; the warning of local offenders, owners of trespassing stock, poultry, &c., direct from the central office; and the promotion of combined action throughout country districts to put down trespass and damage to property. The highly satisfactory results that have followed local

efforts in the Bristol district for the suppression of trespass and damage to property, &c., have led to the establishment of this agency, which gentlemen thoroughly conversant with the efforts alluded to, believe will prove of great service to owners of property, occupiers of land, and market-gardeners throughout the kingdom, and become in time a powerful influence against law-breakers. It has been clearly demonstrated that public notices, when displayed in the name of a strong combination of owners of property, have far more effect than when put up by an ordinary individual, and where the former course is adopted, an individual can prosecute as the member of such a combination rather than upon his personal responsibility. When neighbours exhibit similar notices upon adjoining lands, it is at once clearly understood by the lawless that combined and resolute opposition may be expected. When such notices are kept freshly put up, and not always in the same place, they are much more effectual than old, dingy, moss-covered notices that have appeared in the same position for years past. Private notices, warning offenders in the name of a strong combination, have also great weight. Such, at any rate, is the experience of a very successful growing local society at Bristol, with over 500 members, whose secretary will carry on this agency upon his own responsibility. A member of the society alluded to sold £55 worth of Mushrooms off his open pasture-fields in 1895, though living near a large city. Before having the protection of the society he had to employ men day and night to protect his crop. Police officials of high standing report a large decrease of petty larcenies, &c., in the district over which the notices of the society are displayed. At the last annual meeting, Colonel T. W. CHESTER MASTER said:—"He was exceedingly glad to hear the satisfactory report that had been read, and to find that they were an increasing body." Prevention being far better than cure, a bold and united front is the truest policy against law-breakers, especially in the neighbourhood of large populations. With the object of promptly supplying owners of property in any part of the country, stout line-backed notices, of suitable size (for nailing to trees, or pasting upon boards, &c.) have been prepared, and will represent the Agency in whatever part of the kingdom they are displayed. Mr. JAMES HUNT, 12, Hampton Park, Bristol, is the manager.

**PARIS.**—Just as the Temple Show closed, the corresponding exhibition of the National Horticultural Society of France began. The show was held in the Tuileries Gardens. Messrs. Lindens' Orchids, Moser's Azaleas and Rhododendrons, and those from Croux et fils, Vilmorin's Pelargoniums and Calceolarias, Vallerand's Gloxinias, and Leveque's Roses, were among the principal exhibits.

**ROSE SHOW FIXTURES IN 1896.**—The following additional fixtures have been kindly sent us by Mr. EDWARD MAWLEY:—June 24 (Wednesday), Richmond (Surrey); 27 (Saturday), Southsea; July 1 (Wednesday), Farnham; 14 (Tuesday), Westminster (Royal Horticultural Society); 16 (Thursday), Halifax; 29 (Wednesday), Chesterfield, this last has been changed from August 5 to July 29.

**OAK-APPLE DAY.**—In a reasonable article on "Royal and Notable Oaks," which appears in *The English Illustrated Magazine* for June, Mr. GEORGE CLINCH traces the history of many ancient customs associated with the Oak-tree. Of "Royal Oak Day" itself he says:—"The first anniversary appointed by Parliament to be observed as a day of general thanksgiving for the restoration of Charles II. was on May 29, 1665, and Oak boughs and Oak twigs were used to decorate the streets as well as for personal ornamentation upon every annual recurrence of the festival. WILLIAM PENDRILL, who had assisted in hiding CHARLES II. among the Boscobel Oaks, having died in London in 1671, was buried in the churchyard of St. Giles-in-the-Fields, and it became a regular custom for many years to decorate his tomb with Oak-boughs on this day. In fact, the wearing of Oak-leaves and Oak-apples, and the frequent use of

\* *Animals and Plants under Domestication*, vol. ii., p. 272.

Oak-boughs in the decoration of the village street, grew throughout the country with a spontaneity and a rapidity which suggest that there was a general and deep-seated prejudice in favour of the Oak. It is more than probable that 'Restoration Day,' or 'Royal Oak Day,' became to some extent confounded in the public mind with those festivities associated with May Day, which were so particularly marked by the use of greenery and floral decorations. One or two of the Royal Oak Day customs in various parts of the country are remarkably suggestive of May Day customs."

**ROYAL BOTANIC SOCIETY.**—The movement in favour of having musical promenades in the gardens on Saturdays, to be open to the public on payment of 1s., has entered on a new phase, as a guarantee fund is being formed to cover the expense of engaging a first-class band to play on six consecutive Saturday afternoons, commencing June 13 next. This proposal will be considered at the next Fellows' meeting to be held on the 30th inst. The meeting will be held in the society's gardens on Saturday, the 30th inst., at 3.45 P.M. *J. S. Rubinstein, Hon. Auditor of the Royal Botanic Society, 56, West Cromwell Road, S.W.*

**FERULA ASAFETIDA.**—The flowering of *Ferula Asafetida*, Linn., is rare enough to make it worth while putting on record. At the present time, a plant in the economic garden of Heer MARTEN BUIJSMAN, at Middelburg, Netherlands, is now in that interesting state. The name of the owner will be known to the readers of the *Gardeners' Chronicle* as the skilful preparer of dried officinal plants, and specimens for special study, under the title of *Herbarium Analyticum*, and this occurrence will doubtless be utilised for the preparation of specimens which are not easily made in the native habitat of the plant. The first record of this species flowering in this country will be found in our columns for 1859, June 4, p. 487, from plants which were raised from seeds sent home by Dr. FALCONER, and reared at the Edinburgh Botanic Garden. See also *Gardeners' Chronicle*, Nov. 23, 1878, p. 662.

"HERE LIES OLIVER GOLDSMITH: BORN 10TH NOV. 1728; DIED 4TH APRIL, 1774."—Some of the visitors to the Temple Show may have found their way to a court on the north side of the Temple Church, and there they may have seen the tomb of the author of the ever-memorable *Vicar of Wakefield*. Year by year, as we visit the show, we pay a little pilgrimage to this little Campo-Santo, hoping against hope to find that the authorities have placed a rail around the tomb, and saved it from the desecrations enacted by playful but heedless youth. Nothing is done to protect the tomb; and the effigy of the scholarly physician MEAD, close by, is also gradually becoming obliterated. This is a matter for the College of Physicians to see to; and the demands in each case are relatively so slight, that ere another Temple Show comes round we may hope—rather than expect—to see the necessary measures of protection carried out.

**SWISS NATIONAL HORTICULTURAL EXHIBITION.**—According to information kindly forwarded us by M. MICHELI, the ornamental gardens of the Parc des Beaux-Arts are entirely separated from the horticultural exhibition itself. This is concentrated in the Parc d'Agriculture, on the left bank of the Arve, while the arrangement of the Plaine de Plain Palais has been undertaken by a private individual. This is M. ALLEMAND, the well-known landscape gardener, who has included in his general plan of operations the planting of tall and moderate-sized trees, and the formation of numerous clumps of shrubs, masses of flowers, &c. The arrangements on the left bank of the Arve are made so as to allow of a continuous succession of exhibits during the continuance of the exhibition. The framework or basis of the exhibition is formed by the *concours permanents*, which comprise fruit trees, ornamental trees and shrubs, Conifers, perennials, &c. There is, further, once a month, to be a temporary exhibition open for a week, and devoted to the flowers, fruits, and vegetables of each season. The

greenhouses will be occupied during the whole of the exhibition, some by groups, constantly renewed and re-arranged, others by temporary collections. The two large tents are to be devoted, one to monthly congresses and cut flowers, the other to vegetables and market-garden produce. Roses will form an important feature of the exhibition. There is also to be a splendid collection, from M. FROEBEL of Zurich, of ornamental deciduous trees and shrubs, Conifers, climbing plants, perennials, &c. M. THIBAUT (of Chêne, Geneva) also sends a fine selection of Conifers, shrubs with deciduous and evergreen foliage, climbing plants, and others, nearly all the classes of open-air plants being represented. M. BOCCARD, of Geneva, has undertaken the embellishment of a portion of the grounds with large Conifers and other trees, such as are rarely seen at exhibitions. This is but a faint outline of the arrangements made, on an extensive scale, for the Geneva Exhibition. To describe the work in detail would take much space.

**PROFESSOR WILLIAM SAUNDERS**, Director of the Experimental Farm in Ottawa, has received the degree of Doctor of Laws from Queen's University for work done in advancing agricultural science, and for work of a similar character in connection with the Royal Society of Canada.

**CHESTER HORTICULTURAL SHOW AND FETE.**—A free horticultural conference in connection with the above will be held at Chester on the eve of the show (August 4), under the presidency of his Grace the Duke of WESTMINSTER. Papers relative to "The History of the Royal Horticultural Society of England," "Garden Craft," and the "Literature of Horticulture," will be read by Sir TREVOR LAWRENCE, the Dean of ROCHESTER, and F. W. BURBIDGE, Esq., respectively.

## STRAFFAN HOUSE GARDENS, CO. KILDARE, IRELAND.

[SEE SUPPLEMENTARY ILLUSTRATION.]

THE Kildare country is one of the richest and most fertile districts near Dublin; indeed, for its hunting and agricultural and pastoral character it might almost be called the Leicestershire of Ireland. St. Patrick is identified with the Boyne Valley and Royal Tara, in the fertile county of Meath, while the Lady-Saint of Ireland, St. Brigid, was more closely connected with beautiful Kildare. Here she had her oratory and school or college under a giant Oak tree, and many are the local traditions and songs still extant as to her enlightened and beneficent ministry. The main river is the Liffey, which springs up at the base of the Kippure mountain, and steals away from its source as a mere rivulet through a lovely glen of the same name. The spring itself is near the ancient church of Kilbride, or church of St. Brigid, who founded many religious houses here in the fifth century. The old cathedral at Kildare, recently restored, contains the burial-place of the Earls of Kildare, and at least one of the Dukes (Robert) of Leinster is buried here. In a small chapel the sacred fire was kept perpetually burning until extinguished by Henry de Londres in 1220, and when rekindled soon afterwards, it remained constantly tended and alight until the Reformation. There is also a round tower adjacent to the church, and the river Liffey, after being swelled to a considerable size, passes through co. Dublin, and through the city itself, and empties its waters into Dublin Bay.

Straffan House stands close to the river, and the lower lawn and the island adjacent are not unfrequently overflowed when it breaks its boundary banks after snow or heavy rains. The place has long been in the possession and occupation of the Bartons, and is now renowned for its fertile farms and well-managed gardens. Our illustration, from an original photograph specially made for us by Mr. John McLeish, shows the house as it stands up boldly on a raised plateau above the banks of the stream, and surrounded by fine trees, amongst which Beech, Lime, and Oaks predominate.

The extensive gardens are naturally beautiful, and are kept up for use as well as for their aesthetic charm, and the present owners, Major H. M. Barton and the Hon. Mrs. Barton, have long and persistently enriched the various collections, and welcomed real garden lovers within their gates. Apart from the usual garden plants here met with under the best of cultural conditions, there are also many that possess a personal interest, as having been collected abroad, and introduced by the owners themselves. It is to the Hon. Mrs. Barton, for example, that we are indebted for the original living bulbs of *Narcissus Bernardi*, from the slopes near Gavarnie; *Asplenium fontanum*, and a very distinct white *Hepatica*, also from the Pyrenees; the giant *Orchis latifolia*, from Kilmarnock; the dark, rich form of *Anemone Pulsatilla (montanum)*, from Royat, and others, are only a few of the personal introductions to Straffan.

Straffan, like all other good gardens, is instructive, every day throughout the year. All things useful and beautiful in the way of plants are valued and grown. There are Orchids, stove and greenhouse plants, Ferns, Palms and Nephthes, bulbs and aquatics, and hardy flowers in abundance everywhere. There are two flower gardens, both more or less formal ones, that are a pleasure to see, spring, summer, or autumn, so varied are their contents, so rich and satisfying are their masses and groups of vivid colouring. Here a patch of some old tuberous-rooted *Begonia*, or of the soft yellow *Calceolaria amplexicaulis*, *Fuchsias* and tufted *Violas*, *Heliotropes*, *Verbenas*, *Mignonette* or *Pelargonium*, selected for its general fitness or for its unique shade of colour, and not because it is rare or costly; and yet rare plants are here, and the best plants of *Begonia Veitchii*, *B. boliviana* and *B. rosadora*, and *B. Pearcei* (types), I ever saw were here in this garden.

Growing along with *Masdevallias* and *Odontoglossums* in a cool house, you find a pot of *Narcissus*, *Cyclamens* with twenty or more blooms; the rosy-salmon plumes of *Carex scaposa* are seen side by side with a pot of seedlings of *Ramondia pyrenaica*, or *Sophronites grandiflora*, with its fifteen or twenty scarlet butterfly-looking blooms. *Vanda Sanderiana* has flowered here, so also *Eulophiella Elisabethæ*, and the great *Oncidium macranthum*, with its quaint lip, shaped like a fox's head. Here is *Erpetium reniformis*, the "New Holland Violet," beside the coral-berried *Nertera*; there the "Lady Tulip" of Clusius, or the "Peacock Iris," is spreading its petals out in the sun; *Disa grandiflora* in various forms is as happy here as I ever saw it anywhere; so also the rose-crimson and white forms of *Lapagerias*, which last year were covered with ripe fruits in September, owing probably to the visit of the hawk-moths, or other insects on nectar bent.

*Anthurium Veitchii* here bears leaves about 6 feet in length by 15 inches or more in width, looking for all the world like Zulu shields of crinkled and crumpled hide; and a plant of the South African Blood-flower (*Hemantus Katherineæ*) bore nine of its gigantic orange-red-flowered spikes amongst its undulated apple-green leaves, and was photographed in all its glory.

But apart altogether from things rare or common, hardy or tender, brilliant or sombre, there is at Straffan a welcome extended to all sweet and fragrant flowers. You see the common white *Jasmine* spurred-in like an old Grape-vine on the walls, the result being plenty of long flowery-tipped shoots for cutting. In depth of winter *Chimonanthus* expands its odorous wax-like bells, and there are whole frames full of the dear old scented *Pelargoniums* and *Diosmas*, and *Myrtles*, of our great grandmother's days.

Then in the wintry days there are the crimson Dogwood, and Golden and Cardinal Willows, and Silver Birch, and yellow Reeds beside the swollen river, all aglow with rich and subtle colouring. Even on a dull winter's day there is a suffusion of warm colour suggestive of sunshine. One of the sights to see at Straffan, however, early in the new year is the Snowdrops spreading in dense masses beneath the red-twigged Lime trees as we shall illustrate on another occasion.

Daffodils, as a rule, grow very luxuriantly, at

Straffan, as also does *Iris reticulata* in a bed specially prepared for its reception with peat, sand, and cocoanut fibre. A small bed of this *Iris* bore no less than 600 flowers at the same time during the past season. All sorts of herbaceous plants, and most shrubs and flowering trees do well in the deep, rich, holding soil at Straffan. Roses are especially beautiful, of many kinds. *Rosa polyantha* forms cascades of its tiny white flowers, as also do many other of the old climbing or pillar roses, and all the best of the hybrid Sweet Briars have recently been added to the Rose garden.

There is much to see and admire at all times in the greenhouses and fruit-gardens, and at few other places in Ireland is fruit better grown, or more refined in quality and flavour than it is here. Lying low near the river, spring frosts are very severe, but, on the whole, fruit of all kinds does well. Apples, Pears, Plums, Cherries, Strawberries, Peaches, and Grapes are alike of excellent quality.

One may safely say of Straffan, that the gardens are of a thoroughly well-managed, all-round character; and having known the place for nearly twenty years, I may say that I rarely if ever visit a place with more genuine interest and instruction. *F. W. B.*

## HOME CORRESPONDENCE.

**RHUBARB.**—The accompanying particulars of a stick and leaf of Rhubarb which we pulled here yesterday may be of interest. Width of leaf, 45 inches; length of stalk, 18 inches; circumference of base of same,  $8\frac{1}{2}$  inches; round upper end,  $7\frac{1}{2}$  inches. The plant is one I have had for twelve years, and have had it now in four successive gardens, moving the plant with us. Its character is green stalk and flesh, with a very thin skin; and the leaf is heart-shaped. There is very little fibre in the stalk. The one gathered is the youngest but two on the plant, the two new ones being only slightly smaller. *Charles E. Powell.*

**EFFECTIVE AND TELLING FLOWER-BEDS.**—The following mixtures can be recommended. A bed may be thus planted:—1st row, dwarf Fuchsia, with purple corolla; 2nd row, standard Fuchsia, 3 feet high, Rose of Castille; 3rd row, standard do., 5 feet, dark corolla; 4th row, standard do., 7 feet, Lord Beaconsfield; centre Fuchsia, 9 feet, corymbiflora. Ground-work of the beds should be either Ivy-leaved Pelargoniums, Violas, or tuberous Begonias. The Fuchsias should not be massed very closely, but space allowed to admit of their being seen to advantage. Another bed may be planted with *Petunias* of a light striped kind, the shoots being pegged down; standard plants of *Coleus Verschaffeltii* dotted evenly over the bed, and an edging of *Viola Countess of Kintore*. A Begonia bed, to show the plants to perfection, should be raised in the centre and sloped off to the sides, flat beds of Begonias being not at all telling. Much may be done with Begonias for bedding purposes, but it requires some amount of skill to place them to advantage. A very effective pyramid 5 feet high may be made of *Tropæolum Mrs. Tredwell*; these pyramids placed in their proper places on lawns, or between flower-beds, relieve the flatness, and are very telling. *Edw. Bennett, Queen's Road, Egham.*

**THE TEMPLE SHOW.**—Your criticisms on the lack of novelty found in both the material and the arrangements of these shows are undeniably correct. Everyone realises that there is exceeding monotony, and this monotony doubtless largely accounts for the apparent listlessness which seems to characterise the visitors. Somehow, so far from having languid interest aroused by any speciality or novelty seizing their attention, the general desire seemed to be to get outside the tents and listen to the music. The council are of necessity hampered in their arrangements of the tents and exhibits by the conditions imposed upon them by the Benchers of the Temple, hence it seems difficult, if not impossible, for them to do more than they do at present. Still, that fact should not deter those enterprising exhibitors, who practically furnish the show, from striving to carve out some new methods of displaying their products. The general fault, of course with an eye to business, is endeavouring to show too many things, of making their groups of exhibits too bizarre, and in this

sort of arrangement failing to create any sort of sensation or effect that would "catch on" and command notice. The elimination of the element of competition doubtless also is promotive of lassitude; when competition exists everybody, as a rule, wants to see the winning collections. In the present case, with so much of sameness, interest is soon killed. Now that everyone is familiar with the form of the annual show, with the space usually at disposal, and place customarily allotted, is it too much to ask that, so far from leaving everything to chance as to what sort of a collection of stuff may be made up for the occasion, that rather some efforts be made at once to provide special exhibits that shall have the merit of being new, or novel, or attractive, or something out of the common, and thus make a mark, for which all attending the show would feel grateful? Whilst plants and cut flowers must ever in the month of May occupy the greatest prominence, I saw the other day how possible it was in some directions to show that fruit and vegetables may form attractive features. Mr. G. Bunyard's collection of Apples constituted for the time of year a wonderful feature; but they would have attracted much more attention had they been flanked with a collection of imported Apples, if but to show to the people what can be done at home in Apple production and storing as compared with what our colonies can send us. Vegetables were abundant and good, but covered too much ground in small quantities. With these, again, we want to be able to compare home produce with that sent us from warmer climates. In that respect, I am not sure whether Messrs. Sutton & Sons' wonderful collection of Peas in pots would not have attracted greater attention if forming one group, and had by their side examples of both home-grown outdoor Peas, and similar examples of the best imported also. A suggestion made to one of our best growers in relation to one fruit will, I hope, be taken up and acted upon with success. If that be so, then there will be presented a most striking feature another year that will certainly arrest attention. No doubt many other suggestions in the direction of improvement will be offered, but there can be no doubt carrying them out lies more with exhibitors than with the society. One small collection of vegetables, quite remote from all others, and in preparing our report of the show last week overlooked, was staged by Messrs. J. Carter & Co., of High Holborn. It was composed of Potatoes labelled First Crop, Telephone Peas, and Longsword Dwarf Beans in heaps, Duke of York Tomatoes, Syon Leeks, Victoria Spinach, and Earliest-of-All Cucumbers. The Potatoes were International Kidney, the Beans Canadian Wonder. *A. D.*

**IRIS.**—Can you tell me why my Irises have all gone the colour of the enclosed specimen? They were originally dark purple, but each year the number of dark flowers has become fewer, and this year I had only about a dozen dark flowers; they came out about a fortnight before the others, the later ones being all light-coloured. This year I had a large clump split up to see if it would make any difference, but it has not done so. Of the two spikes enclosed, the one with the two flowers is from an old clump; the single flower is from one of the transplanted. It is about six years since they were first put in the ground. They blossomed well for two years, and then began to change colour in one clump, and it has gradually spread to all in the garden. *A. M. Young.* [A case of reversion, more interesting to the physiologist than to the gardener. *ED.*]

**CAMPANULA REGINA.**—I was much interested in the editorial note (p. 648), on a plant to which the above name is given, apparently on the authority of *Nature*, though I have not seen the report in question. One thing, however, is clear. I believe somebody has made a synonym for a plant described only last year! It struck me from the context that it might be the *C. mirabilis* of Alboff, and on turning to his *Prodromus Floræ Colchiæ*, p. 158, t. 1, my suspicion was confirmed. Doubtless, the error arose through the author's observation: "*planta speciosissima floræ Abchasie regniæ.*" From looking at the plate and reading the description, one would hardly share either the author's enthusiasm as to its beauty, or his opinion as to its singularity. It is certainly a pretty plant, bearing a profusion of lilac flowers less than  $1\frac{1}{2}$  inch in diameter, and similar to those of *C. Mediana* in shape. *Campanula mirabilis* is apparently a biennial having a large tap-root, a rosette of spatulate radical leaves, and a dense, pyramidal growth above-ground

about 15 inches high. Mr. Alboff describes it as: "*Species magnifica mirabilis, radice crasso danci-formi, foliis rigidis pergameis circumcirca pellucidospinulosis, &c., irasignis.*" And he adds:—"Affinitates in flora orbis terrarum contemporanea omnino desunt in flora fossili inquirendæ." I must repeat that I see nothing indicating such remote affinities. The Central Asian genus, *Ostrowskya*, figured in the *Gardeners' Chronicle*, July, 1888, p. 65; and in the *Botanical Magazine* for the present month, is beyond comparison a remarkable plant. I may add that Mr. Alboff describes and figures in the same work a very singular and distinct new species of *Gentiana*, *G. paradoxa*, having narrow, verticillate leaves, and large terminal solitary flowers. *W. Botting Hemsley.*

**NARCISSUS WITH DOUBLE FLOWERS CHANGING THEM TO SINGLE ONES.**—Reading my *Gardeners' Chronicle* of to-day, I observe your enquiry on behalf of "Scrutator," and in reply beg to say I have known the Double White Narcissus, when grown in bulk out-of-doors, develop single flowers in lieu of double. This circumstance occurred last spring in my garden at Soudon, Isle of Wight, and I was very disappointed at the fact. *Thomas Langston.*

**THE BOLTING OF CABBAGES.**—Has the time of sowing seed of Cabbages any relation to the tendency to bolt, of which some writers complain? and does the methods of seed-saving influence in any way the bolting of Cabbages? were the two questions I put to Mr. Alfred Johnson, of Boston, recently. Not only is the Boston district famous for its breadths of Cabbages, but Mr. Johnson, as a large grower for seed for many years past, has had considerable experience of the plant. He said there did undoubtedly exist an old-fashioned practice of sowing Cabbage seeds at certain times, and in the case of Cabbages for market, the first sowing was made the first week in July, advantage being taken of rainy weather to do so; another sowing was made a week after, and then another at an interval of a week or ten days. He thought the modes of treating the plants for seed had more to do with the tendency to bolt than the time of sowing. The practice he adopted was to go over the fields of Cabbages as they hearted, and all the earliest that were true to the type were staked, and anything inferior in character pulled out. The heads of Cabbages are cut, and by October the stumps have put forth a few sprouts, three or five or so; then the marked stumps are lifted, replanted in trenches in a slanting position, with just the tips of the sprouts above the ground, and these grow, bloom, and bear seed. Seed so obtained very rarely produced bolters, but the practice adopted by some of sowing the seeds in drills, thinning-out the plants, and leaving the others to run to seed without hearing, does, in Mr. Johnson's opinion, lead to a tendency to bolt in the seedlings obtained from seed so saved. That the time at which the seeds are sown may operate to promote or prevent bolting, appears to have gained some substantiation from a trial in successive sowing made by Messrs. Hurst & Son, a few years ago. Seven sowings were made at an interval of a week, five in July, and two in August; an equal number of plants of each were planted out, and in the spring following it was found that the smallest percentage of bolters was in the sowings made about July 25, and August 2; the largest percentage in the two earliest sowings. *R. D.*

**POND WEED.**—I should feel greatly obliged if any of your readers, can give me any advice as to how to stop the growth of the common filmy green weed in a pool of water in my garden. The pool is about 28 feet long by 17 feet broad, and a fountain of spring water flows into it at the rate of at least 3000 gallons daily, so that the water is constantly changing. The pool is formed of concrete, but is covered at the bottom and sides with rough stones and rocks to hide the concrete, I lately had it emptied and all the stones, &c., washed with weed-killing solution, but in a fortnight's time there are again signs of the slimy green weed. The water comes in iron pipes from deep springs. I have planted Water Lilies in the pool, but, if necessary, could remove them. *A Constant Reader of the Gardeners' Chronicle.*

**PRIMULA SIEBOLDI IN THE REGENT'S PARK.**—Mr. Jordan is to be congratulated upon the success which has attended his employment of *Primula Sieboldi* as a bedding-plant in the Regent's Park. Planted on a raised narrow border, it has grown vigorously, and is now blooming abundantly. The species lends itself to this particular use; the foliage is strong and erect, the flower-stems stiff and upright, and the



flowers stout in substance, and well displayed. In these respects it presents a marked contrast to many of the seedlings obtained from it, as with but few exceptions the blossoms are much cupped and curled, and too thin in substance to be of any value for outdoor work. Thinness of petal is a prevailing fault with many of the newer varieties, and it has no doubt resulted in a great measure from the use of imperfect varieties as seed-bearers. It would be well if someone would take the best varieties in hand, and commence cross-fertilising again. Queen of Whites, Gem, pale mauve and rose; General Gordon, soft pink; lacinata, bright magenta-crimson; purpurea, purple; and Mauve Beauty, pale mauve, would be a good half-dozen to work upon, the type being also included. There is so much room for improvement, and such a need of bright deep colours, and especially of violet, and shades tending to blue, that it is to be hoped some enterprising florist will make a move in the direction indicated. For some reason, P. Sieboldi and its varieties have not received the attention they so well deserve; and it is to be feared that some of those who have attempted to cultivate them have mismanaged the plants after blooming. The varieties are all deciduous, and the roots are in the form of creeping rhizomes, and it is to be feared that when the plants have done flowering, they have been sadly neglected. They should be stood in a frame or on an ash-bottom, in a cool shady spot, and be closely looked after in the matter of water. If neglected, and the soil is allowed to become dust-dry, and to remain so, the roots become shrivelled up and perish. But if carefully watered as required, and especially sprinkled overhead, the pots kept clean of weeds, and worms prevented from finding their way into the pots, and loosening the soil about the roots, there is no reason why the plants should not be preserved in good condition till October, when they should be re-potted into a compost which will suit the Chinese Primrose, and wintered in a cold frame, covering up somewhat during a time of severe frost. R. D.

**CYTISUS SCOPARIUS VAR. ANDREANA.**—In March, 1893, I purchased a small plant of the above from Mr. Ware, of Tottenham, and immediately planted it in a border, the soil of which consisted chiefly of well-rotted turf from an old pasture. The plant grew very well, and had a few blossoms, which produced some seed-pods. The yield, however, was only three seeds. These were planted at once, but only one plant was saved. This seedling was kept in the conservatory during the winter of 1893-94, and in March it was planted in the same border as the parent. It grew vigorously, but did not flower. During the great frost of January and February, 1895, the original plant was killed, with the exception of its main stem, while the seedling remained quite uninjured, and during the remainder of last year attained a height of 5 feet, and as much through it at 4 feet from the ground. On account of its vigorous growth, as compared with the stunted condition of the parent plant, I imagined that it had reverted to the common Broom, and my gardener was very nearly digging it up; but I decided not to have this done until it had produced a flower. About a month since I was agreeably surprised to find that its flower would be the true variety *Andreana*. Having observed that the original plant had been worked upon some stock other than the indigenous Broom, I wrote to Mr. Ware for some information respecting it, when he replied that it had been worked upon the *Laburnum*. During the last week the seedling has come out loaded with bloom, and at the present time it cannot have less than 10,000 flowers upon it, which renders it a very striking and beautiful plant. I am of opinion that its seed will again produce the true C. s. a., in which case it will not be necessary to continue grafting it upon another stock, which, I believe, is generally the custom; moreover, it has shown itself more hardy upon its own roots. I should be very glad to see an expression of opinion upon this point in the columns of the *Gardeners' Chronicle*. C. Lecson Prince, The Observatory, Crowborough Hill, Sussex, May 21.

**A FINE WISTARIA CHINENSIS.**—At the south end of the mansion in which the Right Hon. S. H. Walpole resides at Ealing, is a very fine *Wistaria*, covering a great space. The specimen was planted in 1844, and now at 18 inches from the ground the trunk measures 5 feet in circumference; the topmost shoot has reached a height of 65 feet from the ground, and the branches have spread to a considerable distance on to the west and north fronts of the mansion. The south wall of the mansion is of considerable width, and the branches thus cover a

considerable area. At about 16 feet or so from the ground, immense main branches are put forth, and for some reason in past years this portion was kept free from growth. Mr. Rigden, who is now the gardener to Mr. Walpole, has very wisely allowed the branches from the main trunk to spread, and they now cover every space of the south wall. Every year Mr. Rigden prunes-back hard to the spurs, but neither age nor severe pruning affects its great floriferousness, while the racemes are very large and finely coloured. It is in all probability one of the first specimens, probably the first planted in Ealing. R. D.

**TYPHA MINIMA** is flowering for the first time at Markree Gardens. It was planted in its present position about nine years ago, and until this year it has never flowered; therefore, having arrived at its flowering stage, it is regarded as something novel. The position afforded a clump of the above is a damp one in the centre of the rockery, but I observe that it is growing between the rocks to a higher level, and seems to enjoy its drier root-run. I need hardly say, in a growing state it is graceful and pretty, and in a cut state, highly decorative, especially now we can add a few of its brush-like spikes of growths with the current year's growth of leaves, as you will observe the flower-spike is situated immediately behind the current year's growth, according to specimen sent. Is it a shy-flowering plant in other places? or does it require less moisture at the roots than ordinary *Typhas*, such as *T. angustifolia*, which thrives in a stream of fresh water? I am inclined to think a moderate supply of water suits it best. *Herbert May, Markree Gardens, Collooney, Sligo, Ireland, May 23.* [How does it differ from *T. angustifolia*? Please send piece of the latter for comparison. Ed.]

**FIMBRIATED BEGONIAS.**—While for years past raisers of new varieties of *Begonias* have been endeavouring to secure circularity of shape and smoothness of the petal-edges, the new fimbriated type, which Messrs. Laing & Sons, of the Stanstead Nurseries, Forest Hill, exhibited at the Temple Show, comes as a kind of protest against an adhesion to the old practice. They were welcomed by many as an acceptable break from the monotony of the smooth edges, and there was a peculiar attractiveness in the four varieties exhibited on this occasion; and probably had the blossoms of all four been fully developed, more than the one award would have resulted. That selected for an Award of Merit was *Duchess of Fife*, pale pink, the fringed edges to the petals being of a pale rosy-carmine—very pleasing indeed. The only other individual of the quartette which was named was *Laing's White*, which, with its companions, the salmon and pale rose flowers, will probably be seen again in a more matured form. But only a comparatively few other flowers can be said to be in their best form when the petal-edges are fringed, the Chinese Primrose being one conspicuous example. R.

**A PLAGUE OF MICE.**—If W. E. G. will send his address to the Head Gardener, Tasburgh Hall Gardens, Norwich, he will send him a trap that will catch them with very little trouble. *J. Scarlett.*

**RICHARDIA ELLIOTIANA WITH ABNORMAL FLOWERS.**—We have now (May 26) a plant of this species with two spathe around one spadix, both spathe being perfect in shape and colour, the inner spathe the smaller of the two. Can any reader of the *Gardeners' Chronicle* say if this is a rare occurrence? [Very common in the white species. Ed.] A. Reid, Jun., *Passingworth.*

**GEUM HELDREICHII.**—A plant bearing this name has just come into commerce, said to be from the Mysian Olympus. Can anyone tell me where I can find its characters described? I purchased two plants of it together last autumn from the same nursery. Both are now in flower. One is *Geum rivale*, pure and simple, without any mistake. The other in leaf, habit, stature (1 foot), size and form of flower, resembles *G. pyrenaicum*, but the flower is orange instead of yellow, and the sepals are entirely reflexed at opening, which is not the case in *G. pyrenaicum*. C. Wolley Dod, *Edge Hill, Malpas.*

**ROYAL SOVEREIGN STRAWBERRY.**—On paying a visit to the gardens of Herbert Harris, Esq., Bowden Hill, Chippenham, I was struck with a grand lot of Royal Sovereign Strawberries, in pots, averaging eighteen large fruits of good colour, and the flavour good, although, to my mind, it is not equal to that of President. Mr. Penton intends to grow this Royal Sovereign largely another year, as it is such a good doer

and well worth the attention of all gardeners who have to furnish forced Strawberries. F. P.

**LONDON IN MAY.**—In Regent's Park the Chestnuts on the Broad Walk are [were at the time of writing] in their prime. Of course there are more in Bushey Park and other places of these matchless caudelabras of beauty, as they have been finely called. But the Chestnuts here are without a speck or flaw, and look all the richer in contrast with the Elms and Limes, that add this special arboreal furnishing to the Broad Walk in May. Lilacs, Laburnums, Gueldres Roses, Rhododendrons budding into beauty rather than in full blossom, will be better seen when the glory of the Chestnuts is faded. Before, however, leaving the Broad walk, a sentence must be given to the muster of Tulips, in which it may be said to culminate at the far end. This bed of the soft and elegant Tulip *Gesneriana*, a lovely blend of cerise and violet, proves that mass may be as effective as might; the colour is the more welcome after gloating over the whites and greens of the Chestnuts. Here, too, were two other lions of the Park. Two huge vases, one furnished with Wallflowers, seldom elevated so high, but very telling from this point of vantage; and the other with a dwarf white Rhododendron, probably campanulatum, the white of which were simply magnificent. Amid all the arboreal beauty of these fine gardens there is yet room for greater variety of silver and other Maples, and Birches, purple and other Beeches, and the purple *Prunus Pissardi*. One of the striking sights of these gardens through May is the massive and wholesale use of the here perfectly hardy *Primula Sieboldi*. It is scarcely possible to describe its beauty, and yet, so far, I have not met with a single plant of this type or its many choice varieties in any other park or garden this year. Of course, the golden and varied show of Daffodils, the glow of Tulips and other bulbs, are almost over and gone for the season. On entering the gardens from Portland Road, the wood Hyacinths, white and other Narcissus in the grass, are still to the fore on a scale of imperial prodigality worthy of their beauty and the wealth and taste of the nation. Mixed Polyanthus of many forms and colours were also seen, while the whole gardens may be said to be bathed in the fragrance and painted with the beauty of Wallflowers and Stocks. D. T. F.

**DUTCH NAMES FOR TULIP SPECIES.**—I suppose we shall very soon hear of a conference to settle the confusion with regard to Dutch names that have been given to species of Tulip, and English names that are now given for old garden varieties. The sooner the better; and if we can trace back through hand-painted illustrations, the old garden sorts now being brought to the front, the names they had and were known by fifty years since should have the preference. I remember the old goblet-shaped *Gesneriana* forms, known as Silver Queen, York and Lancaster, &c. What are now called *Bouton d'Or* and *Golden Beauty* used to be known as *Buttercup* half-a-century since. This was before the rage for straight lines of bedding plants, such as *Lobelia*, *Calceolarias*, &c., caused them to be put in the rubbish-heap. The nomenclature of the regular florists' Tulips has been well preserved both in Holland and England, but in the case of self-coloured late varieties there will be only confusion if the Dutch and English traders do not come to some terms respecting names. For instance, I would suggest that what is sold in Holland as *Gesneriana major* should be called by its correct name, as it is known at Kew, viz. *Tulipa Gesneriana spatulata*. The true *Gesneriana* forms as follows, must retain their Latin names: *T. Gesneriana major rosea cœrulea*, blue based; *T. Gesneriana major rosea albo-cœrulea*, blue and white based; *T. Gesneriana major rosea albo-oculata*, white based; *T. Gesneriana major rosea striata*, blue based with striped flowers. The three latter are deliciously scented after the manner of *T. macrospila*, and the five forms are quite distinct as self-colours, yet, if you write to Holland for stock of one or other, you may get the very one you do not want, or you may get the entire lot in endless confusion and mixed. Just as in the case of *T. macrospila*, this lovely bedding sort will reach you in two mixed forms of major and minor, while from many of the Dutch nurseries both will be sent you as *Gesneriana major*, &c. All are beautiful objects when planted in large beds, as those lately seen in Hyde Park, &c. In the case of *Tulipa Golden Crown* and *Golden Eagle*, Mr. Baker regards them as forms of *Billettiana* [Didieri?]. They are known in Holland simply by confused names of one for the other, and when they come to England have already got new names. This will not do. It will only produce confusion. *Lauhart.*

WIDFORD LODGE,  
CHELMSFORD.

In gardening circles the name of Robert Warner calls up many noteworthy reminiscences. What Orchids his were! What pluck he manifested when in 1867 he upheld the honour of British horticulture at St. Petersburg! There are not many even now who would venture, as he did, to transport so fine and valuable a collection to and from the banks of the Nova. Thirty years ago or so the *Cattleya* and *Lælia*-house at Broomfield was a sight to be remem-

practice now, many other fine things were first bloomed; and among other now rare plants may be mentioned the large specimens of *Cypripedium Fairieanum* which came from the Fairie collection at Liverpool, and which used to be grown at Broomfield with *C. insigne*, which were kept cool, and even placed in a cold frame in a sheltered situation outdoors in summer where the plants had scant attention. Probably the difference in the robust condition of the plants so hardily grown, and the puny condition of the *C. Fairieanum* now in collections, may be accounted for by the coddling to which they, in

and so well screened that not much of them is seen even from the garden. A straight woodland walk, overhung with trees and bordered with Daffodils and wood Hyacinths, intermixed with Ferns, runs parallel with one of the roads. A similar walk on the other side divides the lawn from the kitchen garden. In every direction may be seen large beds filled with Roses, and Narcissi, Pyrethrums, and Blue-bells. Wallflowers and herbaceous plants generally. What can be the necessity for all this vast quantity of flowers for cutting? one is tempted to ask, till the reason occurs to us that Mr.



FIG. 114.—GROUP OF CARDINAL AND EARLY RIVERS' NECTARINES. (SHOWN BY MESSRS. RIVERS AT THE TEMPLE SHOW.)  
(See Report, p. 650, in issue for May 23.)

bered. There might be seen dozens of large specimens of the best class of *Cattleya Mossiae*, each bearing twenty to forty or more flowers; there appeared by the dozen forms of *Lælio-Cattleya elegans* and *L. C. Schilleriana*, one section of the strain giving material for that fine form figured in *Warner's Select Orchilaceous Plants*, i., t. 6, as *Lælia gigantea*; there *Cattleya Warneri* first appeared in 1860, when larger masses of it probably than can now be found, either in its native habitat or in cultivation, bloomed and caused quite a sensation among orchidists. In this long *Cattleya*-house at Broomfield, which was a rather flat lean-to, often swept by the winds of the Essex levels, and which was kept cooler than is generally the

common with other rare plants, are now too often subjected.

In the olden time the house with ornamental water in the centre, besides which seats were placed at one end, used to be adorned with a selection of whatever Orchids happened to be in flower, and many a brave show was made there which would cause modern Orchid growers to open their eyes. In more recent times the collection from one cause or another has been much curtailed.

Mr. Warner's present residence is, like his former one, in the close vicinity of the town of Chelmsford. The surface of the garden is flat, bounded on two sides by public roads, invisible from the house,

Warner and his family look upon themselves as trustees for the poor and the sick, and bounteously share their possessions with those not so well provided with the amenities of life. Some of the London hospitals are regularly provided from this garden, and who can gauge the pleasure, the hope, the trust these flowers may serve to elicit?

The lawn to which we return is spacious, bestrewn with flower-beds, not as yet filled with their summer occupants at the time of our visit (May 15), and some not yet devoid of their spring tenants. Mr. Warner shows himself a true gardener. "Look at that bed of *Rhododendrons*—my seedlings," says he; and a similar remark is made with *Carnations*

and Pansies, and even Apples and vegetables. Mr. Warner, indeed, in horticultural matters remembers St. Paul's injunction to "prove all things, and hold fast that which is good," for his eye is still keen, and his judgment good. On the lawn are two specimens of *Chamerops Fortunei*, which have been out all the winter; but it is clear the Essex climate is not suitable for this Palm. Far otherwise is it with a noble *Pinus*—*P. Pallasiensis*, whose dark dense foliage and stately habit contrast well with the spreading branches and light green foliage of a cut-leaved Beech. This Beech, by the way, reveals its origin by throwing out a branch bearing leaves of the ordinary character. Two or three trees of the "sportive" Adams' Laburnum occur in the grounds, and excite the usual feelings of surprise. *Genista Andreana* is a "sport" from the common Broom, its deep red-brown wings render it excellent as a variety; though those who see the railway banks on the journey down aglow with the Broom will not put it in the second rank, even though it be the "common Broom." Another very beautiful shrub, with papery-white blooms of large size, is *Exochorda* (*Spirea*) *grandiflora*, a plant that everyone admires when he sees it, but which, nevertheless, we do not often meet with out of botanic gardens. *Berberis stenophylla* × forms a beautiful and efficient hedge, encircling a large area given up to Roses and flowers for cutting. *Clematis montana* decks the walls with a profusion of white starry flowers; whilst *Crimson Rambler*, *Maréchal Niel*, and other Roses are quite at home on the walls of the house. Under glass there are still, as we have said, a few Orchids, chiefly *Laelias* and *Cattleyas*, and sufficient provision for the large supplies of bedding plants demanded to fill the numerous beds on the lawn, as well as for the household requisites in the way of Grapes, &c. But of all the houses, one stands out prominently in the recollection, and that is a large conservatory. We do not know whether best to call this a fernery or a palmarium. In truth, it is both; it is full of Ferns, Tree-Ferns, and other, and one end is filled with a magnificent specimen *Latania*, whose noble palmate leaves at once arrest attention. Here, regardless of inclement weather, the veteran gardener may thankfully admire and wonder, as all gardeners do; and musings recall the feats and deeds of time past. Long may he continue to enjoy the blessings which this faculty of appreciation confers.

## A CONTRIBUTION TO THE HISTORY OF PANSIES.

OPINIONS vary among botanists as to the origin of the cultivated Pansies. Charles Darwin discussed the question in his *Variation of Animals and Plants under Domestication*, but arrived at no definite conclusion, saying on p. 369, "Hence, after having carefully compared numerous varieties, I gave up the attempt as too difficult for anyone except a professed botanist."

My own investigations have led to the following conclusions:—

The botanists of ancient days knew of only one kind of *Viola*, namely, *Viola odorata*, L., and those of the Middle Ages were acquainted with no other.

The Heartsease, or wild Pansy, *Viola tricolor*, L., was first mentioned and described by O. Brunfels (1533), and L. Fuchs (1542), both Germans. The latter relates that "*Herba Trinitatis*"—the name by which the Heartsease was then known—was not only found wild, but was also cultivated as an ornamental plant in the gardens of Germany.

The name Pansy, so far as I have been able to make out, is used for the first time in botanical literature in 1537, by the Frenchman Ruellius, where it occurs in the Latin form *Pensea*.

R. Dodonæus, from the Netherlands, is the

first to use the name *Viola tricolor* for the Heartsease.

From the works of Dodonæus, Dalechampsius, and Gerarde, we learn that during the latter part of the sixteenth century the Heartsease was used as an ornamental plant in the Netherlands, France, and England, and that the flowers thereof showed no slight variety of colouring.

Parkinson, in 1629, describes and delineates not only the common *Viola tricolor*, but also a form with double flowers from gardens in England.

From the middle of the seventeenth century *Viola tricolor* has existed as an ornamental plant in Italy, Denmark, Sweden, and Poland.

We learn from J. W. Weinmann, Ph. Miller, and D. Villars that *Viola tricolor* was a very general ornamental plant in Germany, England, and France during the eighteenth century, and Weinmann's *Phytanthozoa Iconographia*, published in 1745 (with coloured plates), enables us to form an exact idea of the appearance of the Pansies at that time, as the eight coloured figures representing Pansies show flowers that are neither larger nor otherwise coloured than the varieties of *Viola tricolor* growing wild.

Besides those small flowering *V. tricolor* Pansies already mentioned, from the sixteenth to the eighteenth century more large-flowering kinds were cultivated, even if but seldom, of *Viola lutea*, Huds., growing in the mountainous districts of Germany, Switzerland, and England. C. Clusius, the renowned botanist, in 1583 gave the first description of this plant from specimens cultivated in the gardens of J. Camerarius, of Nuremberg. In the celebrated Bishop's garden, at Eichstett, in Bavaria, four varieties of large-flowered *V. lutea* Pansies were cultivated in 1613, all being delineated in the gigantic *Hortus Eystettensis*.

J. Parkinson mentions the great yellow Pansy as in cultivation in England in 1629.

From Holland and Poland there are also statements concerning the cultivation of large-flowering Pansies in the seventeenth century, doubtless *Viola lutea*.

That this species was cultivated in England during the eighteenth century is proved by a statement by Ph. Miller in the *Gardeners' Dictionary*. Miller certainly calls the Pansy in question *V. calcarata*; but as he expressly states that it came from the mountainous districts of North Britain and Wales, there can be no doubt that the true *V. lutea*, Huds., is really meant. *Viola calcarata*, as is well known, is not found in Great Britain, being a native of the Alps.

All the Pansies of the sixteenth, seventeenth, and eighteenth centuries may be called wild Pansies, as in all essential points they resembled those growing wild; and it is only in the present century that, thanks to the action of man, those numerous varieties of garden Pansies have been produced which, in their display of flowers, so vastly surpass their wild relations.

The Pansies of the present day were originally raised in England. In the early days of the present century several amateur horticulturists in England began to pay special attention to the Pansy, as for instance, Lady Mary Bennet, of Walton-on-Thames (1810), Lady Monke (1812), and Lord Gambier, of Iver (1813 or 1814), who instructed their several gardeners—of whom Thomson, of Iver, deserves special mention—to obtain as many varieties of wild and cultivated Pansies as possible. Seeding

was now undertaken on a large scale in specially suitable soil, and from the seedlings thus obtained those with the largest and most beautiful flowers were selected; and continued selection was made in this way year after year. By these means no small number of unusually beautiful and large-flowering varieties were obtained, which were undoubtedly largely hybrids, that, without any intervention from man, were produced by insects which, on visiting the flowers of the different varieties and species cultivated side by side, caused a rich cross-fertilisation. The species of *Viola* cultivated were those native to England, viz., the common Heartsease, *Viola tricolor*, L., and the yellow large-flowering *Viola*, *V. lutea*, Huds.

The last mentioned was cultivated on a large scale at an early date, as is proved by a statement made in 1819 by Dean Herbert, the well-known horticulturist and botanist, that "the great Heartsease," which, under the name of *Viola grandiflora*, was then sold at Covent Garden, was identical with *V. lutea*, Huds., from Yorkshire and Durham.

A circumstance especially favourable for the formation of new varieties of Pansies, is that the hybrids of species of that section (*Melanium*) to which belong the two species just mentioned, as a rule are more or less fertile, while hybrids of species belonging to other sections are generally sterile.

Reliable statements prove that dating from 1816, *Viola altaica*, Ker, a native of Siberia and the Caucasus, was cultivated in England. It is more than probable that this species played some slight rôle in producing some of the Pansies of those days. Several authors have even ascribed so much importance to the part played by *Viola altaica* in the origin of the Pansies that they consider it their real parent. This is, however, in my opinion, a mistake, as, with the exception of bearing large flowers, the Pansies of our century have scarcely a single characteristic in common with *Viola altaica*, and this species seem always to have been—as it still is—a great rarity in European gardens.

During the twenties and the thirties, the cultivation of Pansies became more and more general in England. J. Harrison tells us that from 1827 to 1833 nearly 200 new varieties of Pansies were raised; while Charles Darwin relates that in 1835 there were 400 named varieties of the Pansy on sale in England.

An account of the then demands on a good Heartsease was given by J. Paxton in 1834: "The flower-stem must be of sufficient height and strength to raise the flower above the foliage of the plant; the petals of the flower large, flat, and without notch or fringe on the edge. The colours must be clear, brilliant, and permanent. The eye should be small compared with the size of the flower." *V. B. Wittrock, Stockholm.*

(To be continued.)

## Obituary.

ANDREW S. FULLER.—Andrew S. Fuller, widely known as a writer on agriculture, horticulture, and arboriculture, died suddenly, as we learn from the *American Florist*, at his home, Ridgewood, N.J., May 4. He was born in Utica on August 3, 1828. When a boy, he removed with his parents to Barre, in Orleans county, and at the age of eighteen went to Milwaukee and began the life of a florist. While in Milwaukee he married Miss Jennie Crippen, and in 1855 they removed to Flushing, where he became foreman for William Prince, the nurseryman. He stayed there a year, and then, with his wife, went to Brooklyn, where for nine years he had a garden

and raised small fruits. During this time he began writing on horticultural matters. Early in 1860 he went to Ridgewood.

Mr. Fuller was connected with the *Tribune* until the *Weekly Sun* was established, when he became its agricultural editor, remaining in the place for twenty-six years, as long as the publication was continued. He also edited at one time the *Rural New Yorker*, and wrote for the *Agriculturist*, *American Gardening*, and the *Florists' Exchange*, and published various books, including the *Strawberry Culturist*, the *Small Fruit Culturist*, the *Grape Culturist*, the *Propagation of Plants*, and *Practical Forestry*. His last book on *Nut Culture* is now in the hands of the publishers, and was to have been issued in about a month.

Mr. Fuller made a special study of entomology, and collected a large library, and a cabinet of specimens. He was an authority also on pre-historic American pottery, and had collected specimens of it. He was an enthusiast in anything that related to natural science.

## SOCIETIES.

### MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL.

MAY 21-27.—The usual Whitsuntide Show was opened under distinguished auspices, the shareholders and members with their wives and families flocking in considerable numbers to support the Earl of Derby at the formal proceedings of what for the last quarter of a century has been the great show of the North of England. The Show house which has been reserved for a good many years for Orchids alone was pretty well filled, and the colours of the tooth-tongued fraternity of the race (*Odontoglossums*) were all the more striking contrasted with brilliant *Cattleyas* and *Lælias*, and the duller colours and quieter forms of *Cypripediums* which are now, in point of numbers and varieties, particularly of seedlings, getting beyond the grasp of most orchidists. The only thing one has in a measure to regret, looking twenty-five years back, is that there are not the specimens in exhibit showing the cultural hand, but what is wanting in specimens is more than made up by quality of individuals. To be sure there are thousands of plants exhibited which are only of *Pelargonium* value, but still they all make up a grand floral display. The *Hippeastrums* are gaining in decorative importance after the florist's standard; *Pelargoniums* and *Roses* are as good but no better than in the days of yore; *Calceolarias* and *Begonias* are much improved both in form, colour, and habit, and border flowers have a freshness and brilliancy that command general attention. Indeed the Annex was as brilliant as ever, the *Azideas* being much better flowered than we have seen them for years. The prizes upon the whole were keenly contested for, there were few run-away victories in any of the classes. There was quite a sheaf of First-class Certificates awarded—too many in fact to stamp all the articles with first-class importance, thus giving colour to the contention of not a few that decentralized power, outside of the London Committees, in adjudicating upon novelties, would not be attended with uniform good effect.

### COMPETITION CLASSES.

#### Collection of Orchids in bloom (Amateurs).

E. ASHWORTH, Esq., Harefield Hall, Wilmslow (Mr. Holbrook, gr.), took first position with a varied lot, among which were some charming species and varieties. *Lælia purpurata* was shown in considerable numbers, studded in the background with a variety of *Cattleyas*, among which *C. Schroderae* was prominent, its fully formed *labellum* enriched with the great solid orange blotch effectively caught the eye. *C. speciosissima nobilior* is a large striking well-coloured flower, with the tip unusually broad and the marking and spotting on the pale ground is very telling. *Cattleya × calummatata* has more of the female parent (*Acklandæ*) in its features than the pollen parent, *intermedia*. It is beautifully spotted in all its segments, and reminds me more of *amethystoglossa* than *intermedia*, in that wise the so-called pink turning blue—*Cattleya Mossiæ Gaskelliana* is neither pink nor blue, as exemplified in too well-flowered plants, but only an ordinary *Mossie* with good segments but small *labellum*; *C. Mendelii* was fine. *Lælia tenebrosa* was brilliant in its high-coloured lip with narrowish segments. This is a great gem to the *L. grandis* section. There were also *Cypripediums* of sorts, *Dendrobiums* of sorts, none better than *D. Dearei*, which, to handsome foliage adds beautiful white flowers, improved, so to speak, by the green crest. There were also several *Lycaste Skinneri*, *Schomburgkia tibicinis*, lots of *O. crispum*, and some good *Miltonia vexillaria*, &c.

FRED HARDY, Esq., Tyntesfield, Ashton-on-Mersey (Mr. Stafford, gr.), was 2nd. In this collection were some very

good *Lælia purpurata*, none better or more chaste than the *L. p. Schroderae*, which may be said to be the finest form of *Russelliana*, having a large finely-formed lip with distinct radiating soft rosy lines. Standing up in relief in the background were good examples of *Dendrobium D. hirsutum*, and the effective yellow *D. fimbriatum oculatum*, fronted with a choice assortment of *Cattleyas*, including *Mossie*, *Mendelii*, *Schroderae*, interspersed with circlets of scores of *Odontoglossum crispum*, very showy without being of particularly fine quality. A grand variety of *Cypripedium villosum*, was shown, with lips of unusually deep colour, and shading out in the dorsal sepal to a greenish white. We also noticed with pleasure the beautiful white *Diacrium* (*Epidendrum*) *bi-ornatum* with two fine spikes of its snow-white flowers. *Dendrobium thyriformum* was in good form, colour, and flower, and there were some well-marked *Cypripedium bellatulum*.

S. HENCHIFFE, Esq., Hale, Altrincham, had a few good *Lælias* and *Cattleyas*, *Oncidium* of sorts, among which was the old *O. sphecelatum*, still useful for collectors. The showy yellow *Anguloa Clowesii* was very effective; and so was the bronze-coloured *Cattleya Schilleriana*.

#### Collection of Orchids in Bloom (Nurserymen).

Mr. JAMES CYPHER, Cheltenham, had a very good and effective lot, which were placed in the post of honour at the top of the Exhibition-house rendered particularly effective by a background of *Palms* again confronted with specimen of flowering plants. The great profusely flowered bushes of *Erica Cavendishii* and *E. depressa* formed a fine golden foil to the thistle-looking *Aphelxis macrantha rosea* which is still the most beautiful variety. The soft rose of the *Pimelia* flowers, and the brilliant scarlet of the *Flamingo* plant, gave both the specimens themselves, and the Orchids confronting them a very stylish appearance. Mr. Cypher has always showed *Lælia purpurata* well, this time his collection was lessened by what was in exhibit at the Temple. Still the *L. purpurata alba*, as well as the darker forms, are both well-grown and flowered. *Cattleyas* were well represented, the *C. Skinneri* being a particularly rich variety in a well-flowered plant. Among others, we noticed the too seldom seen *Vanda suavis*, pretty pieces of *Oncidium macranthum* and *O. serratum*, the lemon-coloured *O. concolor*, *Epid. O'Brienianum*, which seems a perpetual flowerer among the various sections. The best of the *Cypripeds* were *C. × Ewerianum*, a good grower and one like *C. Lawrenceanum* that hold its segments and its dorsal sepal in one plane.

Mr. JOHN KIRSON, Bowden, was 2nd with a lot of well-grown plants. Among them was one of the best varieties of *Cattleya Mossiæ* in the exhibition of the dark type with an unusually decorated amethyst lip. *C. labiata* was also good with about a dozen high-coloured flowers. *Cypripedium grande-atratum* was in rude health and a good average flower. *Odontoglossum crispum*, *Dendrobium × Cassiope*, contrasted well with the orange-scarlet *Epidendrum vitellinum*.

Messrs. HEATH & SON, Cheltenham, were 3rd. Among this lot were quantities of *Miltonia vexillaria*. *Cattleya Skinneri* was good. We also noticed among others *Odontoglossum citrosum* and the large flowered *Aërides crassifolium*.

#### Collections of Cattleyas and Lælias (Open).

THOS. STATTER, Esq., Stand Hall, Whitefield (Mr. Johns n, gr.), showed a good collection, the only indifferent plant in the lot being *Lælia grandis*; the plants of *L. purpurata* at Stand are a notable lot, none better than the variety named *Statteriana*, which to brilliancy of lip adds fine broad flat segments; there would be a score of flowers or more on this plant; the white and the red varieties are also good. *C. Mendelii leucoglossa* is a chaste fine variety, but it was a little past its best. Among others the most striking was *Cattleya Gravesiana*, a high-coloured flower with the orange clouding through it which marks its distinctness, and renders it a most desirable variety. Mr. Statter took an award for an example of "Hybrid *Cattleya* or *Lælia*" with *× Cattleya Pallas superba*.

FRED HARDY, Esq., was 2nd, having a well-grown and particularly fine quality *Cattleya Schroderiana* with a dozen flowers; *Cattleya Skinneri alba*, not quite white; *Lælia purpurata Schroderiae*, *Cattleya Mendelii* var. *Venus*, a very good *Cattleya dolosa*, *Cattleya Schilleriana* Hardy's var., &c.

#### Collections of Cypripediums in bloom (Open).

E. ASHWORTH, Esq., took 1st prize, having, among others, *Cypripedium bellatulum album*, showing a yellowish crest, being only a freshly-expanded flower. There were several of the best forms of *Chamberlainianum* that we have seen, and a large general lot. THOS. STATTER, Esq., took 2nd prize, the best plant being *C. × Gertrude Hollington*, the white *C. candidum grande-atratum*, and the too seldom seen *C. levigatum*. F. HARDY, Esq., was 3rd, his best being *C. Lawrenceanum Hyeannum*, *C. Ewerianum*, *C. leucorrhoda*, *C. Druryi*, &c.

#### Collections of Dendrobiums in bloom.

Mr. J. CYPHER, 1st; Mr. E. ASHWORTH, 2nd. The most striking among the lot was the enurpled *D. glomeratum*, *D. albo sanguineum*, and several *D. nobile*.

#### Collections of Odontoglossums in bloom (Open).

F. HARDY, Esq., had a good lot, comprising *O. crispum*, *O. Andersonianum*, *O. Harryanum*, and others in variety. Mr. JOHN ROSSON was 2nd with fresh grown plants of *O. crispum*, and several good varieties of *O. Rozeii*.

#### Specimen Orchid in bloom (Nurserymen).

Messrs. HEATH & SONS, Cheltenham, were the only exhibitors in this class, showing among other things a well-grown specimen, and a good variety of *Lælia purpurata*.

#### Orchids not entered for Competition.

F. SAMOER & Co., St. Albans, had by far the largest and finest group, and well deserved the large Gold Medal awarded. Among the more striking plants, we noted *Cattleya Mossie Reineckiana*, not fully-developed, but having about two scores of blooms. It was remarkable for having two flowering growths from the same centre, in more than one instance. *Miltonia vexillaria Chelensis* is a good, distinct flower, with solid, pink, radiating lines on base of lip, stopping short at the centre. *Epidendrum atropurpureum* Randi was one of the best and most distinct things on exhibit; the flowers are much larger than in the type, the segments bright sienna colour and well shaped, and the white and dullish-purple lip large and unexceptionally well formed; the plant had fourteen spikes of flowers on it. *Stenoglottis longifolia* is an Orchid-looking plant, sending up spikes about a foot long of lovely lilac and purple-spotted flowers—quite an acquisition. *Cypripedium Rothschildianum* had half-a-dozen well-developed flowers; *Oncidium Rogerii*, so-called, was one mass of blossom, making an effective specimen plant; *Dendrobium Bensone*, is a beautiful *Dendrob.*, silver in hue, with a dozen spikes on it. There were several *Od. crispums* of nondescript character for one fine-formed one. *Cattleya Mendelii* Countess of Derby, is chaste, without being either one thing or another; *Cattleya Mossie*, Her Majesty, is a well-formed flower; the pale hues down the centre of its segments do not add to its importance. There were several good forms of *Lælia purpurata*, the most distinct among them being one named *Distinction*, having a soft mauve expanded lip. *Miltonia vexillaria leucoglossa* is a flower of large size, well-named from its white lip set against rose segments.

In addition to the Orchids were some good *Palms*, particularly *Geonoma acaulis*; *Hypericum Moserianum tricolor* which will make a pretty border plant. The best of the *Legonias* was *Lucey Clowes*, with prominent metallic leaves. The best of the *Sonerilas* was *James Hamilton*, densely and regularly spotted. The seedling *Streptocarpus* were notable, particularly the exhibits with almost indigo colours.

CHARLESWORTH & Co., Heaton, Bradford, had a selected, choice lot, among which were a few of the best *Od. crispums*. The *Bankfield House O. crispum* is a large, finely-developed flower, clouded with red on a pale base; the *Vine House* variety is also very good, finely spotted, but wanting in form. Several others of normal type were exhibited. *Cattleyas*, particularly *Mossie eximia*, were good, and in some size, too; and there were several good *Lælia purpurata*, and a good *Cattleya Schilleriana*, and several other good things.

Alongside of this exhibit was a fine flower of *Cypripedium × Gertrude Hollington*, of great breadth of segments, and a grand dorsal sepal, by far the finest form yet exhibited, shown by A. WARBURTON, Esq., Vine House, Congleton.

Messrs. COWAN & Co., Garston, had a large showy lot, comprising some very good *Cattleya Mossie* and the white segmented *Reineckiana*, a variety like *C. M. Maguire*, only having a pale rosy blotch, a very fine *C. Harrisii*, the fiddle-shaped *Coleogyne pandurata*, the rhubarb-scented *Dendrobium macranthum*, the thyrse bloomed *Dendrobium*, the bright orange *Ada aurantiaca*, the spider-looking *Brassia verrucosa* in fine specimens, &c.

#### Miscellaneous.

B. S. WILLIAMS & SON had a miscellaneous assortment, comprising some good Orchids, the best among them being *Odontoglossum Wilckeianum*, which looks to me an improved *O. radiatum*. *Cattleyas* and *Lælias* were to the fore, and some good examples, the brightest and best one being quite as good in colour and as clear of greenery at the base as the old and well-known *formosissimum*.

Messrs. KER & SON, Liverpool, had a grand jarray of *Hippeastrum* (*Amaryllis*), some of the best shown being unnamed seedlings. They were all remarkable for the shortness of their scapes and the size of flowers. *Momus* was one of the best crimson; *Czarina*, a beautiful flower, after the colours of *Marguata conspicua*, but having much finer formed flowers. *Nestor* is also a dower of good quality.

C. DIBB, Esq. (Mr. Briardrett, gr.), exhibited a *Cattleya Mendelii* bearing three spikes of flowers, one of the spikes having six flowers, and of fully average size and quality. It had been "grown in a greenhouse for the last seven years," and the pot was one entangled mass of roots, showing clearly that it had not been potted for years.

The last exhibit in the Showhouse we notice was a splendid example of the fruit of *Eucepharctos villosus*, about a foot long, and as yellow as a ripened *Pine-apple* with the scales, not unlike those of that fruit. It was from the collection of JAMES WATTS, Esq., Abney Hall (Mr. R. McKellar, gr.). It well deserved the First-class Certificate it received. The same exhibitor showed a dish of *Afriston Apples*, and *Black Hamburgh* and *Foster's seedling Grapes*.

Mr. CHAPMAN had on exhibit a very good collection of dried Orchid flowers with the colours well conserved.

### THE ANNEX.

#### Group of Plants (Nurserymen).

R. P. KER & SON was the only exhibitor. The lot was graceful, being a green ground relieved with standard *Crotons* of good sorts, highly coloured. The *White Harrisii Lilies* tell well in a group of this kind, and the greenery of *Palms* and *Ferns* along with elegant outline are always eye-pleasing. A very effective frontage was made up of dark crimson *Gloxinia* resting on fine stiff foliage.



## Group of Plants (Amateurs).

1st, Miss Load, Ashton-on-Mersey; 2nd, Mrs. BLAIR, Whalley Range. These were of similar type to those of Messrs Ker, a little more of the Cork being used for "pocket" work. These collections furnished the chief prize lots in Cinerarias, Calceolarias, and Gloxinias.

CHARLES TURNER & SON, Slough, had a fine group of Roses in pots, the more prominent being the yellow Celine Forestier, the Crimson Rambler, the fine bluish Merveille de Lyon, and the finely cupped pink Rose Spenser. The group of Pelargoniums from the same firm was equally meritorious. The more prominent among them were: Rosy Moru, Miss Louisa Curle, Gold Mine, St. Blaise, &c. In Azaleas, Mr J. CYPHER had a well-flowered lot, the mauve Codo Nulli being very effective. R. P. GILL, Ashton-on-Mersey (Mr Plant, gr.) also exhibited in this class. Mr. GILL had also a good lot of herbaceous and border plants in pots, and some good Ferns. DICKSONS, Chester, had a brilliant display of border flowers, comprising Pyrethrums in various shades as well as Centaureas, Poppies of which Papaver bractescens was notable. The Misses HOPKINS, Mole Cottage, Knutsford, had a side well-filled with cut border flowers, and a great variety of hardy Viola.

TH S. S. WARE, Tottenham, had a splendid assortment of Tuberos Begonias in both single and double flowers; the yellow Gollath among the single ones is a very striking flower.

W. CUTRUSH & SON, Barnet, had a miscellaneous assortment of plants and flowers of generally sturdy character, the collection of Carnations in pots being very attractive. Messrs. COWAN & Co. had a circular embankment filled with dwarf showy Roses for greenhouse decoration, and a big lot of Spiraeas.

SUTTON & SONS had a grand assortment of Calceolarias, strong in the stem, and crowded with bunches of their bag-like flowers. Gloxinias, too, were very notable, as were most of their flowers on exhibit. Their Kidney Beans seemed to be prolific. Best-of-all and Tender-and-True, taking the eye. Their Tomatos were grown in pots, and the haulms strung round a girdle-like trellis, full of green, and ripening fruit.

MR. JOHN WATERER, Bagshot, had a great lot of hybrid Rhododendrons, which made capital furnishing for the other end of the Annex. The best varieties in flower were the large white George Hardy, the prominent rose-coloured Cynthia, Countess of Normanton, a fine lilac; the heavily-blotched Marchioness of Lansdowne, Kate Waterer, Mrs. John Clutton, &c.

FIRST-CLASS CERTIFICATES were awarded to Charlesworth & Co., for *Odontoglossum crispum* Warburtonianum, described in report; *Odontoglossum Charlesworthianum*, described in report; *Cypripedium Coroleum*, var. *Annie Louise*, Captain Schofield, in Temple show Report. To F. Sander & Co., St. Albans, for *Stenoglossis longifolia*, described in report; *Epidendrum atropurpureum* Randi; *Cattleya Mendell* Countess of Derby; *C. Mossie* Her Majesty; *Laelia purpurata* Distinction; *L. p. alba* violacea, dark purple lip, too crumpled; *Miltonia vexillaria leucoglossa*, described in report; *Licalala gracilis*, fan-formed leaf, only slightly cut in at extremity; *Begonia* Mrs. W. E. Elphinstone, good formed leaf, pale green with black round centre; *B. Confucius*, good formed leaf, edges and centre blackish-green, mainly spotted; *B. Lucy Cloisar*, described in report; *Sonerila* Mrs Margaret Moire, in the way of but larger and better than Henderson; James Hamilton, described in report; *Hypericum Moserianum* triangular, the carmine edge of oblong leaves very telling; *Geonoma acuminata*, fine light shade of green with large bifurcated leaves on short footstalks as if clipped with shears across the ends. Thos. B. Ware, for *Begonia tuberosa* Lord Derby, good dark crimson (double); *B. t. alba* virginalis, double white; *B. t. Leviathan*, double pink; *B. t. Begley*, dark rose.

## ARTICLES SHOWN ON THE LAWN.

HENRY & JULIUS CÆSAR, Knutsford. A variety of Rustic Houses, Chairs, Vases and such like garden requisites.

B. HARLOW & SONS, Ironfounders, Macclesfield. A set of their Tubular Boilers, in which the tubes are like flattened bottles for using up heat as it passes from the tube fire-bars, said to be capable of heating 3,000 feet from their 6-tubed boilers. Also smaller boilers with corrugated sides.

WALTER & Co., Leytonstone. A skeleton Greenhouse, showing their system of chip and lath blinds, in which the laths are about 1½ inches, with an ½ inch opening for light. It seems a good thing of the kind—all the better, too, because the blinds are set in Tiron bars 12 inches from the glass, thus allowing a free play of air in hot weather.

HALLIDAY & Co., Middleton. A set of span-roof houses fitted complete with stage and flooring, apparently neat and good; also a set of frames for useful strong work about a garden.

LEECH BROS., Millgate, Manchester. A very large exhibit of all kinds of chairs and lounges—everything conceivable for taking it easy in the garden or grounds. Also a set of rollers and mowing machines, along with wire designs for training up climbers, &c.

## Walter &amp; Co.'s Lath Roller Blinds.

Among the exhibitors of horticultural structures and appliances, was a skeleton-house (unglazed) covered entirely with Walter & Co.'s (of Leytonstone) Improved Lath Roller Blinds, the exhibit coming in for a considerable amount of attention from horticulturists of all classes, each of whom seemed to be able to devise some new use for such structures. Practically, it seems to be the very thing we suggested when giving an illustration of a "Chick House" at Gaisih Kund, India, in the *Gardeners' Chronicle*, January 7,

1888, p. 18. In the tropics some rude kind of lattice-protection is one of the greatest aids to horticulture; and in this country, properly used, there is no doubt that similarly good results might be attained at small cost.

Hitherto, the use of these roller blinds (which are improvements on those which have given the Continental grower of Orchids incalculable advantages for many years) have been confined chiefly to shading Orchid and other plant-houses, and there is no doubt that their use in gardens will much simplify the culture of these plants, for while giving the necessary shade, they admit also a sufficient amount of clear light, which cannot be said of any kind of cloth-shading. Probably one of the most interesting developments of these blinds will be, as we have before stated, when they are used by amateurs who do not possess glass-houses, for the protection of the rare hardy plants which so many of them find a pleasure in. Made as these are of Oregon Pine, coated with preservative solution, they last as long as a plant-house.

## MANCHESTER NOTES.

FLOWERS AT OLD TRAFFORD.—In the Manchester Royal Botanic Gardens the scarlet and pink double Thorns, which are planted on each side of the broad walk, and at intervals in the grounds, have been more beautiful this year than they have ever been, and for a long time past they have been the chief feature in the beautiful display of bloom on the great variety of hardy flowering shrubs with which the grounds have been so skilfully planted. Mr. Bruce Findlay, the genial curator of these gardens, has a special liking for flowering shrubs, and a keen eye for effect in planting them, and as the winter has been exceptionally favourable, a greater variety than usual, and having an unusually long duration, has embellished the Old Trafford Gardens this year. Great masses of colour meet the eye at every point, as the bright clumps of Rhododendrons and other things appear, but none of them can at present vie with the coloured Hawthorns.

A hasty walk through the glasshouses showed the Orchids in good condition, with a fair show of *Laelia purpurata* (of which there were about thirty spikes), *Cattleya Lawrenceana*, *C. Schroderae*, &c. In the lobby was a bright group composed of *Laelias*, *Cattleyas*, *Dendrobium Devonianum*, *D. superbium*, *Miltonia spectabilis* radians, and *M. vexillaria*, with *Odontoglossum citrosimum*, and other pendent species overhead.

In gardens open to the public, some things must necessarily be difficult to manage, but here the fine bank of *Cypripediums* which occupy one side of the large house are in such splendid condition, and so perfectly healthy and clean, that they must cause something like envy to those who are not so successful in their culture. Curiously enough, those kinds, such as *C. bellatulum*, which many amateurs cannot induce to grow for any length of time, are the most robust. In bloom among them were *C. Chamberlainianum*, *C. exul*, *C. bellatulum*, *C. × vernixium*, *C. × Dominianum*, *C. × grande*, *C. Lawrenceanum*, *C. × Ainsworthi*, and others; and in the same house were a good batch of *Vanda Kimballiana* in splendid condition, and some *V. suavis*, *Cymbidium Lowianum*, *Oncidium ampliatum*, *Phalenopsis Schilleriana*, *Cattleyas*, &c., in bloom.

In the greenhouses the Azaleas arranged with Japanese Maples and other plants, were very effective; the beautiful specimens of *Schizanthus* covered with flowers; the New Holland plants bright with flowers, and arranged with them some showy Cacti, *Rhododendron* Countess of Haddington, *Hæmanthus magnificus*, &c., the whole being edged with plants of *Prinula obconica*, covered with their pretty flowers.

The fernery rockery at Old Trafford is one of the prettiest things of its kind to be found, and every year adds to its attractions, as the plants with time arrange themselves in the most natural manner. In the tropical-house the giant *Medinilla magnifica* is again sending out many flower-spikes, and *Rudgea macrocephala*, the scarlet *Anthuriums*, &c., making a good show with the *Hoya carnea*, *Combretums*, and other climbers on the roof. Everything about these popular gardens is neat and well kept, and the curator must be congratulated on his success.

## MARKETS.

## COVENT GARDEN, MAY 28.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Eo.]

## PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Heliotrope, per doz.	4 0-8 0
Arum lilies, pr. dz.	6 0-9 0	Hydrangea, various	per doz. ... 9 0-24 0
Aspidistra, per doz.	12 0-30 0	Ivy Geraniums per	dozen ... 4 0-6 0
— specimen, each	5 0-15 0	Lilium Harrisii, pr.	dozen pots ... 12 0-21 0
Calceolaria, p. doz.	6 0-9 0	— dozen pots	... 4 0-6 0
Cineraria, per doz.	4 0-6 0	Lobelia, per doz.	... 4 0-6 0
Dracena, each	1 0-7 6	Marguerites, p. doz.	6 0-10 0
— various, p. doz.	12 0-24 0	Mignonette, p. doz.	4 0-8 0
Ericas, various, per	doz. ... 9 0-24 0	Palms, various, ea.	2 0-10 0
Evergreen Shrubs,	in variety, doz. ... 6 0-24 0	— specimens, ea.	10 6-84 0
Ferns, small, doz.	1 0-2 0	Pelargoniums, doz.	9 0-15 0
Ferns, various, doz.	5 0-12 0	— Scarlets, p. doz.	3 0-9 0
Ficus elastica, each	1 0-7 6	Spiraeas, per doz.	8 0-12 0
Foliage plants, doz.	12 0-36 0		

## Bedding Plants in variety.

## CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Narcissus White,	12 bun. ... 2 6-4 0
Azalea, 12 sprays	0 4-0 6	Orchids:—	
Bellebells, doz. bun.	1 0-1 6	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bn.	0 6-1 0	O d on to glossum	crispum, 12 bn.
Carnations, 12 blms.	1 0-3 0	— crispum, 12 bn.	3 0-6 0
Deutzia, per doz.	bunches ... 2 0-4 0	Paeony, doz. blooms	0 6-1 6
— bunches ...	2 0-4 0	Pansies, doz. bun.	1 0-2 0
Eucharis, per dozen	2 0-4 0	Pelargoniums, scar-	let, per 12 bun.
Forget-me-nots, p.	doz. bunches ... 1 6-3 0	— let, per 12 bun.	3 0-6 0
Gardenias, per doz.	2 0-4 0	Polyanthus, 12 bun.	2 0-4 0
Iris, v. rubrus, per	doz. bunches ... 4 0-9 0	Poppies, doz. bun.	1 0-3 0
Lilac, French, per	bunch ... 3 0-5 0	Pyrethrums, 12 bu.	2 0-4 0
— bunch ...	3 0-5 0	Roses, Tea, per doz.	0 9-1 6
Lilium Harrisii, bu.	2 0-4 0	— coloured, p. doz.	2 0-4 0
Lily of the Valley,	per doz. bunches	— yellow (Maré-	chal), per doz.
Maidenhair Fern,	per 12 bunches ... 4 0-8 0	— red, per dozen	2 0-4 0
— per 12 bunches ...	4 0-8 0	— Safrano, p. doz.	1 0-2 0
Marguerites, per 12	bunches ... 2 0-4 0	Spiraea, doz. bun.	2 0-4 0
— bunches ...	2 0-4 0	Stephanos, 12 sps.	1 6-2 6
Mignonette, 12 bn.	4 0-6 0	Tuberoses, 12 blms.	0 4-0 9

## ORCHID-BLOOM IN VARIETY.

## FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Tasmanian,	per case ... 6 0-8 6	Melons, each	... 1 6-2 0
— per case ...	6 0-8 6	Peaches, 1st size,	per doz. ... 12 0-15 0
Figs, per doz	... 2 0-4 0	— 2nd do., doz.	6 0-8 0
Gooseberries, per	half-sieve ... 3 6-4 0	— 3rd do., doz.	3 0-4 0
Grapes, Alicante,	per lb. ... 2 0-2 6	Pine-apples, St. Mi-	chael, each ... 2 0-4 0
Grapes, Belgian, lb.	1 0	Strawberries,	morning-gather-
Muscats, p. lb.	3 0-4 0	— gathered, Paxtons,	per lb. ... 2 0-3 0
Grapes, Hamburg,	per lb. ... 1 6-2 0	— packed in bxs.	per lb. ... 1 6-2 0
Ne. tarines, 1st size	per doz. ... 12 0	— seconds, per lb.	0 9-1 0
— 2nd do., doz.	6 0-8 0		

## VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Asparagus, Worces-	ter, p. bundle,	Peas, Channel Is-	lands, per lb. ... 0 4-0 6
100 heads ...	1 4-1 6	Tomatos, home-	grown, smooth,
— Colchester, p.	bundle, do.	— p. doz. lbs. ...	8 0 9 0
Beans, per lb.	1 0-—	— Channel Is-	lands, pr. lb.
Cucumbers, per dz.	2 0-3 0	— ordinary home-	grown, p. doz.
Mint, per bunch	... 0 2-—	lb. ...	6 0-7 0
Onions, English, p.	ewt. ... 3 0-4 0		
— do. ...	0 8-0 0		

## NEW POTATOS.

Supplies coming to hand continue to be very small samples, both from the Channel Islands and France. Prices keep firm, with a tendency to improve on best. Consignments from Canary are dropping off, and demand in consequence is rather better than last week. *J. B. Thomas.*

## SEEDS.

LONDON: May 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market was thinly attended, and presented quite a holiday appearance. Wheatmen, holders of Clover and Trefoil seeds express confidence in higher prices later on. Occasional small orders drop in for Tares. Bird seeds show no movement. Peas and Haricots are steady. Other articles at this inactive season call for no comment.

## CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending May 23, and for the corresponding period last year.—1896: Wheat, 23s. 6d.; Barley, 21s. 8d.; Oats, 14s. 6d. 1895: Wheat, 23s. 5d.; Barley, 21s. 12.; and Oats, 15s. 9d.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

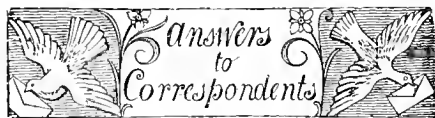
DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.
	ACCUMULATED.					
	Above (+) or below (-) the Mean for the week ending May 25.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 24, 1895.		
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Ins.
0	1 +	59	0 + 152	- 309	7 + 104	23.5 22 24
1	3 +	60	0 + 178	- 238	3 + 73	7.1 27 32
2	2 +	72	0 + 147	- 220	2 + 61	5.4 18 20
3	1 +	75	0 + 82	- 226	0 aver 71	6.8 21 21
4	3 +	85	0 + 137	- 245	2 - 63	5.8 39 34
5	2 +	85	0 + 121	- 238	2 - 60	5.4 30 31
6	2 +	71	0 + 184	- 226	0 aver 82	15.2 39 30
7	2 +	83	0 + 200	- 256	1 - 73	10.5 38 32
8	3 +	90	0 + 205	- 206	5 - 63	7.9 52 36
9	2 +	71	0 + 118	- 231	0 aver 82	12.2 26 27
10	2 +	85	0 + 245	- 309	4 - 71	10.3 30 31
*	2 +	96	0 + 294	- 109	2 - 70	5.6 54 40

The districts indicated by number in the first column are the following:—  
 0, Scotland, N. Principal Wheat-producing Districts—  
 1, Scotland, E.; 2, England, N.E.; 3, England, E.;  
 4, Midland Counties; 5, England, including London, S.  
 Principal Graining, &c., Districts—6, Scotland, W.;  
 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.  
 10, Ireland, S.; \*Channel Islands.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

TREE FERNS.—Will the person for whom we put in an enquiry in the issue for April 11 last, kindly furnish us with his proper name and address, so that we may forward a communication which has been received from the West Indies.



ARTIFICIAL MANURES FOR TOMATOS: W. P. H.  
 (1) Without possessing any knowledge of the particular soil you have to use; or of other manures you may have added, we may say that, generally speaking, a limited use of nitrate of soda is beneficial, if used with great care. (2) No manures of any kind are desirable, until there are fruits swelling on the plants. (3) Once in three weeks. (4) About 1 ounce. (5) One teaspoonful.

BEETLE: C. W. Strickland. We have not been able to identify the beetle found feeding on Dendrobium, and shall be glad to see more examples. R. McL.

BOOKS: T. H. The books you mention are long since out of print. They might be had at some second-hand booksellers, or by advertisement. The *Botanic Garden* is still of use, by reason of its illustrations, which, though small, are faithful. The other has now only historic value for the student. It is of little use for every-day work.

CARNATION SEEDLING: Hassock. But for a slight dulness in the colour (rose-pink) we should think highly of your seedling; form, substance, odour are good, and the calyx does not split.

CORRECTION: Temple Show report, p. 656, for Prescott, read Prewitt.

GRAFTS AND BUDS OF FRUIT TREES: W. F. Provided the grafts and buds are sound, and the stocks on which they are worked vigorous, the age of the trees from which the former are taken is of no consequence. The notion that if the parent tree should die, the grafted or budded stocks will die also, is a superstitious belief with no foundation in fact.

GOOSEBERRIES DISEASED: A. G. The Gooseberry bushes are affected with the common Cluster-cup—called *Aecidium grossulariae*. It is always more or less present, but seldom in sufficient quantity to be really a pest. It was figured many years ago in *Greville's Scottish Cryptogamic Flora*, and in the *Gardeners' Chronicle*, vol. xvi., 1881, p. 77. Being an endophytic fungus, which is perennial in the tissues of the affected plant we do not imagine that external applications of fungicides can do much service. Coudy's Fluid has been recommended in similar cases. Every leaf burnt lessens the chances of future disease. M. C. C.

MYOSOTIS PRINCESS VICTORIA: A. Rhodes. Apparently a form of *Myosotis alpestris*; very beautiful, rich in colour, free-flowering, and decidedly sweet-scented. We think it a great acquisition. Does it come true from seed?

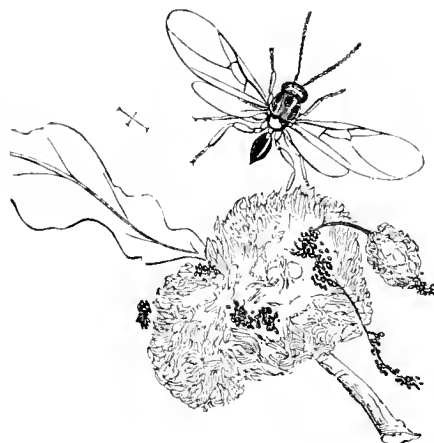


FIG. 115.—WOOLLY OAK GALL INSECT: CYNIPS QUERCUS RAMULI.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—F. M. 1, *Sorbus domestica*; 2, *Lonicera Ledebouri*; 3, *Ribes aureum*; 4, a species of *Ribes*, probably, *sanguinea*. Send when in flower.—T. F. Orchid not recognised. Can you send a rough sketch of the plant, with size, and state the native country? R. A. R.—J. H.. *Dawlish*. 1, *Acer tataricum*; 2, *Cotoneaster bacillaris*; 3, *Aesculus flava*; 4, *Berberis aristata*; 5, *Acer campestre*; 6, *Acer tataricum*; 7, *Fraxinus Ornus*; 8, *Eriobotrya japonica*.—F. S. *Styrax officinalis*.—J. W. 1, 2, 3, All forms of *Pyrus Aria*; 4, *Styrax officinalis*; 5, *Pyrus terminalis*, wild Service; 6, *Tsuga Sieboldi*.—E. M. *Magnolia tripetala*.—E. C. C. D. Specimen quite withered, most likely it is *Cardamine amara*.—A. H. B. Your flower is of that form of *Laelia purpurata* named by Reichenbach *L. Wyattiana*, but which growers call a very poor variety of *L. purpurata*, although it is pretty enough.—Norvic. 1, *Pyrus terminalis*, wild Service; 2, *Acer campestre*; 3, *Viburnum Opulus*; 4, *Pyrus (Sorbus) domestica*; 5, no flowers, apparently *Sophora japonica*; 6, perhaps *Virgilia lutea*.—A. B. D. A fine form of *Ceanothus azureus*.—B. S. A. The flowering Ash, *Fraxinus Ornus*.—A. W. Your very pretty variety of *Cattleya Mossie* is near to C. M. *Arnoldiana*. It is not the one you indicate.—*Crotos*. 1, *Croton chrysophyllus*; 2, C. *Aigburthensis*; 3, C. *Queen Victoria*; 4, C. *longifolius*; 5, C. *Johannis*.—J. M. 1, ?; 2, *Philadelphus coronarius*; 3, *Anthriscus vulgaris*; 4, ? Why send such miserable scraps?—J. P. S. *Viburnum plicatum*.

NITRATE OF SODA, POTASH, &c.: H. Balshaw. These substances, mixed together in equal quantities, may be strewn on the soil in which the Tomatos, are grown at the rate of 1 oz. per square yard, or dissolved in water in the same ratio. It is perhaps better to strew them on the soil, as then their stimulating properties are carried to the roots at each successive watering. One application in three weeks is sufficiently often.

ODONTOGLOSSUM CITROSUM: C. L. Very good, but not unrivalled.

PEACH BLISTER: C. N. M. Too well known. It is the work of a fungus which finds the climatal conditions propitious. Early spraying with Bordeaux Mixture might be tried. It is too late now.

PREMATURE FALLING OF WALNUT LEAVES: L. C. There is nothing to be seen on the leaves which is suggestive of the cause. It is extremely likely that the circumstance is due to frost, or possibly to birds.

ROSES AND FLORIS' FLOWERS: W. Wadsworth. We cannot, as a rule, give the names of such flowers; they should be sent to some special grower. The saffron-coloured bud seems to be that of William Allen Richardson.

SOIL FOR FRUIT TREES: Marpit. The soil sent is chiefly marl, mixed with chalk. We know from experience that, provided it be well drained naturally, or by means of "grips" (open drains) or underground drains, consisting of coarsely-broken stone, brickbats, clinkers, and the like, covered with faggots or turf; pipes and tiles are unsuitable, owing to the roots of the trees clogging them, such laud will carry coniferous and hardwood trees, and produce marketable timber under proper conditions—why not, therefore, fruit trees? Manures rich in nitrogen, such as stable-manure where the bedding is not very frequently renewed, stall-fed oxen manure (not cows, which has but little goodness), together with nitrate of soda and potash will improve its fertility. It would be necessary to afford manorial dressings in alternate years till the trees and bushes come into bearing, after which time annual dressings would be needed, and these might sometimes consist of non-urinary soils, road scrapings, ditch clearings, &c. Do not plant before having trenched the laud 2½ to 3 spits deep, and well scuffle and stir the surface, and take some kind of catch crop the first season.

SPOTS ON GRAPES: Weathers. The appearance point mostly to mechanical injuries, from grape-scissors, &c. Kindly send a bunch in two or three weeks for further inspection.

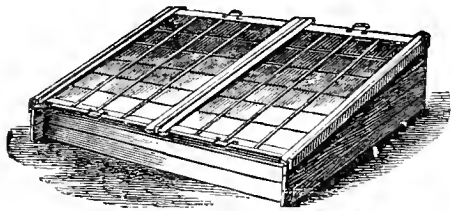
STRAWBERRY DECAY: A. J. B. The berries were attacked by the common white mould soon after arrival, which partly obliterated the other fungus, so that it could not be recognised. However, you will be acting properly if you burn every affected berry. There is something in your treatment of the plants, in the house, or in the plants themselves, which favours the growth of the fungus. You can do nothing to arrest the progress of the mould once it has attacked a fruit.

TOMATOS: G. B. The fruits are all attacked by *Cladosporium lycopersici*, which begins with a blackish spot near the crown of the fruit. It has been rather common during the past few years, and we can offer no remedy, because the presence of the disease is not known until it makes its appearance on the fruit in ugly black spots, and then it is too late. We should advise you to cut off and burn all the diseased fruits, if you would save the rest. M. C. C.—G. T. The plants have no trace of organic disease, and we strongly suspect that the falling-off is connected with some external surroundings. We have seen similar results more than once from over-watering. Cultivators are more likely to err in giving Tomato plants too much water than too little. They will rot-off above the soil with an excess of water, just as your plants seem to be doing. M. C. C.

WOOLLY OAK-GALL: D. C. Through an inadvertence, in the pressure of last week occasioned by the Temple Show, we put in the wrong Gall insect illustration. Our present woodcut (fig. 115) is the correct one.

COMMUNICATIONS RECEIVED.—S. S. Rubenstein, too late for insertion last week.—P. Davidson.—One in doubt (next week)—F. W. M.—A. D. W.—J. A.—R. L. H.—D. T. F.—W. B. H.—J. McD.—J. McJ.—D. R. W.—A. D.—J. J. W.—E. C.—R. D.—C. H.—J. H.—A. C. F.—Dr. Dammer, Berlin.—E. C. C. (next week)—Isle of Wight Rose Society.—W. Kelly.—D. R. W.—J. M.—Barr & Son.—One in Doubt.—C. W. D.

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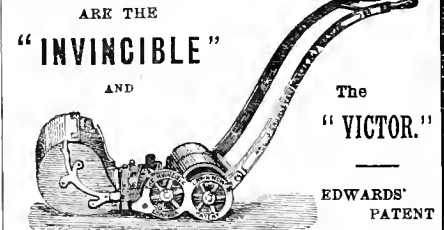
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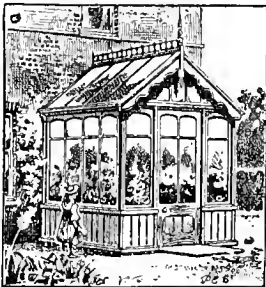
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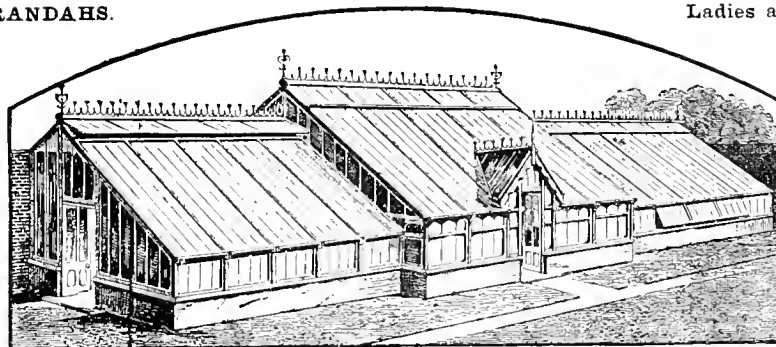
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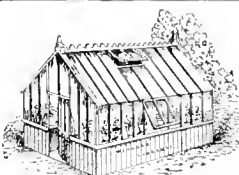
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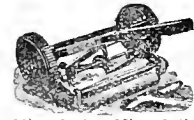
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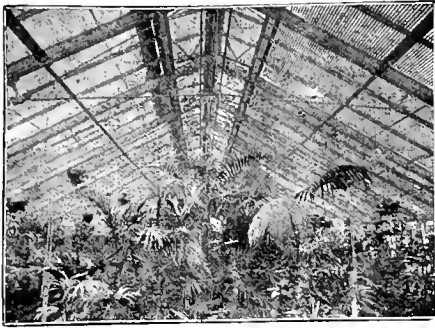
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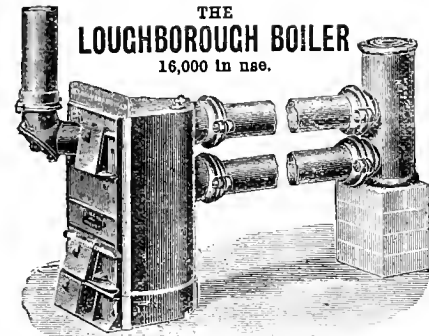
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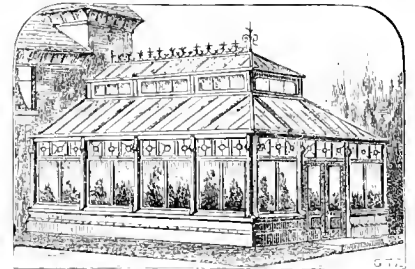
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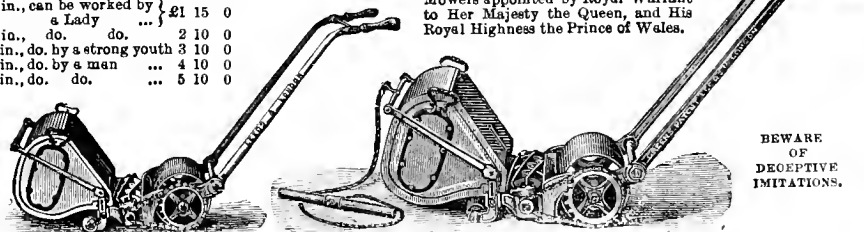
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The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

**SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains, Wheels, and Handles.**  
 To cut 8 in., can be worked by } £1 15 0  
 a Lady ... }  
 To cut 8 in., do. do. } 2 10 0  
 To cut 10 in., do. by a strong youth } 3 10 0  
 To cut 12 in., do. by a man ... } 4 10 0  
 To cut 14 in., do. do. ... } 5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



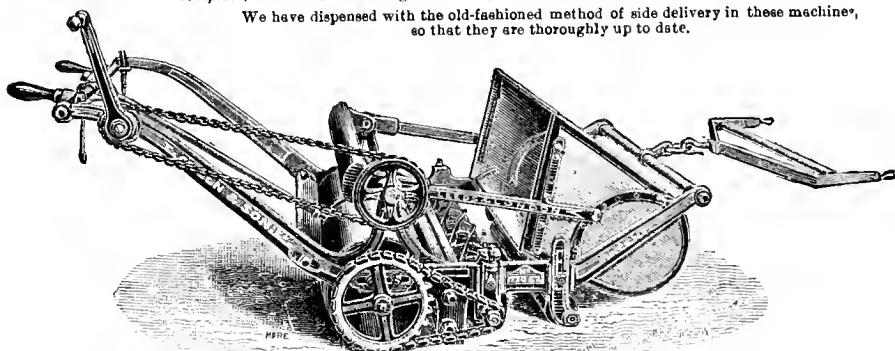
### DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man } £3 10 0  
 on even lawn ... }  
 To cut 18 inches, do. man and boy... } 7 10 0  
 To cut 20 inches, do. do. ... } 8 0 0  
 \* To cut 22 inches, can be worked by two men } £3 10 0  
 \* To cut 24 inches, do. do. ... } 9 0 0  
 \* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "No Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—

We have dispensed with the old-fashioned method of side delivery in these machines, so that they are thoroughly up to date.



### DONKEY AND PONY MACHINES.

To cut 28 inches ... .. £14 0 0  
 To cut 28 inches ... .. 16 0 0  
 To cut 30 inches ... .. 18 0 0  
 Leather Boots for Donkey ... .. 1 0 0  
 Leather Boots for Pony ... .. 1 4 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

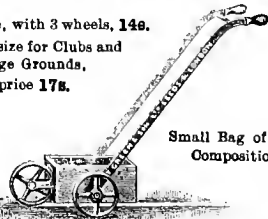
### HORSE MACHINES.

To cut 30 inches ... .. £22 0 0  
 To cut 36 inches ... .. 26 0 0  
 To cut 42 inches ... .. 30 0 0  
 To cut 48 inches ... .. 34 0 0  
 Leather Boots for Horse ... .. 1 9 0

### GREEN'S PATENT LAWN TENNIS COURT MARKER (No. 2412).

The Best Marker made.

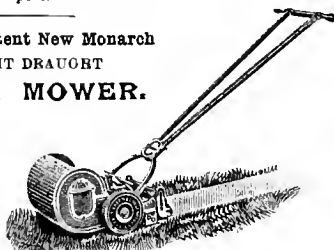
1st size, with 3 wheels, 14s.  
 Large size for Clubs and Large Grounds, price 17s.



Small Bag of Marking Composition, 9d.

### Green's Patent New Monarch LIGHT DRAUGHT LAWN MOWER.

It is superior to any Mower of this class yet brought out. Very suitable for Small Lawns and Banke.



**SALE SIZES AND PRICES.**  
 To Cut ... .. 8 10 12 14 16 inches.  
 Without Grass Box 30s. 35s. 40s. 50s. 60s. 70s. each.  
 Grass Box extra .. 5s. 5s. 5s. 6s. 6d. 6s. 6d. 6s. 6d. ,,  
 If fitted with a Long Handle for cutting banks, &c., 5s. extra.  
 No charge for packing-cases, except for shipment.

Carriage paid to all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

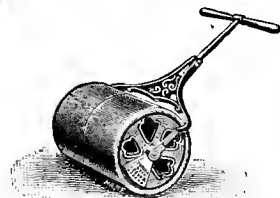
N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c. Descriptive Illustrated PRICE LISTS Free on application to

**THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;** or they can also be had of any respectable Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

### GREEN'S PATENT Ordinary IRON and WATER-BALLAST ROLLERS

FOR  
 Lawns, Drives,  
 Bowling Greens,  
 Cricket Fields, and  
 Gravel Paths.



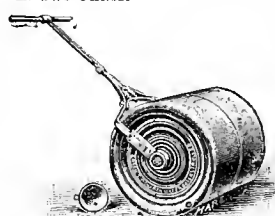
	wt. qr. lb.	Diam.	Length.	Reduced Prices
PRICES OF	2 1 0	16 in.	by 17 in.	£2 5 0
	3 0 0	20 in.	22 in.	3 0 0
	5 2 0	24 in.	26 in.	4 5 0
	6 2 0	28 in.	28 in.	5 10 0
HAND ROLLERS.	8 2 0	30 in.	32 in.	7 5 0

### GREEN'S IMPROVED WATER & SAND BALLAST ROLLERS.

IN TWO PARTS.

They can have the weight regulated to suit the requirements of the ground, and also have it increased up to 45% on the empty weight of the Rollers.

Delivered, Carriage Free, at all the principal Railway Stations and Shipping Ports in Great Britain.



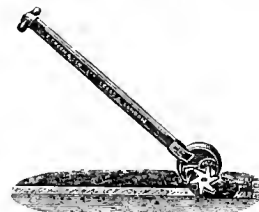
	Weight—wt. qr. lb.	Diam.	Length.	Reduced Prices
PRICES, INCLUD- ING FUNNEL.	2 1 14	18 in.	by 17 in.	£3 0 0
	3 1 0	20 in.	22 in.	4 0 0
	5 2 0	24 in.	26 in.	5 5 0
	6 2 0	28 in.	28 in.	7 0 0
	8 2 0	32 in.	33 in.	9 5 0

These Rollers possess many advantages over all others; they are made in two parts, and are free in revolving on the axis, which affords greater facility for turning, and the outer edges are rounded off or turned inwards, so that the unsightly mark left by other Rollers is avoided. They are manufactured of the best materials, bored true in the lathe, turned on the inner edges fitted on polished shaft, and are put up in a manner surpassing any hitherto brought out.

### GREEN'S IMPROVED PATENT GRASS EDGE CLIPPER. THE "HANDY."

The work it does is clean, neat, and effective, and we have every confidence in recommending this useful "Handy" implement.

It is fitted with long handle, works steadily and with ease.



Price, 30s.

# The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2893.

No. 493.—VOL. XIX. {THIRD SERIES}

SATURDAY, JUNE 6, 1896.

{PRICE 3d. POST-FREE, 3½d.}

## CONTENTS.

Agricultural depression	706	New invention—	
Androgynous cones	709	Brangwin's garden-	
Ants, to destroy	708	roller with scraper	712
Arundinaria nobilis, at		Orchid notes and glean-	
Menability	700	ings	699
Berlin Industrial Exhi-		Fansy show at Tamworth	712
bition, Horticulture at	699	Peas, early	710
Birds and injurious in-		Plants, new or note-	
sects	711	worthy—	
Books, notices of—		Cytisus X kewensis	698
Greenhouse and Stove		Pond-weed, how to get	
Plants	708	rid of	710
Icones Plantarum	708	Propagation, methods of	698
Manual of Forestry,		Radish, with concreted	
Vol. V.	697	seed-leaves	708
Os Chrysanthemum o a		Rhododendrons, new	
suta cultura	704	and other	702
Campanula mirabilis	710	Seeds, vitality of	710
Colonial note	700	Smyrna and neighbour-	
Club in Cabbage	708	hood, vegetation of	699
Florists' flowers	713	Societies—	
Forest Utilisation	697	National Horticultural	
Fruit from Tasmania		of France	706
and Australia	708	Royal Botanic	708
Fruit trees and spraying	710	Royal Horticultural	706
Gardeners' Royal Bene-		Strawberry Royal Sove-	
volent Institution, an-	711	raign	710
annual dinner of the	709	Trees and shrubs	698
Garden Flasks		Vegetables	
Grape culture in its com-		of France	704
mmercial aspect	708	Week's work of	704
Manures for market-		Flower garden, the	704
gardens	700	Fruits under glass	705
Mildew in Wheat	710	Hardy fruit garden	704
Neill prize, the, awarded		Kitchen garden, the	705
to Mr. Robert Lindsay	709	Orchid houses, the	704
Nursery notes—		Plants under glass	705
Mr. W. Bull's	712		

## ILLUSTRATIONS.

Rhododendron var., Mrs. W. T. Thistleton-Dyer	707
Seedling-Radish, a monstrous	703
Group of Bamboos, &c., in the gardens of J. Rashleigh, Esq., Menability	701
Garden-roller and scraper, a	712
Begonia Duchess of Fife	711

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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labiate varieties Meedell Bluntii
Kilm's variety Empress of India
White Rajah
Wallisi
Mrs. Brooman White
superbissima
Sea-gull
Morgania type
J. O'Brien
Argus
Adonis
Enchantress
Duchess of Montrose
Cock of the North
Mossie Wagnerii
Horsmanni
Rex
Trianeii alba, 3 plants

100 Plants of CATTLEYA AUREA, also about 150 Plants of ODONTOGLOSSUM ALEXANDREI in flower and bud.

Friday Next, June 12.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE, on FRIDAY NEXT, June 12, 100 ROSE-COLOURED ARUM LILIES...

On view morning of Sale, and Catalogues had.

Friday Next, June 12.

IMPORTANT SALE OF DUPLICATE and SURPLUS ORCHIDS from the collection of the Right Hon. JOSEPH CHAMBERLAIN, M.P., of Highbury, Moor Green, Birmingham...

- Cattleya Claesiana
Exoniensis
Trianeii Warecewiczii
amanda
Trianeii alba
Mossie Hardyana
Partheuia Vernalis
Dendrobium Wardianum
Dalhousianum luteum
nobile album
hybrid Thalia
splendissimum graodi-florum

Unnamed Seedling Cattleyas and Dendrobiums, together with a large quantity of other Cattleyas, Odontoglossums, Vandas, Dendrobiums, Colognyes, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.O., on FRIDAY NEXT, June 12, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Normandy, near Guildford, Surrey.

MODEL FRUIT GARDEN and NURSERY, of 41 a. 3r. 39 p., stocked with thousands of thriving young Fruit Trees of the highest grade...

MESSRS. PROTHEROE AND MORRIS beg to announce that this valuable and productive Freehold Model Nursery and Fruit Garden was NOT SOLD at their Sale at The Mart, London, E.O. on Wednesday, May 27.

[Auction and Estate Offices, 67 & 68, Cheapside, E.C.

Friday Next.

A few plants of the very rare DENDROBIUM HUTTONI (the white variety of D. superbum), a good plant of VANDA LOWII VAR. SCHILLERIANA, only three or four plants of this most peculiar variety are in existence...

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE, on FRIDAY NEXT, June 12.

On view morning of Sale, and Catalogues had.

Friday, June 19

CATTLEYA LUDEMANNIANA, free-flowering variety. CATTLEYA MOSSIE, a distinct type, from a new district.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY June 19, at half-past 12 o'clock...

Also from a new location a special consignment of CATTLEYA MOSSIE, showing much diversity, many of the plants being very distinct...

On view morning of Sale, and Catalogues had.

Thursday Next.

GRAND UNRESERVED SALE OF IMPORTED and ESTABLISHED ORCHIDS.

A SPLENDID IMPORTATION OF ORCHIDS, without reserve, comprising: Cattleya crispata, Warneri intermedia, Laelia pseudoculata, Odontoglossum Londeseborghiana, O. Donnellianum, O. Madrese, O. Rossi Majus, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

AN IMPORTATION OF NEW ORCHIDS, by order of Mr. J. W. Moore, of Bradford.

A NEW PHAIUS, not yet flowered in this country, and imported from an entirely new district; and a NEW CYMBIDIUM, just imported, quite unknown.

- Dendrobium Thyrsiflorum
Rhoplopterygium
Jamesianum
Parishii
Paxtoni
Dalhousianum
Cypripedium Spicerianum
Boxalli
Dendrobium Lituiflorum
Farnhami
Jenkinsii
Fyberianum
Ambrintium oculatum
Cypripedium coecolor
Cymbidium Maestrii
Lowii, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, June 11, at half-past 12 precisely.

On view morning of Sale, and Catalogues had.

THURSDAY NEXT.

A GRAND IMPORTATION OF SEVEN CASES OF

PERESTERIA ELATA, IN MAGNIFICENT ORDER.

JUST RECEIVED DIRECT.

Also, 30,000 Seeds of Kentia Belmoreana, AS RECEIVED.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 11.

WANTED, TO PURCHASE, a NURSERY or FLORIST BUSINESS, in working order. Y. C. M., 41, Wellington Street, Strand, W.C.

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HAMPSHIRE. - FREEHOLD NURSERY, 30 acres, near station and sea. Six well-built Greenhouses, 60 Frames and Lights, extensive and model Piggery, and Sheds...

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TO BE SOLD, as a Going Concern, a compact MARKET NURSERY, all glass, consisting of 11 Houses: 8 Houses, 45 feet by 12 feet; 1 House, 45 feet by 25 feet; 2 Houses, 65 feet by 25 feet...

To Nurserymen and Market Gardeners.

FOR SALE, on very advantageous terms, a SMALL BUSINESS, comprising 2 1/2 acres, with two Sparrow Houses, &c., in a valuable and improving position.

SHOP, close to Covent Garden, with large Light and Dry Basement. Lease, 7 years, or shorter, at 240 per annum.

To Nurserymen, Fruit Growers, & Market Gardeners. TO LET, or SELL, extensive FREEHOLD MARKET NURSERY (Middlesex).

NURSERY TO LET, three miles from Covent Garden. Eleven to thirteen houses heated with hot-water; dwelling-house if required.

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HARDY BORDER and HERBACEOUS PLANTS, &c. - FORBES' new descriptive Illustrated priced CATALOGUE for 1894, 146 pages, gives all particulars, including colour, height, season of flowering, &c., of thousands of these marvellously varied and highly-popular flowers.

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PRIMULAS! PRIMULAS! PRIMULAS! Williams' Superb Strain, 1s. 6d. per dozen; 10s. per 100. CINERARIAS, same price; also, PRIMULA OBCONICA, 2s. 6d. per dozen; DOUBLE WHITE PRIMULAS, 6d. each.

MANGEL WURZEL and TURNIP SEEDS. H. and F. SHARPE are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, Crop 1895, at exceptionally low prices, which may be had on application.

**ROYAL GARDENERS' ORPHAN FUND.**

**THE ANNUAL FESTIVAL DINNER, in Aid of the ROYAL GARDENERS' ORPHAN FUND, will take place at the "Hotel Metropole," on THURSDAY, June 13, 1896, when His Grace the DUKE of BEDFORD, President of the Fund, has kindly consented to preside.**

The Committee will be most grateful to receive any contributions, and have the pleasure to announce the following:—

J. BERTRAM	...	...	...	...	25 5 0
W. COLEMAN	...	...	...	...	2 2 0
R. A. MULLIGAN HOGG	...	...	...	...	1 1 0
Sir TREVOR LAWRENCE, Bart.	...	...	...	...	5 5 0
W. MARSHALL	...	...	...	...	2 2 0
MARKET GARDENERS, NURSERYMEN, and FARMERS' ASSOCIATION	...	...	...	...	10 10 0
W. J. NUTTING	...	...	...	...	3 3 0
J. REYNOLDS	...	...	...	...	1 1 0
N. N. SHERWOOD	...	...	...	...	25 0 0
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Chiswick, London. A. F. BARRON, Secretary.

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**NEW FERN, PTERIS BOULTONI.**—This beautifully distinct Fern is now offered for the first time, intermediate between P. serrulata and P. tremula; pinnae beautifully undulated, nice graceful habit. Received an "Award of Merit" at Temple Show. Good plants, 2s 6d. and 3s 6d. each. Trade price on application. T. S. BOULTON, 17, Tyrrrel Road, East Dulwich, S.E.

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Crozy's and other choice kinds, in fine strong plants, from single pots, 2s. 9d. per dozen, 20s. per 100, carriage-paid. Carefully packed. C. R. SHILLING, Hartley Nursery, Winchfield, Hants.

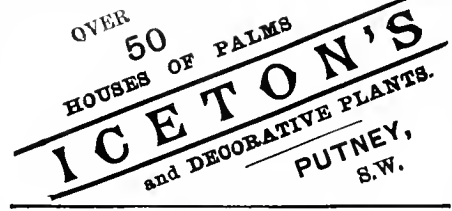
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Price Lists and Testimonials on application. Analysis sent with orders of ½-cwt. and upwards. SOLD BY ALL SEEDSMEN.

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**NATIVE GUANO FOR POTATOS, VEGETABLES, &c.** B. LEE & SON, Market Gardens, Burnham.—Used for three years for Vegetables, Strawberries, Cucumbers, Tomatoes, and other Market Garden Crops, and it has "given great satisfaction for all crops." T. REASON, Gardener to Lord Windsor.—Used for several years for Potatoes and general Kitchen Garden Crops. Results: "Good. A capital manure."

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Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used. Sample Tin, 2 lb., free by Post, on receipt of P.O. for 2s. 10d. Price LIST and testimonials on application.

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**EXHIBITIONS.**

**ROYAL BOTANIC SOCIETY OF LONDON.** GARDENS, REGENT'S PARK. FLORAL FETE, and CHILDREN'S FLORAL PARADE and FLOWER SHOW, WEDNESDAY, June 10. Procession of Flower-dressed Children's Pony Carriages, Mail Carts, Tricycles, Symbolic Groups, &c. Two Military Bands. Tickets at the Gardens, or of the Principal Agents, 5s. Two Children admitted with One Ticket. The Gardens are open to the public Saturdays and Mondays. Band on Saturdays from June 13. Admission 1s.

**HEREFORD and WEST OF ENGLAND ROSE SOCIETY.**—The Thirtieth Annual Exhibition of Roses (Open to the United Kingdom) will be held in the Castle Green, Hereford, on Thursday, June 25, 1896. £120 in Prizes. Prize Schedules, Entry Forms, Subscribers' Tickets, and further particulars may be obtained from the Hon. Secretary, the Rev. Frob. G. E. Ashley, Stretton Rectory, Hereford; or from Messrs. Jakeman and Carver, Booksellers, Hereford, who will be glad to receive the names of new subscribers.

**ABBAY PARK, LEICESTER.**—The ANNUAL FLOWER SHOW and GALA will be held in the above Park on TUESDAY, August 4, 1896. For Schedules and particulars, apply to Mr. JNO. BURN, Hon. Secretary.

**CHESTER HORTICULTURAL SHOW and FETE.**—AUGUST 5 and 6, 1896. Upwards of £400 in HORTICULTURAL PRIZES. For Schedules apply to the Hon. Secretary—Mr. J. WYNNE FFOULKES, Crypt Chambers, Eastgate Row, Chester.

**CLAY CROSS HORTICULTURAL SOCIETY.** THIRTY-NINTH ANNUAL SHOW, August 11, 1896. PRIZES, £275. Schedules may be had on application to—Mr. G. LAMS, Clay Cross.

**SOUTH MANCHESTER and DISTRICT HORTICULTURAL SOCIETY.** The FIRST ANNUAL SHOW will be held on the Grounds kindly lent by E. Donner, Esq., Fallowfield, SATURDAY, August 22, 1896. Schedules may be had by applying to the Hon. Secretary, THOS. ROBERTS, 15, Brook Terrace, Lady-harn Lane, Withington

**To Nurserymen and Florists. WOOD GREEN HORTICULTURAL SOCIETY.** ELEVENTH ANNUAL EXHIBITION. The Society's Silver Medal will be awarded to Exhibits of sufficient merit. Applications for space to be addressed to the Hon. Secretary, E. J. WICKENDEN, F.R.H.S., Heathfield, Bounds Green Road, New Southgate, N.

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ESTABLISHED OVER 30 YEARS.

Exceeds all others in General Fertilising Properties and Staying Powers.

It promotes a rapid, healthy, and robust growth to plants generally. It is a clean and dry powder, with very little smell. The highly-fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

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Insoluble Phosphate	...	...	...	35.74 per cent.
Soluble	...	...	...	63 "
Nitrogen	...	...	...	8.93 "
(Equal to Ammonia)	...	...	...	10.85 "

Sold in Tins, 1s., 2s. 6d., 5s. 6d., and 8s. each; and in Kegs well secured, to prevent loss through exposure, 28 lb., 10s. 6d. 56 lb., 18s.; 112 lb., 32s.

To be had from Seedsmen and Florists. MANUFACTURERS—

**CORRY & CO., Ltd., LONDON.**



**FOR GREENHOUSES.** One is sufficient for 1300 cubic feet. REDUCED PRICES—9s. per dozen; refills for three tins 2s. per packet.

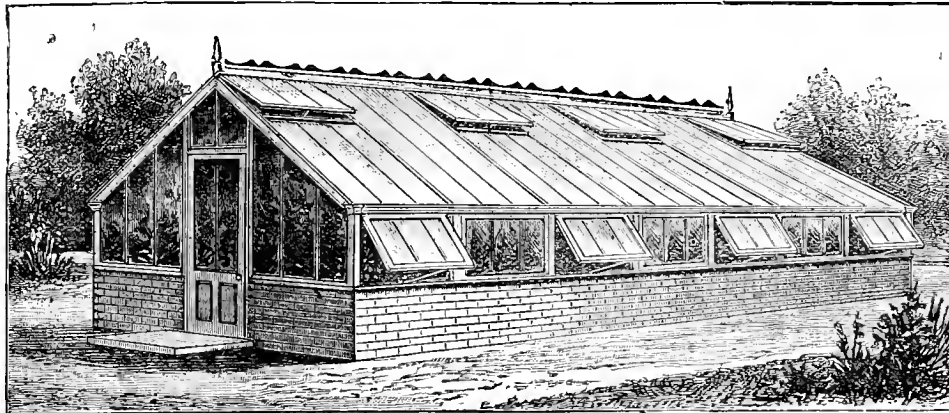
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## HORTICULTURAL BUILDER AND HOT-WATER ENGINEER,

EVERY DESCRIPTION of CONSERVATORIES, GREENHOUSES, GARDEN LIGHTS, &c.  
BUILDER TO THE PRINCIPAL GROWERS IN THE UNITED KINGDOM.

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HOUSES,  
PEACH  
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VINERIES,  
and  
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HOUSES.



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and  
TOMATO  
HOUSES,  
PLANT  
and  
FRUIT  
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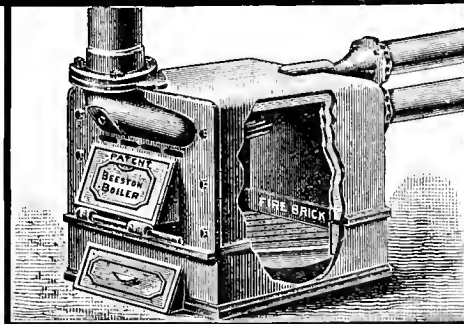
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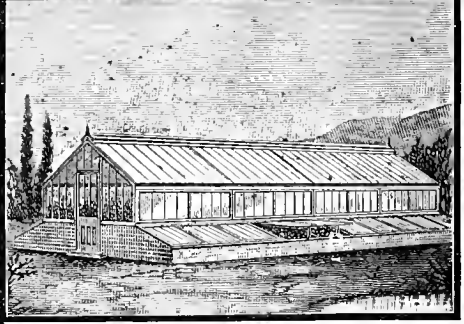
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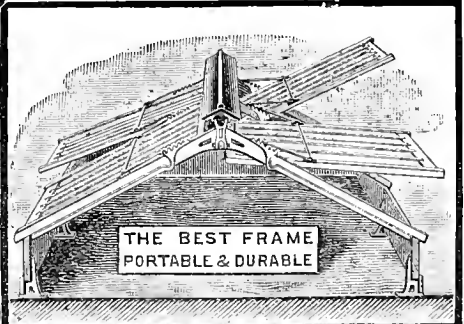
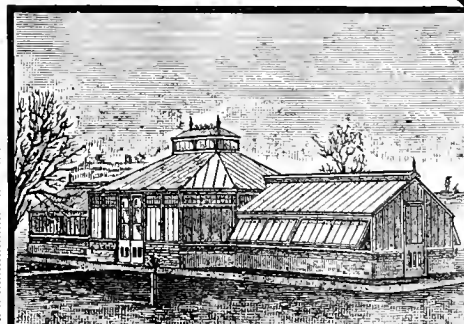
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A large quantity of Small FERNS in 2½-in. pots.—PTERIS CRISTATA, SERRULATA CRISTATA, ditto ADIANTUM FULVUM, PUBESCENS, and ELEGANS (small thumbs), at 9s. per 100; 500 and upwards, at 8s. 6d. Large 60's, Pteris tremula, at 20s. per 100; 48's, Pteris cristata, nobilis, major, tremula, and also ARAIAS, at 4s. 6d. per dozen.  
ADIANTUM CUNEATUM (small thumbs), 10s. per 100.  
Above prices are for cash with order only. Packing Free.  
An Inspection at the Nurseries is invited.

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BLACKHEATH NURSERIES,  
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BEGONIAS, 12 splendid single, mixed colours, 3s. 6d.  
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CHRYSANTHEMUMS, 12 beautiful singles, A 1 for cut  
flowers, 4s.  
DAHLIAS, 12 grand new Cactus kinds, 6s.  
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DAHLIAS, 12 beautiful single kinds, 3s. 6d.  
FUCHSIAS, 12 splendid double kinds, including White and  
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FUCHSIAS 12 splendid single kinds, 3s. 6d.  
SHOW and DECORATIVE PELARGONIUMS, 12 splendid  
kinds, 6s. 6d.  
ZONAL PELARGONIUMS, 12 best new singles, 1895, includ-  
ing Pearson's, Miller's, and Canell's, 8s.  
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Improved, 6s. 6d.  
ZONAL PELARGONIUMS, 12 best older double kinds, 4s.  
IVY PELARGONIUMS, 12 best kinds, 4s.  
DOUBLE PETUNIAS, 12 grand kinds, 6s.  
All free for cash with order. Send for Catalogue.

H. J. JONES, Bycroft Nursery, Lewisham.

**KENTIA BELMOREANA.**

Perfect Specimens, 10 feet high, fourteen leaves,  
in 15-inch pots.  
Price on application.

**NERINE JAPONICA.**

Strong established bulbs, in 48-pots, of the beautiful  
crimson-flowered variety, 18s. per dozen.

**DRACÆNA SANDERIANA.**

Strong plants of this grand New Dracæna, 5s. each.

**LYCORIS AUREA.**

Re-introduction of the beautiful orange-yellow,  
Eucharis-like, free-flowering bulb.  
Send for coloured drawing. Plants established in large 60's,  
18s. per dozen.

**ANTHURIUM SCHERZERIANUM WARDII**

Very large specimen, suitable for exhibition, 3 ft. 6 in.  
diameter, 150 leaves, 30 to 40 blooms.  
Price on application.

**GALADIUMS, NEW and CHOICE,  
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Strong plants, in 48's and 32's, from 5s. to 10s. 6d. each.  
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CYCAS STEMS, DRIED CYCAS LEAVES,  
DRIED EULALIA PANICLES.**

**MOSS, SEEDS, TREES, SHRUBS, &c.,  
Produced in Japan.**

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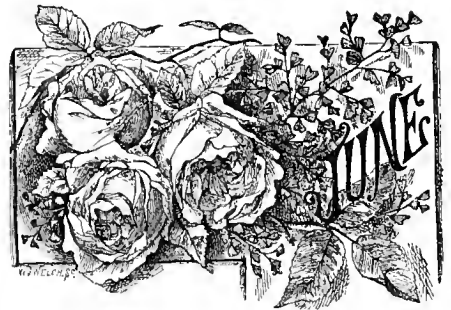
We have an immense stock of all kinds of Ferns, Stove, Green-  
house, Filmy, Hardy Exotic, and British, including many very  
beautiful varieties rarely seen, but which ought to be more  
generally grown. Catalogue free on application.

**W. & J. BIRKENHEAD, F.R.H.S.,  
FERN NURSERIES, SALE, near MANCHESTER.**

MUNGO CHAPMAN, late of Easter Dnd-  
dington Lodge, Mid-Lothian, begs to intimate to his  
friends and acquaintances that he retires from his present  
situation on the 20th of the present month. He has arranged  
to reside at St. Ninians, near Stirling, where he intends to  
commence the Cultivation and Sale of Hardy Plants on his  
own account.

With the experience gained during twenty-four years in the  
management of one of the most choice private collections of  
plants to be found in the British Isles—that of the late Charles  
Jenner, Esq.—Mr. Chapman can confidently undertake to  
supply what is select and true to name of the most suitable  
plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from  
which customers may make their own selection. In the  
interval, he will be fully employed in getting up Stock.  
May 19, 1896.



THE

**Gardeners' Chronicle.**

SATURDAY, JUNE 6, 1896.

**FOREST UTILISATION.**

MR. FISHER'S translation of Gayer's *Forst-  
benutzung* forms vol. v. of Dr. Schlich's  
*Manual of Forestry* (Bradbury, Agnow, & Co.,  
Ltd., Whitefriars). In German forestry-litera-  
ture few works are better known and ap-  
preciated than this, and we have little hesitation  
in predicting that the English edition will, in  
course of time, become equally popular where-  
over the English language is read and spoken.

The book consists of three main parts, the  
first of which deals with the properties of  
timber, its use in various industries, and its  
felling and removal from the forest. This part  
might be appropriately divided into two sec-  
tions, as chapters I. and II. have little connec-  
tion with those following. Under the head of  
"Technical properties and qualities of wood,"  
a short account of the anatomy of timber is  
given, followed by a comprehensive review of  
the various factors which determine the strength,  
durability, and technical value of timber gene-  
rally. The influence of the breadth and struc-  
ture of the annual ring, and the relative breadth  
of the summer zone, or the weight and quality of  
the timber, is discussed in a general way. The  
statement that narrow rings in coniferous  
timber usually imply heavier wood than broad  
rings, depends for its correctness upon what is  
meant by "narrow" and "broad." Schwappach  
found that the heaviest wood in twenty-four  
Scots Pine from various plantations showed a  
ring-breadth of about 1½ mm., while wood  
formed after the 150th year from very narrow  
rings had a low specific weight. On the other  
hand, much of the Swedish red-wood so highly  
appreciated for building purposes has extremely  
fine rings, in which the autumn or summer zone  
is poorly developed. These facts tend to prove  
that the architect and builder value clean growth  
and uniformity of texture higher than specific  
gravity, although for many purposes the latter  
may be of greater importance than the former.  
The various defects in timber due to frost and  
heart-shake, dead branches, wounds, and disease  
are described and explained, and remarks on  
the seasoning and period of felling timber deserve  
close attention from the practical forester.  
Two beautiful plates, and a number of useful  
data on the physical properties of timbers, will  
also be found in this chapter.

Chapter II. gives a comprehensive summary  
of the numerous industrial uses of wood in ship  
and house-building, joiner's, wheelwright's,  
and cooper's work, and many other minor  
industries in which wood forms the raw article.  
The description of foresters' tools and felling



timber is chiefly of value in showing the numerous methods adopted in different parts of Central Europe. So far as tools and the use of them go, the English and Americans are probably as far ahead as any European nation. The sections on forest tramways, timber slides, floating and rafting timber, are carefully written and fully illustrated, and the detailed description of these operations and appliances should be of great service to the Colonial forester and engineer. Curiously enough, the method of clearing timber off boggy land, or out of deep ravines by means of an engine and a steel rope is not mentioned, although its adoption in this country has given the best results. The general principles involved in the sale and disposal of timber are pretty fully discussed, and a good word is said for that much-abused person, the middleman, in the shape of the timber-merchant. Few will question the truth of the following paragraph (p. 468):—"In order to sell wood profitably, a forester must be a trader, and must have the same aptitude for trade as other dealers who sell wares." This practically sums up the whole question of timber selling.

In Part II. the minor products of the forest are dealt with. Amongst these we find Oak-bark, and methods of barking described. Gayer's opinion that barking impairs the quality of the timber may be correct, but it must be remembered that timber merchants do not generally distinguish, so far as prices go, between barked and unbarked Oak, while barking facilitates measuring and carriage, and better enables an opinion to be formed of the quality of the timber. When near a tannery, a small profit can also be made on the bark itself, and so long as this is the case, it pays the owner to bark his trees. Forest pasture and combinations of field crops with forestry are fully dealt with, although the latter practice is unknown in this country.

Chapter IV. of this part contains some useful information on harvesting and storing the seeds of trees, although it is not quite clear why Sycamore seed should remain for two winters in the trenches, as directed here. The chapter on forest-litter has a decidedly sylvicultural bearing, and although the subject is one which chiefly concerns those countries in which forest rights still exist, the principles involved are applicable to any forest managed on economic lines. In this country the woods are not deprived of their litter to any great extent by human agency, but the wind is allowed to sweep through many exposed plantations unchecked by soil-protecting growth. Interesting accounts of resin-tapping and the antiseptic treatment of timbers are given, the latter being a subject of increasing importance as the more durable woods become scarcer, and substitutes have to be found. Forest saw-mills; charcoal-burning, utilisation of peat, the cleaning of coniferous seeds, and extraction of turpentine and resin are finally treated of. The book contains upwards of 300 excellent illustrations, which add considerably to its interest. From the comprehensive nature of this volume, it may be inferred that it is by no means intended for the forester alone, but is of equal interest to the wood-consumer as to the wood-producer; and the builder, architect, and engineer will find much that concerns their callings in its pages. Many of the subjects dealt with have naturally but little reference to British forestry, but in our Colonies and Dependencies, as well as in the American States, this book should be invaluable. The wasteful method of working natural forests throughout the world cannot be justified in face of a possible scarcity of timber, and if persisted in, serious consequences are inevitable. Such a book as this, falling into the hands of thoughtful and influential colonists, may go far towards forming an intelligent public opinion on the forestry question, for it is evident that a nation must first realise the value of an article before it will go to the expense of protecting or producing it. A. C. F.

## NEW OR NOTEWORTHY PLANTS.

### CYTISUS × KEWENSIS (*new hybr.*)

WE already possess in *Cytisus* × *præcox* a hybrid Broom, the beauty of which has obtained for it a place amongst the most valued of all hardy shrubs. It would be assuming too much to predict a like future for this new comer, yet it is quite distinct from any other *Cytisus*, and possesses, too, very considerable attractions. It was raised at Kew four or five years ago from *C. Ardeini* ♀ by *C. alba* ♂. This year it has flowered so well, and its distinct character has been seen so plainly, that it seems desirable to put its origin on record.

It has a perfectly prostrate habit, and during early May bears long sprays (12 to 15 inches long) of thickly crowded flowers. The leaves are trifoliolate and together with the petioles and young wood are covered with a short, soft pubescence. The flowers are creamy-white, and fragrant, the large, cordate, standard petal being  $\frac{3}{4}$  inch high. Whilst the habit is that of *C. Ardeini*, the wood more nearly resembles that of *C. albus*. The colour of the flowers is almost intermediate between the parents, and is very like that of *C. præcox*; indeed, the plant might easily be taken for a prostrate form of that hybrid. For the rockery, or for forming a close compact covering to the ground, it is a distinct acquisition. W. J. Bean, Kew.

## TREES AND SHRUBS.

### THE DWARF JAPANESE THUJA (*THUJA DOLABRATA NANA*).

THIS is a slow-growing, miniature bush, with comparatively small light green foliage, more resembling a Lycopod than a Conifer. The average height of a large number of old specimens that I examined was only about 20 inches, while the spread of the branches was nearly 3 feet. All are remarkable for their tidy and uniform habit of growth, forming dense, compact specimens, yet not stiffly so, as is the case with many pigmy Conifers. The affinity between the species and this variety is readily recognised, but the foliage of the latter is altogether thinner, and more flaccid, and of a much lighter and more silvery-green than that of the parent. It is a useful shrub for the rock-work or confined border, and the silvery-tinted foliage makes the plant remarkable and pleasing. A. D. Webster.

### CYTISUS ARDOINI.

This rare species was discovered in the mountains near Mentone in 1847, but its introduction to cultivation took place twenty years later, when it was again found on Mount Cima d'Ours (also near Mentone). It is of prostrate habit, and has small, pubescent, trifoliolate leaves. It is a very free-flowering plant, and its blossoms are bright golden-yellow. Moggridge figured it in his *Flora of Mentone*. Its rarity (said to be due to the continual cropping of its foliage by animals, and the consequent absence of seeds), has hitherto prevented it from becoming well known, but its admirable adaptability for the rock-garden has been well shown by a tuft that has flowered in the Rockery at Kew this spring.

### ERINACEA FUNOENS.

A plant of this extremely pretty and interesting shrub has recently flowered at Kew. It is a dwarf, very spiny Leguminous bush, rarely as much as 1 foot in height, and destitute of leaves except on the young branches. Although one of the very rarest of its class, it has been known in this country more than 250 years, being described and figured in the 1633 edition of Gerard's *Herbal*, as *Genista spinosa humilis*. The flowers (which this season have been so abundant as to almost hide the branches) are of a beautiful purplish-blue—a colour very welcome among the hardy shrubby Leguminosæ. The species appears to have been originally discovered by Clusius on the mountains of Spain. It has since been found in the Mount Atlas region. The name *Erinacea* is derived

from *Erizo*—the common name of the hedgehog in the locality where it was originally found. It is apparently fairly abundant in some places, as it is said to be quite a hindrance to travellers, on account (as Gerard puts it) of its "plentiful store of green prickles." The plant has stood out-of-doors at Kew during the past winter without protection, but that was not a severe test as to hardiness. In the older publications, it is spoken of as needing protection in winter. Canon Ellacombe grows it at Bitten, and it would be useful to know from him what degree of cold it will stand. In any case, it is a shrub well worth looking after.

### ROSA HISPIDA.

This Rose is evidently a near ally of the Scotch Rose (*R. spinosissima*), but its origin is doubtful. It was formerly known as the Yellow American Rose, and Pursh, describing it as *R. lutescens*, included it in his *North American Flora*. This was erroneous, and in the *Botanical Magazine*, t. 1570, it is suggested that it is a native of Siberia, probably because of its similarity to the variety of *R. spinosissima* (*altaica*) that is native of the Altai Mountains. Now, however, it is believed to be of garden origin, and the fact that there are no wild specimens in the Kew Herbarium, although there are several from gardens, seems to support this view. It is an old garden Rose, although now uncommon, and records of its being cultivated as far back as 1781 exist. It has erect stems from 4 to 5 feet high, thickly covered with slender bristles, the leaves being glabrous, and consisting of seven to eleven leaflets. The flowers are single, and measure 2½ inches across, the colour being a charming shade of soft creamy-yellow. During the past week or two the plant has flowered in the collection of wild Roses at Kew. W. J. B.

## METHODS OF PROPAGATION.

(Continued from p. 673.)

THE HAWTHORN.—The common variety of the Hawthorn is deservedly popular as a flowering tree in our parks and paddocks, but where any of the varieties that produce coloured flowers have been planted, a much greater effect is created. A friend of mine used to have his hedges grafted with the single Scarlet Thorn and Paul's variety, and very handsome they looked until the railway, and with it the ubiquitous excursionist, came. To find red May in the hedgerows was to them a novel experience, and when the Cockney crows had passed, the poor hedge was a wreck. Thorns should be grafted early, either low down or at standard height. *Crataegus oxyacantha*, *punicæ plena* (*C. o. rosea superba*), the double white, the single scarlet, and Gumpier's bicolor, are the finest coloured forms, while one called *Neapolitana* in some nurseries, having large trusses of white flowers and good foliage, though later than the common Hawthorn to flower, makes a handsome park-tree. For fruits only the best are *ariæfolia*, *macrocarpa*, and such very large fruiting kinds included by Loudon under a sub-genus *Aronia*, and the Tansy-foliaged Thorn, these being distinct and desirable. Other popular kinds are the Cock's-spur and the Glastenbury, the latter said to flower on Christmas Day; but I have never seen it, maybe because my nursery trees were too young. Before dismissing this most useful and interesting bush, let me call attention to Carrière's fine *Aronia*, a new and very unique variety among Thorns (see *Gardeners' Chronicle*, p. 737, Dec. 22, 1888). The tree is vigorous, with large dark-green foliage, which is very persistent. The flowers are large, pure white, changing to rose as they fade, and followed by fruit as large as the common Medlar, but scarlet. These fruits are edible, and have the flavour of a very ripe Apple. A most desirable kind for all gardens of any pretension.

### THE FLOWERING ASH.

A somewhat neglected tree is the *Ornus*, or flowering Ash. If scions can be procured of this, it may be worked freely on the common Ash, and will flower more abundantly than upon its own roots. It is known both as *Fraxinus Ornus* and *Ornus europæa*.

The small flowers are borne upon erect terminal spikes, and are agreeably fragrant. Of other kinds of Ash it is desirable to propagate by other means than seeds are the weeping form, to grow into a natural arbour; and the Aucuba-leaved Ash, the large foliage of which is maculated with bright golden spots, and if you can procure scions, work a few trees of *Ornus Mariesii*. This will produce pure white, very fragrant flowers in May and June, and is a very suitable tree for a lawn.

#### THE OSMANTHUS.

Mr. J. G. Veitch sent from Japan some extremely pretty shrubs, called *Osmanthus*, allied to *Olea*. They may be grafted on the *Ligustrum* or *Privet*, but my experience is that they had better be worked indoors. The variegated kinds make very pretty shrubs, and when in flower they fill the air with grateful fragrance. If grafted 1½ to 2 feet from the ground, they form nice heads, and then are most useful to lend variety to the plants in cool houses or winter gardens.

#### THE LIMES AND ELMS.

There are many fine Limes, but by far the most useful is Parmentier's large-foliated kind, which makes a lovely cool shade creating weeping tree, while the foliage being silvery beneath is very attractive during a gentle breeze; this is grafted on the yellow-twigged Lime. While writing of weeping-habited trees, I must not forget the Elms. Among these the best are *Ulmus campestris pendula*, and a large foliated kind called the Parasol Elm. All may be grafted on the *Wych Elm*, but the *Huntingdon* is a cleaner and more vigorous stock. Some good and useful plants may have been omitted from the foregoing notes, but will most likely be dealt with under the heading of inarching or budding. *Experience*.

### SMYRNA AND NEIGHBOURHOOD.

(Continued from p. 670.)

Of Tulips the name is legion, and it was my good fortune to come across a bed of *T. undulatifolia* on one of the hills; the brilliant and large scarlet flowers and frilled leafage covered an area of some 20 or 30 yards square, and formed a beautiful sight. This family is represented in Mr. Whittall's collection by *T. orphanidea*, primrose-coloured; *T. Biebersteiniana*, very dwarf, bright yellow, more like an *Ornithogalum* than a Tulip; *T. montana*, bright red, with leaves curved, like ram's-horns; *T. Haageri*, brick-red, but varying much; *T. sylvestris*, yellow, tinged with brown inside; *T. bythinica*, a little gem, dwarf, lilac-red—of this there is another form, bright magenta and yellow bars; *T. ciliatula*, bright red and brownish-red, two varieties; *T. (?)*, unnamed as yet, very fine, bright orange colour; *T. australis (?)*, rather dwarf, bright yellow, so named at Kew, but apparently open to query; *T. Clusiana*, pinkish-white, with recurved leaves; *T. præcox*, so named apparently on the *lucus a non lucendo* principle, being one of the latest bloomers, very large, 1½ foot high. There are two varieties, one pink and one red, with white central line; Mr. Whittall regards this as a new form, and misnamed. Another form, smaller, and brownish-red, figures also as *T. præcox*; *T. Sprengeri*, narrow leaves, dark crimson; *T. (?)*, very like *T. Elwesii*, pink with yellow centre, and blunt ovoid petals, very distinct indeed.

The Scillas are mainly represented by forms of *S. bifolia*, which ranged from Constantinople down to the Taurus mountains, and varies much in size and colour. White and pink forms occur as well as the normal blue. *S. b. Whittallii* is very distinct and pretty, the petals being very slender, almost filamentous when dried—the normal form grows 9 or 10 inches high, and is very floriferous; *S. b. taurica* is beautiful and distinct. This embraces two varieties, one with filamentous blooms *à la Whittallii*, the other with wider petals. Its distinctive character, however, is that the flowers form a compact conical head on an erect stalk. *S. autumnalis* is a very small-flowered species, blooming in September, the small *Myosotis*-like clusters appearing before the foliage.

Crocus appears in innumerable varieties, but so far no classification has been made. *Colchicum*, however, has received more attention, and is represented by *C. Szowitzii*, dwarf, pink, early spring; *C. montanum* varies much, and each bulb yields numerous flowers; *C. autumnale* is also in great variety—there is a fine variegated form, coloured *à la Fritillaria*, in check pattern; *C. Parkiusoni*, very large and handsome, lilac and white, also checked; *C. lactum* is a very handsome, quite a gem; it is pure white, and the flowers are numerous. Mr. Whittall received this last unwittingly, and shortly after was delighted to find the bulbs in full bloom in his study in the bag they arrived in, a fair augury for easy culture.

*Sterobergia* is represented by *S. lutea*, a yellow form; *S. macrantha*, a grand canary-yellow variety, and distinctly beautiful; *S. Fisheri*, which produces its leaves first and in the spring, it is very like *macrantha*, but has flowers like *lutea*, and shorter stems, the bulb is rather smaller.

*Fritillaria* affords endless varieties, of which some thirty are found in this collection. *F. dasyphylla* appears as a small form, with bright yellow, brownish-red, or very dark red flowers; another is red with yellow stripes inside. *F. d. amalyriou* is very fine; the flowers are brownish-red, striped yellow. *F. Pinardi* is very tall, and the flowers small, brownish-red. *F. Whittallii* is lilac-red, mottled with lighter lilac; very fine, but varies much. *F. citrina* is greenish-yellow. *F. Elwesii* is very fine, and grows 15 inches high; green flowers, very large, with dark crimson tips. *F. aurea*, very large, yellow, spotted brown. *F. meleagris* also occurs.

This completes my notes on first visit, and gives, I think, a fair idea of the general abundance of spring bulbs, for which this usually arid country must be specially adapted. So far I have been struck by an absence of the *Sedum* and *Saxifraga* family, in situations seemingly well adapted for them; but as I start to-morrow for the hilly region, 60 or 70 miles south of this, I may find cause to alter my opinion as to the scarcity of these, and also of Ferns, and may possibly send you a few more notes on my return. *Chas. T. Drury*.

### ORCHID NOTES AND GLEANINGS.

#### DENDROBIUM PARISHI.

IN the collection of H. GREENWOOD, Esq., Highfield, Haslingden (gr., Mr. Spur), are some well-grown and remarkably well-flowered plants of *Dendrobium Parishii*, on one of which I counted forty pseudo-bulbs with numerous leads and eighteen flowers; another plant had more than eighty flowers. At this season, when *Dendrobiums* are on the wane, this is a most useful species. The flowers on different plants vary in colour, in some of them the segments are of purplish-rose, and in others of a shining mauve. The labellum is remarkable from its multitudinous hairs both in the deep crimson blotch towards base of column and the light mauve coloured lower division. The plants were rested for two months in the winter in a house with a minimum temperature of 45°, and they are now flowering in an intermediate house. It is so seldom good plants of this desirable *Dendrobium* are remarked in collections, that Mr. Greenwood's plants are worth making a note of.

#### DENDROBIUM CARINIFERUM, HIGHFIELD HOUSE VAR.

This is a very superior form of *D. cariniferum*. The flowers are much larger and brighter than in the type, and their greater substance is so pronounced as to make the variety a very valuable one. The sepals are ovate-acuminate, whitish, but the acuminate points are citron-coloured. The petals are purely ovate, and lustrous white. The labellum has very prominent lobes, with a blending of cinnamon and orange colour. There are a few distinct raised hairy cinnamon ridges on a whitish ground, the white margining the lower lobe of the lip. It is altogether a beautiful variety, and the flowers smell like fruit of

the Tangierine Orange. The long, hooked, yellow-shafted spur of the sepals gives the flowers a striking outline. Mr. Greenwood was fortunate to secure this fine variety at one of the sales, and it is a plant of some size, having twenty of its shortish fat pseudo-bulbs after the way of *D. formosum giganteum*, but much plumper and shorter. The plant is flowering in a moderately cool house. *J. A.*

### BERLIN.

#### HORTICULTURE AT THE BERLIN INDUSTRIAL EXHIBITION.

WHENEVER horticultural exhibitions have previously been held at Berlin, it has been noted that two sections of horticulture—landscape gardening and tree cultivation—have not been seen at their best. The reason for this has been that all the exhibitions were held in localities which had, in addition to a more or less large covered space, but a small amount of available open ground. So it was of the highest importance that this year, on the occasion of the Berlin Industrial Exhibition, the above-mentioned sections of horticulture should have allotted to them a large area, where they could be extended more fully. Landscape gardening, as well as tree-planting, are here of high importance. Landscape gardeners of well-known reputation, such as the late Leenó and the late Meyer, have worked here for a long time, and the number of their pupils is not small. They have laid out in the neighbourhood of Berlin and Potsdam so many delightful parks, such famous vistas, that to speak of them would be to bring owls to Athens. Also, the large park at Treptow, wherein the industrial exhibition this year is held, is the work of the late Director Meyer. On the other hand, it is well known that the largest tree-nursery on the Continent, that of Mr. Spaeth, is near Berlin, and a good many other large nurseries are also here. So it is, that this year the horticultural exhibition is largely devoted to these two branches of horticulture. This by no means implies that other branches of horticulture are neglected. Fortunately, indeed, was it that both the landscape gardeners and nurserymen had long notice before the opening of the exhibition, so that their arrangements might present more or less the appearance of well-established gardens; indeed, the first plantations were begun as early as the autumn of 1894. So the plants had time enough to grow well during last year, and have now overcome these early drawbacks, which are never wanting. Another favourable circumstance is, that the exhibition is held in a park; so that there are already a good many large old trees which help to make a good appearance. The landscape-gardeners had good standard trees, of which they could have made the best use. Curiously enough, they have done this only in a very moderate degree. The largest plantation is that from Mr. Spaeth. It has an area of 10,000 sq. mètres. According to the different branches of this undertaking, the exhibition includes an orchard of 2500 sq. mètres, a large Rose garden, a delightful pleasure-ground, and, to give the public an idea of Conifer culture, a little garden, wherein different Conifers are grown, from one-year seedlings or cuttings, up to six-year-old plants. The orchard contains about 1000 fruit trees, amongst these 100 pyramids, 250 vertical cordons, which form a delightful pergola of Pear-trees, 350 mètres horizontal cordons, and 1000 square mètres of wall fruit trees. In form the orchard is a trapezium, whose divergent and small sides are formed by the wall-fruit trees, especially Peaches and Apricots. In front of these rises a bed, which is bordered by horizontal cordons of Apples. The axis between the two unequal sides is formed by the above-mentioned pergola, and widens in the centre to an open octagonal bower. On both sides of this pergola run small beds, also bordered by horizontal cordons of Apples. Between these beds and those at the divergent sides of the orchard, two larger beds on each side are destined for pyramids of Apples, Pears, and Cherries, whilst one on each side, viz., at the long side of the trapeze, are planted with Goose-

berry-trees and Currants, and bordered by Strawberries Laxton's Noble and King Albert. The trees and shrubs were planted in the autumn of 1894. Now they are well-established; they have flowered very well this spring, and it is to be hoped that they will bear much fruit.

The trees are of good habit. Before and behind this Orchard are situated pleasure-grounds, of which the larger one in front of the long side of the trapezoid orchard, a semi-circle, is destined for 700 different Conifers, whilst the lesser one, rectangular, behind the short side of the orchard, contains, where it abuts upon orchard, high and moderate-sized fruit-trees, small Palms, &c., then ornamental shrubs and trees; amongst these very fine collections of drooping trees, the so-called pendulous varieties, and plants with variegated leaves. Mr. Spæth has selected from his collection of more than 6000 different species and varieties of trees and shrubs only the best and rarest, so that this exhibit has a special interest both for amateurs and botanists. Mr. Spæth's collectors have sent home a good many rare plants. I will mention one only, *Prunus Lauro-cerasus* var. *Schipkaensis*, of which there are two forms, a broad and a small-leaved one. Both are evergreen, and resisted without any protection 24° R. below zero (= 22° F. below freezing-point). Certainly this is a horticultural acquisition of the highest value. Next to the orchard in the middle of the semi-circular pleasure-ground is a large fan-shaped carpet-bed, planted with Noisettes Roses, such as *Hermosa* and *Fellenberg*. On both sides run from thence broad ribands, also planted with these Roses. These, together with the delightful Conifers, give a very fine artistic effect. To the right of the path, which runs around the semi-circle, and next to the orchard, lies the large rosary, containing about 8000 plants. The plants are distributed upon beds of various forms, and are partly standards, and partly root-grafted. Very interesting are two round beds planted, one with *La France* the other with *Captain Christy*, both pegged down so that they cover the whole soil. From a pavilion there is a delightful view over the rosary, with a fine background of Conifers. The rosary is bounded by large foliage trees and shrubs, amongst which a large grove of flowering Magnolias made a fine effect on the opening day. Opposite to the rosary stands a little Swedish pavilion somewhat raised. Around this are planted out another speciality of Mr. Spæth, *Cactaceæ* from Colorado. It is well known that some species of *Opuntia*, such as *O. camacanica*, *Rafinesqui* and *fragilis* grow here at Berlin in the open air without any protection, and flower well and fruit. The temperature falls here sometimes to -22° F. Mr. Spæth's collector, Mr. Purpus, found, at high elevations in Colorado, certain other *Cactaceæ*, which are as hardy as the above mentioned *Opuntias*, but, and this is interesting, amongst these were not only some hitherto undescribed species of *Opuntia*, but also two *Mammillaria* (*Purpusii* and *Spæthiana*), one *Echinococcus* (*phoeniceus*) and an *Echinocactus* (*glaucus*). All these species have been proved to be quite hardy here. From the Swedish pavilion the above-mentioned little nursery garden extends, wherein, in forty beds of some 5 square metres each, young Conifers are grown from seeds and cuttings. Large avenue-trees are planted along the sides of this path, whilst climbing shrubs of different species are planted in the neighbourhood. *U. D.*

## COLONIAL NOTES.

### BOTANIC STATION, LAGOS.

Ma. H. MILLEN, Curator of the Botanic Station, Lagos, is to be congratulated upon the publication of the Thirty-second Quarterly Report of these gardens. Drought, insect, and other invading foes are among the difficulties successfully contended with during the last season, these being in addition to the ordinary routine work of the Station. Mr. Millen has, for some time past, been making experiments as regards the cultivation of *Rafia*, and samples of the fibre have, from time to time, been

sent by him to Kew to be examined and reported upon. The verdicts upon them have been increasingly favourable, and afford reason to hope that some day the production of *Rafia* fibre will become an important industry at the Lagos Botanic Station.

## ARUNDINARIA NOBILIS.

Our illustration (p. 701), shows a plant of this species which was introduced to Menabilly in 1836. In or about 1872, as we learn from Mr. Rashleigh, it died, but the plant now shown was raised from seed of the original plant, and is growing in clumps 27 feet high, and with a spread of nearly 30 feet. It seems probable that it may have come from China. Mr. Mitford, unable to refer it to any described species, calls it *A. nobilis*. Close by the Bamboo is a *Fan Palm*, *Corypha australis* (?), which has been in its present position for twelve years. It is very distinct from *Chamærops Fortunei*.

## GRAPE CULTURE IN ITS COMMERCIAL ASPECT.\*

(Concluded from p. 618.)

WITH regard to the profitable life of a Vine, it may vary from ten to twenty years, according to the sort of borders that are made—i.e., houses built together with only inside borders will not carry the Vine through more than ten years profitably; whereas, where they can roam in well-made outside borders, their life and vigour are doubled. What I specially mean by outside borders is, not that the Vines should be planted outside, and introduced into the house through the wall, as was the old practice, but that the border should be both inside and out, the fronts of the houses resting on piers or arches. Then, by planting the Vines inside, a far better start is assured, and they will soon ramble outside, where the sun and air more naturally prepare a congenial place for them. And while speaking of borders, how various and contradictory even are the instructions given for making Vine-borders. I am afraid the market-grower does not consult the text-books much, but makes the best use of the material he has at hand, and adds to it in some cases, where the soil is very heavy, London manure for the sake of its mechanical effect, and bone-meal of high-grade quality. A commercial Vine-grower does not often use  $\frac{1}{2}$ -inch or larger bones, as a quicker return is possible than they give from the more immediately useable bone-meal. Moreover, cultivators do not so much rely on the depth and richness as upon frequent top-dressings, thus encouraging the roots near the surface.

The drainage of a border is very important, and it must be of such nature as not to allow stagnation, or so free as to permit the substance of the border to be too much drawn. A Vine during its growing season can hardly be afforded too much water, provided the drainage is good. How very often, in moving old Vines, the border which has received every attention is found to be almost devoid of roots, and they have been found far away roaming in the kitchen garden. The practice of the future will probably lean to more shallow borders—that is, not exceeding 2 feet 6 inches in depth.

There have scarcely ever been places established from their beginning depending upon the Vine alone, but nearly always other crops are grown in the houses until the Vines come into bearing, and at the present day Tomato-growing is the usual practice. The grower must, therefore, as well as raising his young Vines ready for the spring, arrange for having Tomato plants ready also. It is of the first moment that a variety of Tomato should be chosen that is good for market. It should be of hardy constitution, growing fruit not too large, running from four to six to a pound, as perfectly round a shape as possible, of good colour, and firm texture. But I must not dwell on the Tomato, but keep to our subject—the Vine.

If it were not possible to tide over the first two years while the Vines are growing the bearing wood,

with other crops in the houses, it would be much more difficult than it is to establish a vineyard under glass. The young Vines properly grown should be say about 2 feet high by the middle of May, and then is a good time to plant them in the border which has been prepared for them. At the time of planting, bonemeal is a good dressing to mix with the soil, and short manure should be used as a mulching on the top. They will require careful and constant little attentions until they throw out new roots, and abundance of clear water during the growing season through June, July, and August. By the end of August growth ought to be discouraged, and the Vine led mors to develop and ripen the wood already made.

When Vines are strong at planting time, and given liberal treatment through their first year, they sometimes grow 20 and even 25 feet long. Indeed, I have seen Vines cropped the first year after planting from the eyes, and bearing 10 lb. of fruit. But this is not wise where the establishment of permanent Vines is intended, as the loss of constitution can be noted in such Vines for years afterwards.

### EXTENSION OR RESTRICTION.

There is one aspect in Vine culture that requires carefully weighing from its commercial side, and that is the question of extension *v.* restriction. I am bound to say that the extension system of culture affords in the end by far the best results, and these are arrived at simply on account of the capabilities of Nature herself.

It is more rational, and predisposes to strength of constitution, but whether it is right from a mere commercial point of view is a different question. It is necessary to have a quick return, and a number of Vines planted from 2 feet to 3 feet apart will, the second season, produce all along the length of the house some Grapes; whereas, of course, when planted wide apart there will not be so much return for some years later. And that advantage in the restrictive system extends to the third and fourth years. By the fourth season, at any rate, the extension-treated Vine will be equal to the several Vines henceforward in producing powers, of stronger constitution, and much more likely to resist the ravages of red-spider and other foes.

How often it occurs to one that our mechanically-constructed houses impose restriction, even upon Vines treated under what is called the extension system. When a Vine attains the age of four years, it would easily, with benefit to its health and wealth, double itself in one season if the structure which covers it could be enlarged there and then. This presents an idea to the ingenious, which, if solved, would be of immense value to Vine-growers; but I am afraid it is outside the realms of practice, and we must own that man's mechanical arrangements limit the plain will of bountiful Nature.

Constitution, which embraces powers of assimilation, is the chief thing to strive for in cultivating the Vine, and this leads to the thought of fertilisers for the Vine. First get constitution, and then we may proceed to intense culture. The many artificially-compounded mixtures recommended as concentrated food for the Vine are mostly very well suited for it, and for some localities they may even be perfect; but where localities differ so much in the character of their soil and other conditions, to universally apply one formula of mixture would be adding equals to unequals, and so would be unscientific.

A grower of the Vine for profit must be careful to know the natural characteristics of his own locality, and endeavour to counteract any too predominant features, and to add to those that are deficient. The elements of manorial value are known facts, and do not vary by being distributed over areas; but localities of areas vary, and it is when proceeding on that foundation that the best commercial results are obtained by the application of potash, lime, or ammonia. One thing we have progressed in is our treatment of the Vine by presenting to it food nourishing and invigorating in quite appetising forms, widely different from the other grossly allopathic practice of burying dead horses in Vine borders.

\* Paper read by Mr. Peter Kay, Claugmar Vineyard, Finchley, at a meeting of the Horticultural Club on May 5.

After the first summer of the young Vines' growth and crop of Tomatoes, the borders will require special attention during the winter to enrich them, and also to provide room for the Vines the following season. The trellis will have to be put up, and should the houses not have been fully heated at the commencement of operations, then the boilers will have to be seen to, and pipes added, up to the necessary power for a viney. A Vine or fruit-grower for profit under glass requires to have the capability of turning his hand to many trades, for I can imagine, even under the

present day we are far from perfect, for with the very best boilers, more heat escapes than is captured for use.

The market grower generally, like all the brotherhood, has his pet ideas about boilers. But a market-grower is safer to follow as a rule, for necessity makes him less faddish, and he nearly always adopts a type of boiler as simple as possible, generally now-a-days taking the form of a longitudinal tubular of heavy cast-iron pipes put together on the premises. Where the length of piping to be heated is only, say,

into larger additions; but should the progression of increase be allowed to go beyond his financial management, then the concern will not give the best results.

It is difficult conscientiously to give a rosy aspect generally to the business of Grape-growing under the conditions as they are at present, and I cannot fairly estimate that in the future there is any likelihood of a rise in the prices of Grapes. There no doubt will be always good and, indeed, remunerative prices for the very best and special samples, but we all know that



FIG. 116.—GROUP OF BAMBOOS, ETC., IN THE GARDENS OF J. RASHLEIGH, ESQ., MENABILLY, CORNWALL. (SEE P. 700.)

best circumstances, that unless the necessary staff can be employed in boiler-setting, pipe-fixing, and glazing during the dull time, the unknown quantity of profit may be very small.

#### HEATING APPARATUS.

The mention of boilers opens up to the gardener and market gardener a vast subject of discussion. From our earliest days, we can remember the boiler controversies. Every gardener had, and the same thing prevails now, his favourite boiler. Boilers have been made of every conceivable form, and in every case the idea aimed at was the utmost extraction of heat from the fuel consumed before the draught necessary to burn it passed it up the chimney; and at

1000 feet, probably the old-fashioned cast-iron saddle is still the best, but beyond a size capable of heating that length of pipe, on account of contraction and expansion of the metal, they would be unsafe.

It seems to me that in establishing a vineyard under glass it is absolutely necessary that a system of progression should be set out, which allows a development of the producing powers keeping pace with the outlay; and with all favourable advantages on the grower's side it will be some few years before he has produce to send to market to show a living profit, beyond the necessary interest and the adjustment of his capital. When that time arrives, and a foundation is laid for making a yearly revenue with some amount of certainty, then the grower may launch out

such first-grade fruit is a small proportion of the great bulk sent to market. One thing is of comfort to me, and that is, that the Vine is not likely to be superseded by any invention or even discovery of man; from time immemorial its produce has been one of the chief bounties that can be won from Nature. The returns to growers may become less, and the true solution of the question of profit is, and must be, improved methods in production.

In Vine-growing, as in nearly all producing industries, it is now-a-days a disadvantage to have been established long, as the means employed are nearly always obsolete, and the traditions of the concern hamper new developments; hence my remark is proved, that unless the very serious fact of the



annual depreciation of a vineyard or other fruit-growing establishment is taken into account, it becomes of little value to sell or let when it has to compete with modern and better-equipped places.

#### MARKETING.

If the grower has passed through the first steps, and arrived at a stage of his venture when Grapes or any other produce that he has grown is ready for market, then comes in one of the most important items in a commercial Grape-growing place, and that is the taking or consigning the fruit to market, and the manner of packing with regard to grading, weighing, and carriage. Packing will have to depend largely on the method of carriage, whether by train or ordinary horse-vans. Time was when Grapes were actually carried on the men's heads all the way to market. By grading I mean the assortment of the fruit according to its quality, leaning always to the side of giving over the sample than even exact, or under; also in carefully putting on the package the net weight of fruit, and that not in too exactly just a manner, but leaning towards the purchaser's favour. I cannot too strongly impress on fruit growers to be most careful about the manner of sending produce to market, not only on account of honour, which makes the foundation of all success worth having, but in order to gain from the very first what is called in all the different markets of all sorts "a good mark." Then as the grower and producer, slowly it may be, builds up and jealously guards a character for his produce, so will his agent have less trouble and get better prices for the produce consigned.

In writing these few remarks on Grape-growing as a commercial industry, I have endeavoured to avoid many details of the question, and to treat it broadly. The question to me, and I well know to many who, because they have been born to it, or who have been led from circumstances to adopt it as an occupation, abounds in interest, and there are many points on which growers differ widely. The change that has come over the situation commercially in regard to most things is borne out in the case of Grape-growing, and in many instances the alterations have seriously affected the position of individual growers; still, the general welfare is better now, taking growers, sellers, and consumers all together. But the future, with regard to its successful commercial side, must be, first, with those whose natural position with regard to soil, water, and carriage is best; secondly, with those whose special training and experience give them immense advantage over the inexperienced; and really one has to sound a note of warning that Grape, or any fruit-growing, as a commercial undertaking, cannot wisely be entered on except by those who have practical experience.

There is plenty of elbow-room for all to grow good sound fruit, of whatever sort, to be consumed in this country, but it is another side to the question whether individuals who embark in the occupation without sufficient knowledge are to be rewarded by much profit.

It seems hard to say so, but it does appear that concerns are getting into fewer and fewer hands, that a harder system is gradually embracing all businesses, that the smaller capitalist by having to take less return on his outlay is more hardly pressed. Now Vine growing is an occupation that will ever depend on individual attention, and as soon as the thorough, thoughtful treatment is neglected, then we cannot expect magnificent results. But Commerce says, Does it pay? Can it be made to pay? and without considering art or skill, proceeds to reduce the production of Grapes to a system, and perhaps getting its 5 per cent., almost ruins the smaller man. That appears to be the course of our business in the near future, and because of the necessary management of large places getting away from a direct personal supervision, the results will often be not first-grade produce. Herein lies the hope, and I believe strength, of smaller places, as they can be more carefully and economically managed, with much more likelihood of growing high-grade produce.

There are many details relating to the establishing and management of a vineyard under glass that one

cannot refer to in a short paper that aims principally to give some general ideas only about the subject. The occupation of a Vine-grower is one of the most pleasant that can be undertaken; it is full of ever-changing interest. The grower can, from ordinary observation of the Vine, learn many lessons useful in life. There is a perfect organisation in the Vine itself; there is a fruitfulness that is stored the season before it is seen, and is "not to be traced by sight or sound." There is the ripening and the going to rest, and the miracle of coming into life again in the spring.

### RHODODENDRONS, NEW, AND OTHER.

RHODODENDRONS cultivated in the open air have been exceptional this year in floriferousness and beauty. A considerable number of new or obscure sorts have flowered and been brought into notice, and as some of these are horticulturally interesting, it is desirable that their history, so far as it can be ascertained, should be recorded.

*R. Falconeri* × *niveum*.—Flowers of this hybrid have been sent to Kew by several correspondents, including Mr. Lakes, of Trevarrick, St. Austell, Cornwall, who writes that he purchased his plant for *R. grande* (argenteum) from a Belgian nurseryman, about ten years ago. It was then 6 inches high; now it is 30 feet in circumference, and 8 feet high, and this season it has borne about thirty heads of flower. Its leaves are 6 inches by 2½ inches, thick and leathery, the midrib and principal nerves prominent, the upper surface dark green, the lower covered with a brown felt-like wool. The flower-head is dense, 6 inches in diameter, and is composed of about fifty flowers as large as the largest form of *R. Falconeri*, which they resemble in form, their colour being lilac-pink with a dark crimson blotch at the base of the corolla. *R. niveum* is quite hardy at Kew, and *R. Falconeri* will live in the open, but does not flower. Probably, this hybrid will be hardy at Kew, and in equally-favoured localities; it is a handsome addition to garden Rhododendrons. There is some resemblance between it and *R. Hodgsoni*, but the leaves in the latter are quite distinct.

*R. Luscombei* var. *splendens*.—The beautiful hybrid, described in *Gardeners' Chronicle*, 1892, xi., p. 780, under the name of *R. Luscombei*, was raised about 1880, by the late Mr. T. Luscombe, from *R. Fortunei* and *R. Thomsoni*. It has broadly campanulate rosy-red flowers, as large as those of *R. Fortunei*. A fine example of it has this year been a beautiful picture in the Rhododendron Dell, at Kew. A fortnight ago Mr. Godman sent, from his garden at Horsham, trusses of a Rhododendron which is identical in all characters with *R. Luscombei*, except in colour, which is exactly that of *R. Thomsoni*, viz., a rich blood-crimson. This has been named var. *splendens*. I consider it to be one of the most brilliant of the Fortunei hybrids yet raised.

*R. Mrs. W. T. Threlton-Dyer* (see fig. 118, p. 707).—When Mr. Luscombe crossed *R. Fortunei* with *R. Thomsoni*, he evidently made at the same time several other crosses between the former and other sorts. One of these is known at Kew as *R. Luscombei* H. Two other of his hybrids are now flowering at Kew for the first time. They are large bushes, a little sturdier in habit than *R. Fortunei*, but identical in foliage with that species. The trusses are more compact, and the flowers are nearly 4 inches across. One of them, with rose-pink flowers, and a rich maroon blotch at the base of the corolla, has been named in compliment to the wife of the Director of the Royal Gardens, Kew. It is identical with a plant shown at the Drill Hall recently by Mr. G. Paul under another name, but he gracefully withdrew his name in favour of that here given. This is a most strikingly handsome Rhododendron, as will have been seen by anyone who has walked through the Rhododendron Dell at Kew within the past weeks.

*R. Frances Threlton-Dyer* is the second hybrid above referred to. It resembles the last-named in all points except the colour of the flowers, which is bright rosy-red, with a large blotch of maroon in the throat.

#### MESSRS. G. PAUL & SONS' FORTUNEI HYBRIDS.

Some years ago Mr. Paul secured a plant of *R. Fortunei* with larger flowers than the type, and named it Mrs. G. Butler. It will be remembered that *R. Fortunei*, a Chinese species, is a near ally of the large-flowered Himalayan *R. Aucklandi*, from which it differs mainly in having flowers about 4 inches across, coloured pale lavender-rose, each flower having six or seven segments instead of the usual five. It is quite hardy, generally flowers about the beginning of May, and is one of the most fragrant of all Rhododendrons. Although introduced by Fortune from China in 1859, and figured in the *Botanical Magazine*, t. 5596, it does not appear to have attracted much attention, notwithstanding its hardness, the large size, attractive colour and elegance of its flowers, and their fragrance. So far as I have been able to ascertain, it has not been used as a breeder by anyone except Mr. Luscombe sixteen years ago, and more recently by Mr. George Paul, who saw possibilities in it, and crossed it with the following select garden sorts, *Blandyanum*, *Scipio*, *Lady Armstrong*, *Mrs. Fitzgerald*, *Lady Emily Peel*, *James M. Brook*, and *H. W. Sargent*. Two of the hybrids thus obtained were shown at the Temple last year as Duke and Duchess of York, and obtained First-class Certificates. Mrs. W. T. Threlton-Dyer is a third, and a fourth called Profusion, obtained an Award of Merit at the Drill Hall on May 5. In the nursery at High Beech, Messrs. Paul have about 1000 plants of these hybrids, and on May 8 I saw many of them in flower. It is no exaggeration to describe them as a magnificent new race of Rhododendrons, quite distinct from the arboreum × caucasicum × ponticum × catawbiense race, and equal in beauty to the best of them. They range in colour from almost pure white to bright rose-red, with blotches of maroon, or spots of red, pink, yellow, or emerald green; in many the trusses are almost as compact as in *R. Broughtoni*, quite as large, and some are quite as effective. Others have looser trusses, after the style of *R. Fortunei*, many of them are fragrant, and all are hardy. The only possible objection that can be raised to them is that of flowering at a time when destructive spring frosts sometimes occur, but this is a deterrent only in the less-favoured parts of the country, and even there these plants deserve to be grown under glass. In the south and west these Fortunei hybrids will have the greatest value. Mr. Paul is to be congratulated on his success.

*R. Falconeri erimium*.—Specimens of this grand variety of a noble species were sent to Kew last month by Mrs. Lucy Farrant, of Ballamoar, Sulby, in the Isle of Man, who wrote:—"The plant is growing in the open air without any shelter in winter. It is 18 feet high, and about 20 feet in diameter. It produced this year twenty large trusses of flowers, and it has only once before flowered, namely in 1892, and then more profusely. The plant was not protected during the excessive cold and snow in the winter before last, and it did not suffer." There is a fine specimen of this variety in Lady Swansea's garden at Singleton, and it is not unknown to the Rhododendron fanciers of Cornwall. It is grown in the Temperate-house at Kew.

*R. Nuttallii* has lately developed two fine trusses of enormous flowers in the temperate-house at Kew, where also *R. Aucklandi*, *R. Veitchii*, *R. formosum*, *R. arboreum*, *R. grande*, and other Himalayan species have flowered well this year. I can recommend the hybrid *R. Forsterianum* as a beautiful greenhouse Rhododendron, its flowers being larger than those of *R. Veitchii*, and of a dazzling snow-white.

*R. Kewense* (*Aucklandi* × *Hookeri*) is magnificently in flower in the Dell at Kew, where some large bushes have stood without protection for the last five years. Another beautiful hybrid, *R. Mangiesii* (*Aucklandi* × *albo-grandiflorum*) is also flowering outside at Kew. Such species as *R. glaucum*, *R. anthopogon*, *R. niveum*, *R. campanulatum*, *R. Thomsoni*, *R. fulgens*, and *R. cinnabarinum*, have flowered exceedingly well in the open. The collection of Rhododendrons in the Dell is now exceptionally rich in species that are hardy, and the best of the garden

sorts. A large number of early-flowering hybrids have astonished us this spring by their beauty and display of flowers. It is true that a Rhododendron which flowers between February and the beginning of May is sometimes nipped in the bud by frost, but given a favourable spring such as the past has been, these early comers have a great value. There have been Rhododendrons in flower outside at Kew since midwinter, and there will be a grand display from now onwards till July. A large bed of *Azalea amœna* has been a rich crimson glow for the past fortnight; it is as hardy as the common Laurel. The *Azalea* garden near the lake is rapidly assuming its brightest colours, and promises to be in about a week the best exhibition of hardy deciduous *Azaleas* ever seen. Truly, Rhododendrons are the most generous of all garden shrubs. The majority of gardeners know of their value, but only a few appear to be fully alive to their capabilities under careful treatment, and with a comprehensive collection. *H. Watson.*

**RADISH WITH CONCRESCENT SEED-LEAVES.**

We owe to the courtesy of M. G. Tourret-Grignau, St. Maur les Fosses, the receipt of the curious Radish of which we give a figure. As will be seen from the illustration (fig. 117) the two cotyledons were inseparably joined so as to form a funnel-shaped cup. Curiously enough the two following leaves, though rudimentary, show a similar fusion. It will be remembered that in some *Delphiniums* and *Umbelliferae* the cotyledons remain united, but we do not remember to have seen so perfect a funnel-shaped production before. We do not find a similar case in Sir John Lubbock's book on seedlings.

**MANURES FOR MARKET GARDENS.**

EXPERIMENTS with artificial manures on garden crops were started in the spring of 1895, on a new market garden near the Little Orme's Head, Carnarvonshire. The garden is under the management of Mr. E. G. Metcalfe, Y Winllan, Windmill, near Conway. The ground, which has only recently been broken up from pasture, lies rather low, and is sheltered from the north by the Little Orme's Head. It is not in a high state of cultivation.

Artificial manures are of very great importance to gardeners, who, unlike the farmers, cannot supplement the supply of fertilisers by buying cake and corn to feed the cattle on the farm and so increase the richness of the farmyard manure. But the special manures so much advertised for use in gardens are often sold at such exorbitant prices, as much as 48s. per cwt. being asked for them, that although they may be, and often are, of good quality, it will generally be found very much better and cheaper to buy the simple substances, from which these so-called garden manures have been compounded, under their proper names.

The weather was not favourable to the experiments, the sowing of seeds and manures being followed by many weeks' dry weather. In a good season we might reasonably look for more profitable results, but even now, we see by the figures given below that an addition of phosphatic manures is particularly useful for garden crops, such as Peas and Beans.

The analyses and prices of the manures used are stated in the following table:—

Manure.	Percentage of nitrogen equal to ammonia.	Percentage of phosphates.		Percentage of potash.	Price per ton.
		Soluble.	Insoluble.		
Superphosphate ..	..	25.0	4.20	..	£ s. d. 3 2 6
Basic slag ..	..	..	49.19	..	2 5 6
Kainit ..	..	..	..	12.95	2 9 0
Nitrate of soda ..	19.0	..	..	..	9 10 0
Peruvian guano ..	8.22	..	44.52	..	13 0 0

**EXPERIMENTS WITH MANURES FOR PEAS.**

It is generally known that much manure does not pay in the case of Peas. If the ground is rich, it is not suitable for early Peas, because too much straw is produced, and the pods are late in forming and filling. Rapidity in maturing secures better prices earlier in the season. The excessive production of stem and leaf is brought about chiefly by excess of nitrogenous manure, e.g., nitrate of soda, ammonium sulphate, or heavy dressings of dung. Peas obtain a large portion of the nitrogen they require from the atmosphere, and an excess in the soil is not profitable. For this reason, heavy dressings of farmyard manure are undesirable. It is usually better to supplement the resources of the soil with some artificial manure, which will supply phosphoric acid, and, for some soils, potash also. The manuring of such crops as Peas then becomes a comparatively simple matter, as we need only in general supply these two substances.

**EFFECT OF ARTIFICIAL MANURES ON PEAS.**

The land received a moderate dressing of stable manure, and the artificial manures were applied to

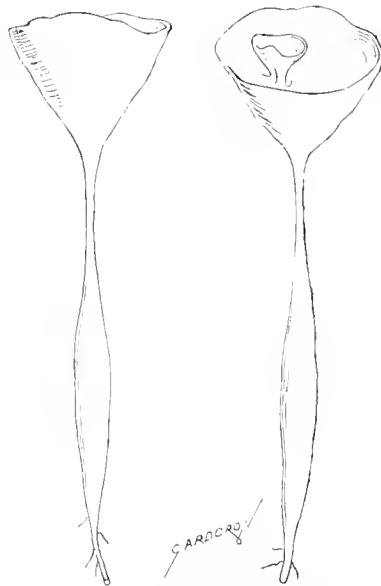


FIG. 117.—A MONSTROUS SEEDLING RADISH.

the drills before the Peas were sown. Each plot consisted of two rows, 11 yards long, one row of "Prince of Wales" Pea, and one row of "Trophy" Pea, both wrinkled Marrows. The seed was sown on March 14, 1895. The plan of manuring and the results obtained on each plot are stated in the following table:—

Plot.	Manure applied per plot.	Cost of artificial manure applied per plot.	Weight of produce per plot.	Value of produce per plot at 2d. per lb.
I.	Stable manure .. .. . 4 lb. superphosphate .. .. . 2 lb. kainit .. .. .	2d.	84 lb.	14s.
II.	Stable manure .. .. . 4 lb. basic slag .. .. .	1d.	96 lb.	16s.
III.	Stable manure .. .. . 4 lb. superphosphate .. .. .	1½d.	90 lb.	15s.
IV.	Stable manure .. .. .	..	73½ lb.	12s. 2d.

The Peas on all the plots were picked as soon as

they were ready for use. Full particulars of picking are given in the subjoined table:—

*Weight of Peas picked on Different Dates.*

Date of Picking.	Plot I.	Plot II.	Plot III.	Plot IV.
July 18 .. .. .	lb. 7	lb. 8	lb. 6	lb. 16
" 20 .. .. .	5	6	8	..
" 22 .. .. .	..	..	..	10
" 24 .. .. .	8	10	12	2
" 25 .. .. .	..	8	..	..
" 26 .. .. .	10	..	12	9
" 27 .. .. .	6	12	8	..
" 29 .. .. .	20	30	..	18
August 2 .. .. .	..	..	10	18½
" 5 .. .. .	..	..	34	..
" 6 .. .. .	..	22	..	..
" 8 .. .. .	25	..	..	..
	84	96	90	73½

The plot which was dressed with basic slag at a cost of about a penny gave the best return, and produced an increase of 22½ lb. of Peas of the value of 3s. 9d. over the plot which received no artificial manure. Basic slag seems to be a particularly suitable manure for Pea crops, a conclusion previously arrived at by Professor Wagner. Superphosphate also proved beneficial, but the plot which received 2 lb. of kainit, in addition to the superphosphate, did not do so well as that which received superphosphate alone. We should have expected an increase from the potash in the kainit.

**EFFECT OF SUPERPHOSPHATE AS A TOP-DRESSING FOR PEAS.**

When the experiments were started, some early Peas (Laxton's Earliest of All) were already sown. The land had been dressed with lime and a moderate quantity of dung, and was considered to be in good condition for growing Peas. In order to test the effect of a top-dressing of superphosphate, two plots, each consisting of three rows, 11 yards long, were measured off. One of these was top-dressed with 4 lb. of superphosphate at a cost of 1½d., while the other received no additional manure. Owing to the dryness of the season, the Peas came up badly. The plot dressed with superphosphate had such a poor appearance at first, that it was thought it would be a failure. It improved later on, however, and was ready for pulling some days earlier than the plot which received no top-dressing.

The weight of Peas on each plot, and the prices realised by Mr. Metcalfe, are given below:—

*Plot top-dressed with 4 lb. superphosphate.*

Date of gathering.	Weight of Pods.	Value.
June 18	16 lb. at 3d. .. .. .	s. d. 4 0
" 19	10 lb. at 2d. .. .. .	1 8
" 24	20 lb. at 2d. .. .. .	3 4
" 25	10 lb. at 2d. .. .. .	1 8
" 27	8 lb. at 2d. .. .. .	1 4
" 29	8 lb. at 2d. .. .. .	1 4
Total 72 lb. .. .. .	..	13 4

*Plot not top-dressed.*

Date of gathering.	Weight of Pods.	Value.
June 19	7 lb. at 2d. .. .. .	s. d. 1 2
" 22	10 lb. at 2d. .. .. .	1 8
" 25	18 lb. at 2d. .. .. .	3 0
" 28	20 lb. at 2d. .. .. .	3 4
July 1	12 lb. at 2d. .. .. .	2 0
Total 67 lb. .. .. .	..	11 2

The table shows that the produce on the superphosphate plot realised 2s. 2d. more than that on the other plot, and as the superphosphate only cost 1½d., there was a nett profit of 2s. *F. V. Dutton, Agricultural Department, University College, North Wales.*

## VEGETABLES.

## SPRING CABBAGES.

JUDGING by what may be seen in many directions, the evil of prematurely bolted Cabbages seems not to be nearly so wide-spread as was first imagined. For that reason, Cabbages now are very cheap and abundant. When first the bolting was mentioned, seedsmen remarked that the result was due to the planting of the wrong varieties. Naturally, it became a matter of exceeding interest to find out which ones, amongst so many varieties, did bolt, and which remained steadfast to character. It seems that Cabbages of what are classed as of the Nonpareil type have been the worst offenders, whilst they are excellent for spring sowing, and heart-in during the summer admirably. Going through numerous gardens of late where Cabbages have generally behaved well, I have made inquiries as to sorts, and have found the Reading strains of Sutton's Flower of Spring, Ellam's Early, and Sutton's Imperial, amongst others, to have proved exceptionally good. This shows that when seedsmen said earlier that if only the right sorts were grown, there would have been no bolting of to flower, they were right. Whilst the winter's experience has proved so much, it has also shown that unduly-early planting, because of the heat and drought of last autumn, also materially helped to bring sportiveness into the Cabbages largely. However, the trouble for this season is now practically over, and those who have specially suffered in their breadths, now know how to avoid similar trouble in future. *A. D.*

## CABBAGES BOLTING.

It is seldom that we hear so much of Cabbage failure as there has been reported this season. In Scottish gardens, as well as in more southern districts, bolting has taken place. I never was troubled with such difficulties to any extent, and I am perfectly free from it this season. I am prompted to write this because I planted at the middle of last September on a well-dug piece of strong ground, and used a number of early varieties, all well proved before. I also received about 300 plants from a nurseryman who sends out many thousands of plants in excellent condition (stunted plants of any of the Brassica family are unsafe), every plant I received from him has done first-rate, and 500 or more plants raised on the place have done similarly—none has failed. The person, however, from whom I had the plants tells me his experience. He says, that plants taken from the same seed-beds have all bolted! The variety is a very choice stock of McEwan's—a sort which has long retained a good name among Scottish gardeners—why one lot should entirely fail and the other succeed is a query! Veitch's Earliest of All is the best I have tried for first cutting. They are now well over (May 28), all being firm and handsome, with little waste. A succession crop of Cabbages planted towards the end of March is now ready for use: they were the smaller plants from those planted in September, pricked out on a border, and afterwards planted in drills. They are as good as one could wish, and none has bolted. *M. Temple, Carron, N.B.*

## BOOK NOTICE.

## OS CHRYSANTHEMOS E A SUA CULTURA.

By H. Cayeux.

This, although not, strictly speaking, a new book, has only just reached us, and is probably the first independent treatise that has been published in the Portuguese language about Chrysanthemums. The author is head gardener at the Polytechnic School at Lisbon, and he has produced a well-printed, paper-covered treatise of about sixty pages, dealing with most of the phases through which the popular flower must pass to ensure success. In the first part the reader is instructed in the history, origin, and classification, followed by a few pages of directions concerning composts, manures, watering, and pots. Propagation and culture occupy by far the greater portion of the book, and under the latter heading such subjects as disbudding, growing large show blooms, specimen-plants, &c., with suitable lists, appear to be fully treated. Mr. Cayeux's work concludes, as most such

books do, with a short chapter on insect pests and maladies. The appearance of this new addition to the literature of the popular autumn flower is only another testimony to the widespread interest in the subject upon which it treats, and tends to prove that the long-prophesied decadence of the Chrysanthemum is still as far off as ever. Continental authors have during the past three or four years been conspicuous by their activity in Chrysanthemum literature.

## THE WEEK'S WORK.

## THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**GENERAL WORK.**—If cold winds prevail, and the night temperature continues low, the most tender plants should not be planted out even now. Much watering has been necessary, but this should not be overdone, and if the weather should be cold, give the plants only sufficient moisture to keep them going. Continue to water and mulch all late-planted trees and shrubs, and syringe them occasionally overhead during the latter part of the day. Mow with scythes the grass under and around trees and shrubs which the machine cannot reach. Where necessary, water herbaceous and other plants in the borders. Stake Sweet Peas, tie-in and train Clematis, Roses, and other climbers. Mignonette, and other annuals sown on borders to supply flowers for cutting purposes should be well supplied with water, or many plants will perish from drought.

**ROSES** are already attacked by the maggot, and serious damage will be done if prompt attention be withheld. The insects are easily detected by the most inexperienced by reason of the curled leaves. Hand-picking is the surest means of destruction, and this should be continued until the trees are quite clear of the pests. Mulch all trees where it is possible, and afford a good soaking of water afterwards. This will stimulate the plants, and prevent the too-rapid evaporation of moisture from the soil. If large blooms are required, disbudding must be done.

**HERBACEOUS BORDERS** are very dry, and the plants should be mulched. Campanula pyramidalis and others developing their flowering-spikes, should be supported with neat stakes and securely tied.

**RHODODENDRONS** are still making a fine show in the gardens and shrubberies, and the present is an excellent opportunity of making notes as to desirable varieties for future planting.

**PINK AND WHITE THORNS** have generally carried wealth of blossom. These are most accommodating in the way in which they adapt themselves to almost any soil and position, but a good loamy soil on gravel seems to suit them best. Planted in groups, they make a prominent and very pretty feature in the foreground of plantations and shrubberies. As specimens on the lawns or in the park they are also attractive. Paul's Crimson is an excellent variety, and very striking in colour.

## THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

**EAST-INDIAN HOUSE.**—So soon as Cypripedium Lawrenceanum, C. barbatum, C. superciliosum, C. Stonei, C. Rothschildianum, C. Curtisii, C. grande, C. macrochilum, C. Swainianum, C. selligerum, &c., have recovered from the effects of flowering, examine them to see if further root-room be necessary. None of them should be left long in a pot-bound condition, and the present is a suitable time to repot them. Fill the pots about one-third full of crocks, and use a compost of rough fibry peat, fresh sphagnum-moss, and broken crocks. For a few weeks afterwards keep the compost just moist, but afford abundance of water when the plants are re-established, and at all times keep the plants on the shady side of the house. When closing this house each afternoon, many of the Cypripediums delight in a gentle sprinkling overhead with tepid soft water, but not such as C. Stonei, C. Lowii, C. levigatum, C. philippinense, C. Parishii, C. Rothschildianum, and C. praestans, or the water may remain low down in the centre of the growths and cause them to decay. Renanthera Storiei is now showing its flower-spikes, and R. coccinea should be placed near the roof-glass on the sunny side of this house, and be well syringed overhead several times daily. Platyclinis filiformis, P. glumacea, most of the Dendrobiums, especially D. Huttoni, D. Dearcii, D. triandrum, D. subclausum, D. rhodostoma, D.

glomeratum, D. fimbriatum, and D. sanguinolentum should be treated similarly, being particularly liable to attacks from red-spider. Of plants now in bloom, none are more attractive than the Thunias. The beautiful green foliage sets off the arching flower-spikes to excellent advantage. All the following species and hybrids are well worth adding to any collection: T. Marshalliana, T. Beusoni, T. candidissima (pure white), T. alba, T. Veitchiana, and T. Brymeriana. Full instructions for the propagation of Thunias were given on p. 362. When the plants pass out of flower they should be removed to a cool airy house, where they will receive uninterrupted sunlight. They should be watered so long as the leaves remain green, but when they commence to change colour the supply may be gradually withheld. In the sunny house the leaves frequently become infested with thrips and red-spider, but they may easily be eradicated by laying the plants down on their sides and syringing them with the "XL All" insecticide or soft rain-water and soap. Earkeria elegans, B. melanocephala, B. Lindleyana, and B. cyclostella are well worthy of attention, for when well cultivated their pretty spikes brighten up the house for a long time during the dull season. They are now commencing to grow, and will require generous treatment. They thrive best when set firmly on teak rafts, upon which is placed some sphagnum-moss; or fastened to twigs of Birchwood, these being placed in well-drained pots or pans with a surfacing of fresh moss. Prior to giving them a fresh start, let each young growth, stems, and old roots, be thoroughly examined for mealy-bug, which, if not completely eradicated, will get into the new wood and sphagnum-moss, and give trouble throughout the growing season. Suspend the plants from the roof in an intermediate temperature, and afford copious waterings during active growth. Eulophiella Elisabethe is fast developing its curious creeping rhizomes. This pretty species appears to enjoy plenty of root-room, and being a deeply-rooting subject, rather large pots are preferable to pans. When re-potting the plants, afford plenty of drainage, and use peat, loam, and moss in equal proportions. Place them in a moist shady corner of the hottest house. I would advise those who have plants of the lovely Eulophia guineensis that do not thrive satisfactorily, to suspend the plants on the sunny side of the Dendrobium-house, and to give them identical treatment as given to those species. Under similar conditions, plants here are growing exceedingly well. Plants of Cattleya Schilleriana that have done flowering should be removed from the East Indian-house to an intermediate temperature. C. superba will require abundance of water at the root during growth, and should be suspended in a light position in the warmest house. After flowering, it may be placed with C. Schilleriana, and while at rest both species require but little water.

## THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**THE FIG.**—The trees have now made sufficient growth to necessitate the removal of any superfluous shoots, that no overcrowding may exist. The leaves being very large, considerable space must be left between the branches to allow perfect development. Reserve for nailing-in those shoots which are best placed, and those which spring from the base of the older wood, so as to keep the centre of the trees well furnished with young growths. Remove all others; thus the full strength of the trees will be concentrated into the perfecting of the present crop, and of the young growths, which will produce next year's crop. The roots of Fig-trees are generally and necessarily confined in small borders, and they should therefore be given at this season frequent waterings, with manure in dilution.

**THE SUMMER THINNING** of young growths on cordons, espaliers, pyramids, and bush-fruit trees generally, is often much neglected, and what with the summer pinching and the winter pruning, the branches become completely covered with growth, and devoid of fruit-buds. Cordon and espalier-trees, especially dessert Pears grown on this principle, are very liable to push out numerous young growths from the spurs. In such a case, disbudding must be severe, and no more should be left than are absolutely necessary, and these should be those that are placed in the best position for the formation of new spurs. Pyramidal and bush trees are not generally so persistent in producing young growths as the former, but these also require to be thinned of many of the young shoots, that light and air may circulate freely through the trees.

**MORELLO CHERRIES** should be cleaned of all petals that remain among the clusters of fruit, or they will help to harbour insects. Preserve sufficient of the young wood for next year's fruiting; stop at the third leaf all foregoing shoots that may be required for forming fruit-spurs, and gradually remove the remainder; and pinch out the points of the leading shoots which have reached the limit of space allotted. Morellos are very susceptible to attacks from black aphid (*Aphis cerasi*), and this should be prevented by giving the trees forcible syringings of water early in the afternoon of each day, and once a week a syringing with a solution of quassia, or some other well-known insecticide, may be given.

**VINES**—Stop the laterals at the second leaf beyond the bunch, and after these growths have been made secure, remove all others, with the exception of those left for extension, or for replacing old rods. Keep the Vines well syringed, and as early in the afternoon as possible, to prevent any insects gaining a foothold.

### PLANTS UNDER GLASS

By JNO. McINTYRE, Gardener, Woodside, Darlington.

**SOLANUMS**.—Plants cut back in March or April last, have made top-growth, and seedlings are growing apace. Select one of the cool pits that have been emptied of bedding plants, and fill it with a light rich compost to the depth of 15 inches, in which all the plants may be planted out. Give a square foot of space to each plant, and keep the frame close for a few days. Syringe night and morning until the plants have taken root into the new soil. The lights may then be removed until autumn. Keep the plants well supplied with water at the roots throughout the summer.

**EUPATORIUMS**.—Cuttings that were struck in March or April should be encouraged to grow rapidly. Keep the shoots regularly pinched, and by shifting the plants until they are in pots 7 or 8 inches in diameter, large plants may be obtained in one season. They are exceedingly useful during the dull winter months.

**AZALEAS**.—Many of the plants which were forced early will have completed their growth, and should be put into a cool-house preparatory to placing them out-of-doors, where they may remain during the summer. Thorough ripening is of great value in preparing Azaleas for winter flowering. It is of no use attempting to force plants that have not been well ripened out-of-doors early in the season. Any plants that are pot-bound should be given a watering with soot-water or liquid from the farmyard twice each week. Syringing overhead with clear liquid from the farmyard is a good preventative of thrip and spider. Late-flowered specimens may remain a month longer in the warm-houses.

**GENERAL WORK**.—The present is a good time to thoroughly rearrange the occupants of the glass-houses, as all the bedding plants have been cleared out. Many greenhouse plants can now be removed to pits or frames, and some stove plants that have made most of their growth may be moved into cooler houses. If an intermediate-house is available, the *Caladiums* and many other soft stove plants may be put in it. Extra room may thus be gained for plants which require a high temperature throughout the year. The *Marantas* have thrown up fresh foliage, and now appear very handsome. All the varieties are well worth growing, if space can be given them, for although not so useful as some plants for house decoration, they are splendid subjects for the ornamenting of the stoves. They are strong growers and require a rich compost. The plants should never be allowed to grow into old stools, or to remain year after year in the same pots. Break them up each year, unless the plants are required for exhibition, and even then they must receive large shifts annually to keep them vigorous. A compost of loam, peat, and dried cow or sheep-manure with coarse silver-sand suits them well. Where full collections of these cannot be grown for want of space, the following are a few of the more showy and useful varieties: *M. Kerchoviana*, *M. Lindenii*, *M. Makoyana*, *M. Massangeana*, *M. Veitchii*, *M. vittata*, *M. Warszewiczii*. When the plants are well established, give frequent waterings of liquid-manure.

**ACALYPHAS**.—These are as easily propagated as *Coleus*. When the summer is over, I generally winter three dozen plants, and cut them back at the beginning of December, when they are placed on a shelf near the glass in a warm-house. They then break afresh, and I thin the shoots out to four on a

plant. These I allow to grow until the end of March or beginning of April, by which time they have made strong, well-coloured tops. We then take these tops off 5 inches long, and put them in 3-inch pots. Crock these pots moderately, and place some rough half-decayed leaves over them, also a little soot over the leaves. Use a light compost of leaf-soil and loam equal parts, and place a little silver-sand in the centre of surface, so that when inserting the tops it may trickle in. Propagated in this way they never lose their colour. Plunge them in a propagating-box, and shade only during the hottest part of the day. As soon as they are well-rooted, shift into 5-inch pots, and place on a shelf near the glass. In the course of six weeks splendid plants will be obtained for furnishing purposes. If large plants are wanted for the conservatory, shift again into 7 or 8-inch pots. *Acalyphas* always show to most advantage if grown on single stems.

### THE KITCHEN GARDEN.

By C. HERRIN, Gardener, Droppore, Maidenhead.

**ASPARAGUS**.—The dry weather of the past three weeks has not tended to succulence in the shoots, and if no rain falls before these notes appear, it will be advisable to afford the beds a thorough application of water, and manure-water from stables and cowsheds may be added wherever obtainable, care being taken to dilute it considerably with clear water. It is an advantage to afford the beds which are to have manure-water an application of clear water, the manure-water being applied an hour or two later, and if the latter is not obtainable, fish-guano or nitrate of soda may be used instead. All kinds of weeds should be hand-picked from the beds; and while the cutting of shoots continues, both large and small should be taken, but the earlier cutting is now discontinued the better it will be for the plants. This is usually possible when Peas become fairly plentiful, that is, about the middle of the present month. If the planting of Asparagus has been delayed, it may still be done, provided the plants are got in with despatch, the stems secured to stakes forthwith, and the bed, after being well watered, mulched with rotten manure or leaf-mould.

**FRENCH BEANS**.—Plants in unheated pits and frames will be in full bearing, and the necessity for house culture no longer necessary. Continue to make sowings so as to keep up an unbroken succession, sowing some seed of the climbing French Bean in the open quarters. The plant has smooth-skinned pods, like the dwarf varieties, but it reaches a height of about 6 feet, and requires sticks of that height, and keeps on bearing a long time.

**OUTDOOR TOMATOS**.—The second week in June is, in the South, a perfectly safe time for planting Tomatos in the open, for although there may be no frost to materially injure them if planted earlier, the nights are cold, and the wind is often from the north-east, which injuriously checks growth in the plants, whereas the later-planted Tomatos begin to grow at once. If the plants have been brought on as advised in earlier articles, they will have the first trusses of fruit set, and the pots filled with roots, not root-bound, but in just the right condition for turning out. Vacant spaces on south or west walls or close fences should be utilised for Tomato-culture, also the southern fronts of forcing and other glass-houses. Tomato plants may also be planted away from such shelters, and trained with a single stem to stakes 5 or 6 feet in height. For this purpose a border with a south or west aspect should be chosen, and the plants set out in lines 2½ to 3 feet apart, and 18 inches from plant to plant in the lines. Such plants ripen their fruits rather later in the season than those trained to walls; but if strong plants are made use of, and attention be given to stopping the shoots, &c., nice crops may be grown in this way in most years, and when as favourable as last year, the cost of their cultivation is well repaid. A new position on the borders should be found for them each year, but in the case of walls and fences, where new positions cannot be so readily found, the old soil should be partially renewed. The soil for the Tomato should not be made very rich, as this is a cause of rampant growth that is not fruitful in this climate, and it is better to afford liquid-manure or some artificial fertiliser instead, the time for using this being when a good set of fruit is obtained. Before planting, let the ground be firmly trodden, and the soil left high around the plants when finished off, so as to form a basin. Unheated Potato-pits, as they become empty, may be used for growing Tomatos, the soil being made firm, and two plants put in the front of each light, with a few Pea-sticks

laid across the pit for them to trail over. Trail them with a single stem from the front to back of the pit. The lights may be kept off the pit during hot weather. Whether planting in pits or outside, the balls of soil should be moistened before planting, and if the border is dry, it should be watered a few hours before the planting takes place.

**HINTS ON CURRENT OPERATIONS**.—Remove the tops from Broad Beans when a crop of pods is set, and if the plants are likely to be blown over, pass string down each side of the row, and secure it to short stakes. If a late crop of Broad Beans is required, another sowing may be made. Runner Beans before they begin to run should have stakes placed to them, after having earthed them up; and where grown in circles the inner space should be covered with rich rotted manure. Another sowing may be made. In the event of failures occurring amongst the crops of Beetroot, Savoy, and Borecole, seed may yet be sown in drills which have been previously watered.

### FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

**EARLY VINES**.—As soon as all the fruit has been taken from the canes, afford a thorough syringing to clear them of insects or dirt. An occasional washing afterwards with the syringe, or, preferably, the garden-engine, will be necessary to keep them clean. Lateral growths must still be kept in check, and root-waterings should be given as often as the borders appear dry. The success or otherwise of next year's crop depends in a large measure upon the foliage being kept healthy until the growths are properly matured. Should red-spider have appeared, a good insecticide should be used, and every means taken to eradicate the pest without any delay. Pot Vines that are intended for fruiting early next season ought now to have grown to their full length. Give them every attention possible, and assist them by means of weak manure-water. They should be in a light situation, and have plenty of air, so that firm, early-ripened wood may be secured. Young permanent Vines planted in the spring need frequent attention in regard to tying, stopping, &c., and they should not be allowed to suffer from lack of moisture at the root. Mulchings of litter as helping to conserve the moisture are very useful.

**CUCUMBERS**.—Continue to plant fresh batches of these as the pits become cleared of Potatos, Beans, &c., and when these plants commence to bear fruits, the plants in the earliest houses may be dispensed with in order to make room for successional and late crops of Melons, &c. If, however, these plants cannot yet be conveniently spared, and they are in a fairly healthy condition, they should be encouraged to make a fresh start, by taking away the surface soil and replacing it with good lumpy loam, and a surfacing of well-rotted manure. Water well with weak tepid liquid-manure, and thin out the old exhausted growths. Shade from bright sunshine will be necessary for a few days, until the young growth has made an appreciable start, and close early in the afternoon to preserve the sun-heat, affording at the same time plenty of moisture. In the pits and frames artificial heat will scarcely be required, except, perhaps, in the colder parts of the country, but full advantage should be taken of sunshine by syringing and closing early. It is advisable to continue to cover the glass at night for some time longer, as the weather is still cold. Any plants in full bearing will require an abundant supply of water at the roots, and also overhead, by heavily syringing daily. Look over each plant twice weekly to stop the shoots and thin out superfluous growths, foliage and fruits. Where Gherkins are in demand for pickling, the plants are best when grown in a frame; and they should be planted at once.

**STRAWBERRIES IN POTS**.—Any plants that have yet to ripen their fruits may now be removed to pits or frames where they can have plenty of air without the baking which is often unavoidable on shelves in the forcing-houses. As soon as runners can be procured, make preparations for next year by layering into small 60's, which should be filled with rich, rather fine soil. For the earliest batch, a good stock of the old Keen's Seedling or Vicountesse H. de Thury is yet difficult to excel, but for later forcing Royal Sovereign is first-rate, President also is very good. The soil for the pots in which the plants will fruit should consist of rather strong, rich loam, with one-fourth part of well-rotted manure added. This compost ought to be well mixed a week or two before it is required for use.



## EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

## APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	JUNE 6	{ I of W. Hort. Assoc. Meet. Soc. Franc. d'Hort. de Londres Meet.
SUNDAY,	JUNE 7	{ Roy. Hort. and Agr. Society of Gleat Show.
TUESDAY,	JUNE 9	{ Roy. Hort. Soc. Coms.
WEDNESDAY,	JUNE 10	{ Roy. Bot. Soc. (Floral Fete. Geneva Exhibition temporary Sh. 14 days)
FRIDAY,	JUNE 12	{ Roy. Bot. Soc. Lecture.

## SALES.

THURSDAY,	JUNE 9	{ Highly important unreserved Sale of the Ardarrach Collection of Established Cattleyas and Lælias by order of R. Brooman White, Esq., by Protheroe & Morris (two days).
FRIDAY,	JUNE 12	{ Imported and Established Orchids, from various sources, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—60° 1.

Agricultural  
Depression.

MESSRS. WILLIAM COOPER & NEPHEWS, "proprietors of Cooper's Dipping Powder," have

been at the pains to put a series of questions on the causes and remedies for Agricultural Depression to 100,000 farmers, and now lay before the reader in the form of a small pamphlet (which may be had from the authors at Berkhamsted, Herts), a general summary of the results. We must confess to a feeling of disappointment at the result. We are not told the number of replies received, so that the percentage results may be somewhat misleading, and the conclusions arrived at are by no means so uniform as on a first impression we should have imagined. But as the depression is general and by no means confined to this country, it is obvious on a more careful consideration that no such limited investigation can be adequate for the purpose. We can imagine the present results to be very puzzling to a statesman. What is he, or what is the House of Commons to do for the relief of the agriculturists, when, as is rendered evident, they do not themselves know what is good for them? There is, however, considerable unanimity in the demand for a further reduction of rent. Tithes are hardly more popular. Land is considered to bear too large a proportion of the rates, but the remedies and alternatives proposed are like the quack medicines which profess to cure all diseases. Taxes on cycles and on tradesmen's carts find favour with many, but we doubt if either the one or the other can be considered within the range of practical politics. Railway rates are by nine-tenths of the respondents considered too high, but as the farmers are not supposed to know the details and exigencies of railway-management, their opinions need to be put to the test of proof before their correctness can be assumed. They are practically unanimous in thinking that railways should be compelled to carry British produce at rates as low as foreign. Other things being equal this is, of course,

equitable—but are things equal? The railway companies who have to handle the goods would, we imagine, say No, and that if preference is given to the foreigner, it is because by his greater care in collecting and packing, thus lessening labour and expense, he earns it. In the meantime some of the companies have publicly denied the existence of any inequality in the rates for the conveyance of fruit.

A spirit of fairness and equity towards the landlord is conspicuous in many of the replies relating to compensation to outgoing tenants, and other matters bearing on the relation of the tenant to the landlord.

As to protection, more than half—60 per cent.—of the respondents are in favour of a duty on corn; the minority seem to look upon it as a lost cause. This view of the case is supported by the remarkable diversity on points of detail, which is shown by the would-be protectionists—a diversity so great, that we do not think the average legislator could arrive at any safe conclusion as to what the majority really do want. More than 90 per cent. of the respondents reply that foreign produce, including fruit, should be labelled as such.

Co-operation is another question upon which opinions are much divided; on the other hand, more than half the farmers are opposed to allotments and small farms. A very general opinion, nevertheless, is expressed, "that small holdings produce better labour, and also that the sentimental interest created in the minds of small occupiers by the possession of land is very beneficial, besides educating them in the difficulties under which their daily employer, the farmer, labours."

We now come to a question which more nearly concerns us: under the heading "Fruit-culture, Poultry, &c.," the question is asked—"Would the farming interest in your part of the country be improved by the further production of articles now largely imported, such as fruit, poultry, eggs, butter? If so, what obstacles exist to prevent such development?"

To this question 49 per cent. of Messrs. COOPER's correspondents say "No," 44 per cent. say "Yes," and the remainder are favourably disposed to it within certain limitations. Among the obstacles, high railway rates easily take the first place. "Whatever subjects," say Messrs. COOPER, "farmers differ upon, their unanimity on this point is wonderful." The British climate comes up for condemnation. "Our fruit," they say, "comes later than (even when it is not inferior to) the foreign article, and for this the wretched British weather is responsible. Quite a large proportion hold this to be a stumbling-block to any efforts to extend fruit-culture." Bad markets produce quite a general growl. "We can't get at the consumer . . . and we are at the mercy of the middle-men. If only we had a local collecting and distributing dépôt we could do well, or even if we could get regular direct customers in the towns."

The establishment of such dépôts does not seem to present any insuperable difficulties, but the farmer seems often to give way to despair, and to think that his condition is far too hopeless for such trifles as those to be of much service. We cannot pursue the subjects which Messrs. COOPER have thus brought before us. It is evident that they have supplied those interested with plenty of food for reflection. There is one subject they have only lightly touched on, but it is one that is significant. We allude to the enormous increase of culture under glass, with all the accompaniments of

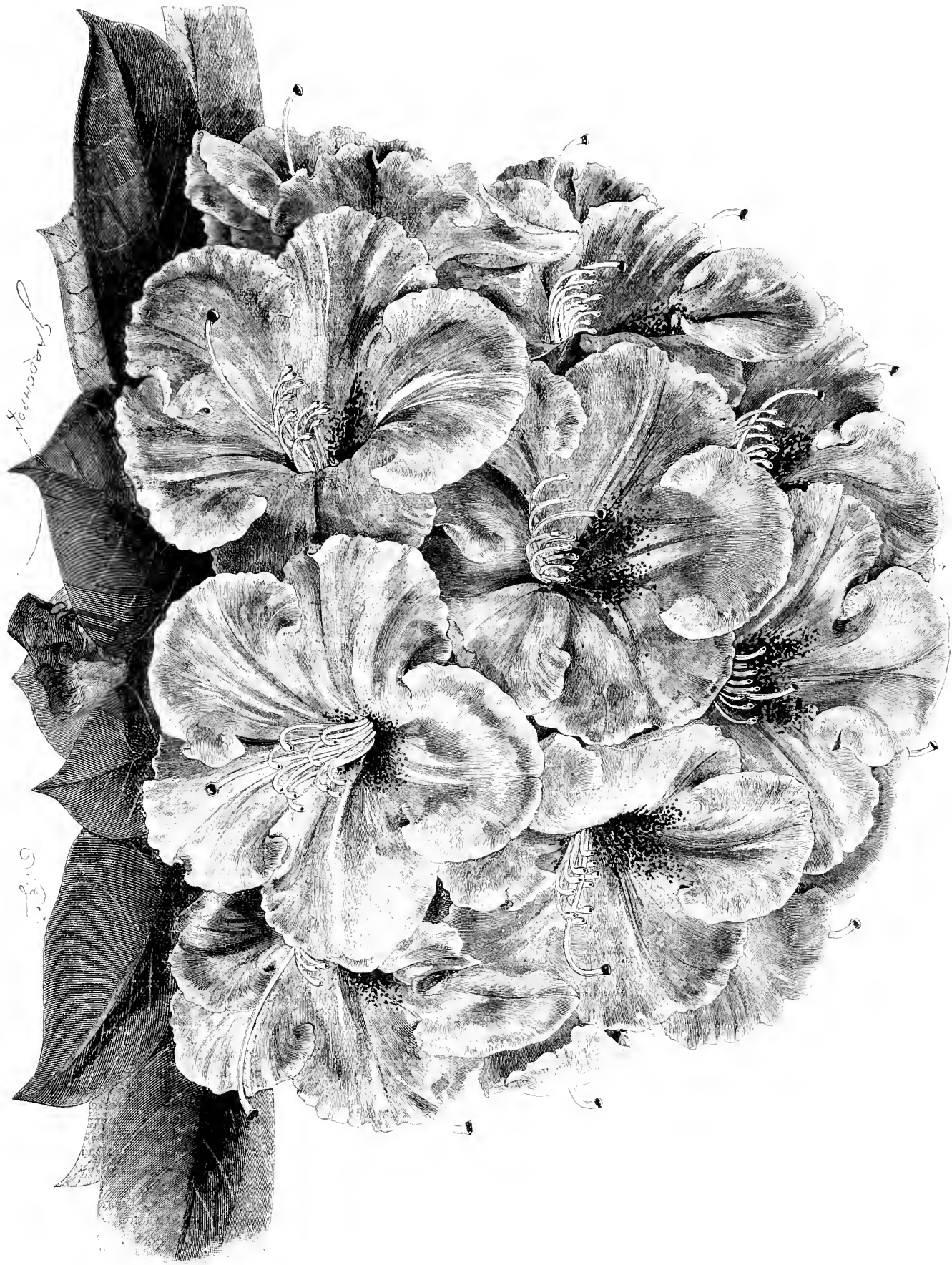
high culture, high rental, and expensive labour, which may be witnessed not only round the metropolis but in the vicinity of other great towns. The reports that we published in these columns a year or two ago suffice to show that capital invested in such enterprise yields a satisfactory revenue, provided the employment of the capital be directed with brains and energy enough to secure the necessary adaptation of the procedures to the "environment." Some of the directors of these vast establishments have been, to our knowledge, farmers.

ROYAL HORTICULTURAL SOCIETY.—At a meeting of the Fruit and Vegetable Committee, held at Chiswick, May 28, there were present P. Crowley, Esq., chairman, the Rev. W. Wilks, secretary, and Messrs. C. E. Shea, J. T. Bennett-Poë, J. Douglas (members of the council), W. Bates, J. Wythes, J. Wright, H. Balderson, A. Dean, A. F. Barron, and R. Fyfe. A collection of Spinaches, growing in double rows on a west border, underwent inspection. There were thirty-three diverse stocks grown, only one having failed. The plants were in capital condition, and had been well thinned early in their growth. Prickly-seeded varieties were first dealt with. Of these it was found that the various stocks resolved themselves into three. The well-known Prickly-seeded Flanders, which is much the earliest to bolt off to flower, has long leaf-stalks, and somewhat pointed leafage, the large-leaved Improved Prickly, as named here, a fine stock from Messrs. Watkins & Simpson, but which seems to be identical, except in form of seed, with the round Virolday or Victoria. This is a very fine large-leaved Spinach, and specially of great excellence for market work; and third, the Long-standing Prickly-seeded, which is latest of all to bolt to flower, and has dark-green glossy and large-rounded leafage, of a very distinct and noticeable kind. Three stocks of this were all equally good. The Round-seeded Flanders was, apart from the shape of the seed, identical with the prickly-seeded one. The round Virolday, or Victoria, were evidently identical with the Improved Prickly, and the Round-seeded Longstanding the same as the prickly form. Three marks were given to both the Longstanders, the best stock of the round form coming from M. Heineman; and to the Improved Prickly. The result of the trial, therefore, is to show that there are but three really distinct forms of Spinach, each one having round and also prickly seed; also without doubt the finest for all purposes are the Longstanding and Virolday types.

— The next Fruit and Floral Meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, on Tuesday, June 9. The Veitch Memorial Medals will be presented by the President to Messrs. BURBIDGE, DUNN, SARGENT, and H. DE VILMORIN. At 3 P.M. the Rev. Prof. HENSLOW will give a lecture on "The Movements of Plants," illustrated by lantern slides.

NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—The Annual Exhibition of the National Horticultural Society of France, held in the Tuileries Gardens, May 29 to 25, cannot be said (remarks a correspondent) to have equalled the International Exhibition held in the same gardens last year. Gold medals seemed to be showered with a very free hand—a striking contrast to exhibitions in England. In the matter of new plants there was nothing of extraordinary merit, unless an exception be made of a new Canna, Canna Italia, shown by M. LAINE, which well deserved the silver medal it obtained. The plant, although not a vigorous one (owing undoubtedly to its being forced for the exhibition), was bearing two or three very fine flowers of a bright fiery red colour, with a broad border of golden yellow. A noticeable feature of the show was a splendid collection of Phyllocactus in flower, from the nurseries of M. CHS. SIMON, Saint Ouen, and for which he received a gold medal. MM. VILMORIN, ANDRIEU & Cie., seed merchants, Quai de la Mégisserie, Paris, were awarded a gold medal for a magnificent

FIG. 118.—RHODODENDRON MRS. W. T. THISTLETON-DIER: COLOUR ROSE-PINK, WITH A RICH MAROON BLOTCH AT THE BASE OF THE COROLLA. (SEE P. 702.)



collection of annuals and biennials, also a silver medal for their strain of Pansies. A fine collection of Gloxinias in flower came from the gardens of M. ROBT. LEBAUDY, Bougival (gr., M. Lepage), who received for them a gold medal. M. LOUIS CHRISTEN of Versailles exhibited a grand collection of Clematis in flower (gold medal). Orchids could not be compared with those of last year, owing probably to the absence of the two great rival establishments, SANDER and LINDEN.

**THE ROYAL BOTANIC SOCIETY.**—The Duke of TECK, President, took the chair at a meeting of the Council of the Royal Botanic Society on Saturday. The Marquis of BOTE, the Marquis of BRISTOL, the Earl of ANNESLEY, and other members of the Council were also present. Arrangements were made for a garden party and reception which the Duke of Teck intends giving to the Fellows on Thursday, June 25, in the gardens. It was also decided that as twenty-three Fellows of the Society, including ten members of the Council, had guaranteed the necessary expense, the experiment should be tried of providing a band on Saturdays in June and July, commencing on the 13th inst., when the gardens are open to the public. At a meeting of the Fellows of the Society previously held at the Museum in the gardens, Major COTTON presiding, it was announced that on Whit Monday 3246 visitors paid the charge of sixpence for admission to the gardens. The number on the previous Whit Monday was 4900. The attention of the Fellows was called to several specimens of a remarkable feathered Hyacinth which, in its native state, produces a few flowers surmounted by a feathered tuft, but which, in a cultivated state, bears only the aborted tuft without the flowers. *Times*, June 1.

**BATH AND WEST OF ENGLAND SHOW.**—At the Royal visit to the recent Bath and West of England Agricultural Show at St. Albans, the flower tent was visited by their Royal Highnesses the Prince and Princess of WALES. In the group of Messrs. PAUL & SON of Chesbunt they particularly noticed the new single Rose, Paul's Carmine Pillar, masses of which, from the open air, were shown. H.R.H. the Princess of WALES asked for and wore a bunch of the flowers, the Prince donning a button-hole of the same, an example followed by Lady SALISBURY and other members of the royal party.

**APPLES, ETC., FROM TASMANIA AND AUSTRALIA.**—On Saturday last (May 30), one of the P. & O. Co.'s well-known "fruit fleet" arrived at the Albert Docks, London, with a cargo of nearly 10,000 boxes of fruit—principally Apples from Tasmania. The bill of lading says:—"1732 boxes of fruit and 6666 boxes of Apples from Hobart; 1171 boxes of fruit from Melbourne; and 114 boxes from Adelaide." The total is 9683 boxes, and doubtless there will be a good sale for them at the various markets. The last consignment, of over 20,000 boxes, went well, and we note Tasmanian Apples are selling at from 10s. to 16s. per box, at from 3d. to 6d. per pound retail. Of course, small fruits from Keut and other counties will lower the price of Australasian fruits at the present season, although the prices for these English fruits are very cheap.

**CLUB IN CABBAGE.**—The April number of the *Journal of the Essex Technical Laboratories* contains a digest of a series of inquiries which had been addressed to certain farmers and market gardeners of the county. The Report gives an excellent account of the nature of the disease, and its distribution throughout the county. It shows how the disease may be spread by the carelessness which allows diseased roots to be thrown on to the manure-heap, and the still greater carelessness which permits diseased stumps to be ploughed in! Unfortunately, beyond certain obvious inferences, the reporter does not indicate any cure for the malady, nor, indeed, could he be expected to do more than urge that prevention is better than cure—a lesson that the farmers seem a very long time learning.

**TO DESTROY ANTS.**—Among the many ways recommended for destroying ants, one of the easiest

and most efficacious consists in laying in the places where they are accustomed to assemble pieces of thick twine or rope, about 1 foot long, which have been previously dipped in a syrup made of coarse sugar. The ants cluster in great numbers upon these strips, which, from time to time, can easily be taken up and dipped into boiling water. The same satisfactory results may be obtained from the use of a good sized sponge, sprinkled over with finely-powdered sugar; the sponge, thus prepared, being laid near the holes whence the ants issue, becomes in a short time quite a living object, the ants filling up the holes of the sponge, which may then be plunged into boiling water. *Book of Choice Ferns*.

**DAWLISH IMPROVEMENTS.**—At a meeting of the Dawlish Urban District Council, held at the Town Hall on May 20, Mr. F. M. CAMM presiding, Mr. F. W. MEYER, landscape gardener to Messrs. VERRILL & SON, of Exeter, read a descriptive paper on "How to make Dawlish more Attractive," and also submitted plans and an estimate for laying out Tuck's Plot and the Lawn, as proposed by the Dawlish Improvement Scheme. The plans showed several desirable features and improvements, including a rock-garden. On the proposition of Mr. AVANT, seconded by Mr. PARDOE, it was decided to frame the plans, and place them in a prominent position in the town. The chairman highly complimented Mr. MEYER on the excellence of his designs, which would receive the due consideration of the Council.

**PRECAUTIONS IN THE USE OF ARTIFICIAL MANURES.**—We read in the *Oesterreichisch-Ungarische Gärtner-Zeitung*, that a young farmer in Obersöllbach, Wurtemberg, employed in scattering artificial manure, had a light abrasion of the skin of the hand. Very soon symptoms of blood-poisoning showed themselves; medical aid was of no avail, and in a short time death ensued. It is advisable that those who must handle these various substances should be careful to wear gloves whilst at the work, and on no account to undertake it if they have wounds, however slight, on any part of the person.

**ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.**—The directors of this society met in Aberdeen on the 26th ult. Mr. D. M. SMITH presided. Reports were submitted from the various committees who have charge of the arrangements for the forthcoming show, and agreed to. The following gentlemen were appointed judges—Pot plants and hot-house fruit: Mr. Sharp, Freeland, Forgandenny, and Mr. Allison, Seaview, Monifieth. Cut flowers: Mr. Grieve, Edinburgh, and Mr. McLeod, Aberdeen. Vegetables and hardy fruit: Mr. Smith, Aberdeen, and Mr. Joss, Craigie, Dundee. Potatoes: Mr. Donaldson, Keith Hall, and Mr. Smith, Cullen.

**"A MANUAL OF FORESTRY."**—It is a matter for great satisfaction to know that this book, written by the capable hand of Dr. WILLIAM SCHLICH, has already reached its second edition. This is the best possible proof of the importance and value of the book, which now appears in a revised and enlarged form, by BRADBURY, AGNEW, & CO., 8-10, Boulevard Street, Fleet Street, E.C. We shall no longer have to lament the want of any high-class text-book of the subject in the English language. The fifth volume, devoted to the subject of forest utilisation, has just been published, and is the subject of notice in another column.

**"CASSELL'S NATURAL HISTORY."**—The issue of a popular edition of this book brings the information it contains within the use of all. The plentiful pictures and plainly-written tales may not all be new to adult readers, but for the younger generation should constitute a perfect store-house of charming and palatable lore. A notable feature of this publication is the series of plates, specially prepared from recent photographs of the animals in the "Zoo," and which will add much to its value and interest.

**PORTRAIT OF PROFESSOR OUDEMANS.**—The *Tijdschrift voor Tuinbouw* contains, in its last issue a portrait and short biographical notice of Professor

Dr. C. A. J. A. OUDEMANS. It will be remembered of this zealous worker that in addition to many distinctions conferred upon him in various countries, he has held, since 1859, the position of President of the University of Amsterdam. Dr. OUDEMANS presided over the International Horticultural Exhibition and Botanical Congress of 1865, the immediate predecessor of the never-to-be-forgotten 1866 London Congress, and the one at which the invitation to London was given.

**THE PEOPLE'S PALACE AND EAST LONDON HORTICULTURAL SOCIETY.**—The Hon. Secretaries of this Society desire to make it widely known that the third annual flower show will be held in the People's Palace, Mile End Road, London, E., on June 29, 30, and 31. Her Royal Highness the Princess LOUISE and the Marquis of LORNE have consented to open the show.

**SOUTHSEA ROSE SHOW.**—The Rose show and carnival to be held on the South Parade Pier on June 27, promises to achieve a considerable measure of success. The Mayor and Mayoress of Portsmouth have promised their patronage, as also have Admiral Sir NOWELL and Lady SALMON, Lieutenant-General and Mrs. DAVIS, Colonel-Commandant F. A. OGLE, R.M.A., and Mrs. OGLE, and many others. The Mayoress, Mrs. YOUNG, has consented to open the exhibition. Mr. WINDER, of Bristol Road, East Southsea, is the Hon. Sec. (*pro tem*.)

**"ICONES PLANTARUM."**—This publication, now edited by Mr. W. T. THISELTON-DYER, contains illustrations and descriptions of new or noteworthy plants received in the Kew Herbarium. It thus serves as an illustrated record of plants received from travellers and collectors in different countries often remote and little visited. In the present part we find a *Lithospermum Hancockianum*, t. 2457, from the mountains of Yunnan, which would be a desirable introduction to our gardens. *Homalopetalum* is a pretty little Jamaican Orchid, with nearly regular flowers, whilst the two lateral stamens, a 2, a 3, are represented by projections from the side of the column. Whether these bodies ever enter into the constitution of the lip as is here stated, is a matter for further enquiry. The Butter-tree of West Africa, *Pentadesma butyracea* is now, for the first time, adequately figured. Various illustrations are given of plants from Central Tibet, an almost unknown region, botanically speaking.

**"GREENHOUSE AND STOVE PLANTS."**—A new and illustrated edition of this book has been issued by Mr. JOHN MURRAY, Albemarle Street. A better guide than was Mr. THOMAS BAINES in all cultural matters can hardly be imagined; his judgment and experience were alike remarkable, and these qualities are reflected in his book. As the main object of the work is cultural, it would be well in future editions if the descriptive details were wholly omitted; or if retained, that they should be corrected, and rendered adequate. *Aralia Chabrieri* is now known to be an *Eleoedendron*. The article *Bambusa* needs reconstruction in the light of Mr. MITFORD's recent treatise. *Canna* and *Chrysanthemum* also deserve revision; and so with many others. Even the title-page would be better for a little modification. No author that we know of admits of "500 families," or anything like that number. The fact is, that the word "family," as here used, is an illustration of the laxity in the use of technical terms, which is common to the aity, but which is less excusable in experts. As a reference-book on all matters relating to cultivation, this work is specially valuable, and with a little revision it might continue to be the standard work on the subject for years to come. The illustrations are well executed.

**"MOUNTAIN, MOOR, AND LOCH."**—The publishers (Sir JOSEPH CAUSTON & SONS, London) have issued a second issue of this book. It is plentifully "illustrated by pen and pencil," and forms an attractive guide to travellers on the route of the West Highland Railway, where the scenery possesses not only remarkable beauty, but the added charms of association with both history and romance.

**ANDROGYNOUS CONES.**—The occurrence of male and female organs on the same catkin or in the same cone has frequently been observed in Pines and other Conifers, and instances have been from time to time figured in these columns. Quite recently Sir E. FRY has been good enough to send us specimens of this kind in the common Larch, as well as instances of proliferous cones in which the central axis has grown out beyond the cone in the form of a leafy axis. Not long since, Mr. KENJIRO FUJII, a graduate of the University of Tokio, published a paper in the Japanese *Botanical Magazine*, in which he showed that the changes are sometimes the result of mutilation, such as are practised by the Japanese gardeners. There are in the Pine two sorts of shoots: the extension or leader shoots (lang triebe of the Germans), and contracted shoots or spurs (kurz triebe). Mr. KENJIRO FUJII observed in *Pinus densiflora* that a great number of female or hermaphrodite flowers were developed in the positions where male flowers are usually found. He ascertained also that the

of the balance of nutrition must therefore be due to other causes besides mutilation, and the sudden access of increased supplies diverted from their original channels. In *Pinus cubensis* the androgynous condition appears every year in one particular tree, as we are informed by Dr. MELLICHAMP, who has on several occasions sent us specimens from South Carolina. What the inducing cause may be in such cases is a matter for further inquiry. We have also seen the malformation at Kew on trees of *Pinus densiflora* and *P. Thunbergii*, which had not been subjected to mutilation.

**GARDEN PINKS.**—There is planted at Chiswick a large collection of these most useful hardy garden flowers, which should, under more favourable weather conditions, furnish a very interesting trial. The earliest, a pure fringed white, of greater substance than is the old common white, is named *alba magnifica*; that variety was in profuse bloom much earlier than the old white, and ere Her Majesty had

Zealand, propose to hold, next March, a Potato exhibition. This is to be in celebration of the tercentenary anniversary of the introduction of the Potato into England from America, and it is desired to get together "as many varieties of Potatoes as possible from all parts of the world, with a view to showing the wonderful improvements made in the tuber since 1596, when it was uncertain which was the edible part, the apple or the root; and also with the object of choosing from the exhibits such varieties as may prove themselves worthy of importation." The Society will be glad to receive from growers and dealers small samples for trial. The names of the donors will be duly published.

**THE NEILL PRIZE.**—We learn that Mr. ROBERT LINDSAY, the late Curator of the Royal Botanic Garden, Edinburgh, has been unanimously awarded the Neill Prize for his services to Botany and Horticulture. The horticultural community will heartily endorse the action of the Royal Caledonian Society.

**THE SCOTTISH HORTICULTURAL ASSOCIATION.**—At an ordinary meeting of this association, held on Tuesday, June 2, Mr. HUGH FRASER presiding, there was read a paper by Mr. J. FRASER, of the *Gardening World*, London, on "Cross-breeding and the Hybridisation of Violas." In it he stated that the Violas of to-day were the work of some fifty years or so of cross-breeding, hybridisation, and selection. After dealing with difficulties experienced in raising good sorts, and relating his own experience, he said that by guiding and directing Nature they could sooner reach any given point along a particular line of development than if the flowers were left to their own resources.

**SCOTTISH METEOROLOGICAL SOCIETY.**—The *Journal* of the Society, containing the tables and other documents connected with the climatal conditions of Scotland in 1893 and 1894, has just been issued by Messrs. BLACKWOOD & SON. The details concerning the great frost of January and February, 1895, are of special interest, and especially those relating to the period between February 6 and 20, unquestionably one of the severest frosts on record, —17° being recorded at Braemar!

**"DICTIONNAIRE PRATIQUE D'HORTICULTURE."**—This useful work is making steady progress. The 49th *livraison*, recently published, ends in the middle of the article *Phalanopsis*, and contains a coloured plate of *Pentstemon Murrayanus*, var. (Paris: OCTAVE DOIN.)

**PUBLICATIONS RECEIVED.**—*Annual Report (for 1895) from the Botanical Station, Dominica.* Satisfactory, as a record of successful experiments, giving hope of still further progress in the future.—*Bulletin of Miscellaneous Information, Royal Botanic Gardens, Trinidad.* The more important papers are upon "Watercress," "Artichokes," "Roses," "A New Use for Sisal Hemp" (instead of horse-hair for cider-press cloths), "Notes on Mauring," "Introduction of *Lodoicea Sechellarum*," "Jamaica Drift Fruit," and "Chrysanthemums."—*The Principal Diseases of Citrus Fruits in Florida*, by WALTER T. SWINGLE and HERBERT J. WEBBER, forming Bulletin No. 8 from the U.S. Department of Agriculture, Washington. A useful issue, illustrated with plates and other pictures, showing the effect upon Oranges and Lemons of certain diseases, and mentioning how these ills may best be coped with.—*The American Persimmon*, Bulletin No. 60, Purdue University Agricultural Experiment Station, treating of the botanical nature, cultivation and varieties of this useful fruit.

PLANT PORTRAITS.

- ARCTOTIS AUREOLA, *Gardeners' Magazine*, May 2.
- CARAGATA CONFERA, *Revue Horticole*, May 1.
- CATTLEYA MANINI X, a cross out of *C. Bowringiana* var. floribunda by *C. Dowiana aurea*, *Lindleya*, t. DIX.
- CATTLEYA MAXIMA VAR. FLORIBUNDA, a form of *C. maxima*, with elongate pseudobulbs, and with the common flower-stalk elongate, and many-flowered, *Lindleya* t. DVI, DVII.
- CYCLOMEN PAPILLO, "BRUSSELS BEST," *Revue de l'Horticulture Belge*, May.



ROBERT LINDSAY.  
(Latest recipient of the Neill Prize.)

formation of such flowers is limited chiefly to the extension shoots, which result from the growth of the spur shoots of the preceding year. The production of long shoots from the spurs takes place regularly, when the long shoots are injured in any way as in the annual pollarding to which the trees are subjected. Hence, says Mr. KENJIRO FUJII, a flower of *Pinus densiflora* which, under normal conditions, will develop into a male, may be transformed into a female or hermaphrodite when a local increase of nourishment takes place. This local increase of nourishment in young shoots of *Pinus* can easily be secured in spring in the early stages of their development, firstly, by pollarding the shoots, and thus inducing all the nourishment in store to be used in the development of the remaining portion of the shoot, especially the flowers and the (kurz triebe) spurs nearest the wound. Numerous experiments made by Mr. KENJIRO FUJII confirm these opinions. The changes do not occur in *Pinus* and *Larix* only, but in other genera also, as in *Picea nigra*, a specimen of which is before us. In this plant there is no distinction into long and short shoots; nor, again, can we always see evidence of any mutilation in the trees which present these peculiarities. The disturbance

expanded a single bud. As these Pinks are so much in favour when cut for hunching as market flowers, so early a variety may well merit attention. If there be some forms that give large blooms, they all at least have the demerit of pod-splitting, whilst the very free-blooming smaller-flowered varieties have not that fault, and are therefore so much prettier for all ordinary uses. There are some rich-coloured flowers seen on later varieties, and these are peculiarly welcome in scented Pinks.

**"JOURNAL DE LA SOCIÉTÉ NATIONALE D'HORTICULTURE DE FRANCE."**—The report of the Horticultural Congress of 1896 includes papers on:—The History and Cultivation of Cattleyas and *Lælias*, by M. L. GRULLOCHON; Selection of Trees most suitable for Town Planting, by Mr. A. CHARGUERAND; other reports on the latter subject, by M. VAN HULLE and M. JULIEN LOZET, fils; Classification of the Best Varieties of different Kinds of Roses, by M. D. THOMAS; Chief Enemies of Roses, and How to cope with them, by M. F. DECAUX.

**NORMANBY HORTICULTURAL SOCIETY.**—The Normanby Horticultural Society of Taranaki, New



*CYPRIPEDIUM INSIGNE*, a double-page plate, containing coloured figures of the following varieties:—1, excellens; 2, Moortbeekense; 3, latina culatum; 4, rubidum; 5, Lindenise; 6, miniatum; 7, lucidum; 8, albo-marginatum. *Lindenia*, t. IX, DXI.

*CYPRIPEDIUM INSIGNE* VAR. *LUCIANI*, flowers wholly yellow, except the dorsal sepal, which is white at the tip and green at the base. *Lindenia*, t. DV.

*GALANTHUS IKARIE*, *Garden and Forest*, May 2.

*GLADIOLUS HYBR.*, KÖNIGIN WILHELMINA, *Tijdschrift voor Tuinbouw, Twaalfde Aftreving*, 1896.

*GONGORA FORTENTOSA* VAR. *ROSEA*, *Lindenia*, t. DVIII.

*HABENARIA LEUCOSTACHYS*, *Mechan's Monthly*, May.

*HELIANTHUS DEBILIS*, a newly-described species, *Garden*, May 2.

*LAVATERA INSULARIS*, *Garden and Forest*, April 22.

*ONCIDIUM VARICOSUM* VAR. *ROGERSII*, *Lindenia*, t. DXII.

*POMME*, REINETTE BURCHARDT, *Bulletin d'Arboriculture et Floriculture et de Culture Potagère*, May.

PRIMEVÈRES BLEUES DE VEITCH (Blue Primroses), *Recueil de l'Horticulture Belge*, May.

STANHOPEA X *BELLAERENSIS*, *Revue Horticole*, May 16.

## HOME CORRESPONDENCE.

**STRAWBERRY ROYAL SOVEREIGN.**—We were enabled to gather fruits of the new variety, Royal Sovereign, from plants growing on a south border on May 25, which was four days sooner than we could pick fruits of Noble and John Ruskin growing on the same border. Royal Sovereign is much superior, and I think it should be classed as a first early. For early forcing it is an excellent variety, and did well here this season. The drought will very considerably injure the Strawberry crop and shorten the season. The thermometer this morning, June 1, registered at three feet from the ground 33°, or 1° above the freezing point.—*Thos. Denny, Down House Gardens, Blandford.*

**BLOOM AND BERRY.**—We have long been familiar with the tradition as to an abundance of wild berries being the precursor of a hard winter. Amidst the great abundance of bloom seen this season on Blackthorn, Wild Cherry, Crab, and on Whitethorn, all indicative of heavy crops of fruits on these trees later; no trees show more profuse bloom than does Holly. This is commonly almost smothered with flowers, and if indicative of the berry crop to follow, then will Holly everywhere be bearing next winter a wonderful crop of berries. We shall then be enabled to see how far the tradition above referred to has a correct application. The remarkable inflorescence seen would by gardeners generally be attributed to the fine warm summer and autumn of 1895, to which cause also may be chiefly ascribed the abundant bloom found on most all cultivated fruit-trees. There is no doubt also we shall see very abundant berrying on numerous shrubs; indeed, a sort of universal fruit season. Doubtless, many readers have noticed this great bloom profusion; but ere another winter comes, may forget to notice not only what corresponding fruiting has resulted, but also the nature of the winter in relation to the fruit provision thus made for the birds, the chief consumers of berries. You seemed recently to have doubts as to whether birds ate the berries of the Aucuba [They let our's alone. Ed.]. I have known them to do so, and I also have heard many complaints of their doing so. But then, now that male plants are so generally found in gardens, Aucuba berries are produced in great profusion, and perhaps birds find in hard weather more than they need. During the past winter, in any case, other bird-food than berries seems to have been abundant. *A. D.*

**VITALITY OF SEEDS.**—When the meeting of the Fruit Committee was held the other day at Chiswick, in passing in front of the south border fronting the Peach-wall, Mr. Barron, who was present, drew attention to a plant that had recently come up in the soil from seed, and said that it was the progeny of some uncommon member of the Cucurbit family, which was grown on the border about twenty years previously, and never since. Still, almost every year after the ground had been dug, a few plants came up, showing great vitality on the part of the seeds thus preserved in the soil. Of course, nothing is known as to how many, if any, may have long since perished. The seeds differ from those of Cucumbers, &c., in being encased in a hard skin not unlike the seeds of Hemp. *A. D.*

**POND WEED.**—I once had charge of a similar piece of water to that mentioned by your correspondent at p. 681, except that it was four times the size, and had a bottom of mud. We managed to keep it always clear by having a pair of swans continually on or near

to it. An island in the middle with a Willow tree on it made a splendid nesting place for the swans, and they found enough weeds in the water to partially maintain them, merely requiring a handful of barley or some crusts of bread twice a day, and beyond this they got very little attention. They had been pinioned to prevent their flying away. The pond in question was partly surrounded by a steep bank, and wholly so by stakes and wire-netting, which prevented the birds from getting into the garden, for if allowed to do this they do much damage, especially when they have young ones. Your correspondent's pool being much smaller than mine, swans would be out of place on it, and half-a-dozen ducks should be put on it instead. He will probably find that they will save him the trouble of removing his Water Lilies, and keep the objectionable weed under, besides being useful in other ways. *W. H. Divers.*

—All weeds which float on the surface of the water and have no attachment by their roots to the mud, can be floated off, by having a broad-mouthed over-flow at the end opposite to that point from which the prevailing winds blow, and then if the water can be kept up to the full height, the floating scum, duck-weed, &c., are carried off without any effort. This is the so-called "frog-mouth." It may be from 5 to 20 feet in length, rounded at the edge, smooth, and perfectly level, so as to allow the gentle lapping of the water, when agitated by the wind, to carry over it every light-floating thing. It is, of course, in connection with a drain having a descent from the pond to a stream, ditch, &c. *X. Y. Z.*

—We have been troubled with the same thing as your correspondent, and have been obliged to skim the surface every week. This is, of course, impossible now the Lilies, Bullrushes, &c., are beginning to grow; and as an experiment we put in a good colony of sticklebacks. This was only done a fortnight ago, but the water has remained clear, and is perfectly so at present, although the drought has practically stopped the usual supply of fresh water, and the level has sunk to about one-half the usual depth of water. Our little pond is, like your correspondent's, lined with stone, blocks of cement, and puddled clay, with a layer of lean at the bottom for rooting in. The experiment is too recent to prove anything definitely, but it is a very easy one to try, and cannot well do any harm. *Thomas Fletcher, Grappenhall, Cheshire.*

—The "filmy green weed" spoken of by a Constant Reader in last week's *Gardeners' Chronicle*, is probably a species of the common Pond Weed (*Conferva*), which rapidly attains an extraordinary growth, covering the surface like a water fungus. In a pond at this place, artificially constructed, a remarkable specimen has lately been drawn out in a perfect state—it measures over 75 yards long, about 8 or 10 inches wide, and, when extended, presents a beautiful net work formation. This wonderful growth was made in less than three months, coiling round the pond in concentric rings; and now, in its dried state, it is tough and durable, suggestive of profitable conversion. *Wallingford Castle.*

**INSECTS ON FRUIT TREES, AND SPRAYING MIXTURES.**—I quite agree with my friend, Mr. Crump, of Madresfield, that as this is likely to be a record season for insect pests on fruit-trees, that much good will be done if your readers will record their experiences in dealing with them after the manner of Mr. Crump, p. 658. His more troublesome pest, the Pear-louse (*Diplosis pyrivora*), is not so with us, but the Winter-moth (*Cheimatobia brunata*) is with me a sad pest. Mr. Crump says he is surrounded with neglected Pear orchards; I am surrounded with Oak woods, in which the Winter-moth is as much at home as on Apple trees. I commenced to spray with Paris Green (Poison), combined with a modified form of the Bordeaux Mixture, on March 25. There are about nine acres of bush, standard, dwarf, and espalier trees of Apples, Pears, and Plums, but mostly Apples. The trees have been sprayed four times. Vermorel's Knapsack Pump, a most effective instrument, is used, and as I find that the mixture spoils the workman's clothes, I have a butcher's overall-trook for the man who does the spraying. The quantity of Paris Green is 4 oz. to 50 gallons of water, containing the Bordeaux Mixture. This dressing is most successful, and does not hurt the foliage, and the Paris Green mixture is not so poisonous as is generally supposed, for after spraying in March, I found that the bullfinches ate a quantity of the bursting Apple blossoms, without injury to themselves; but all the same, I take care to protect my crop of vegetables in use in the vicinity of the dressed trees, either by covering them with mats, or some such precaution—but as it is used as a fine

spray, the danger to health is very small. I said above that the Mixture is quite a success, and it is so in fairly-sheltered places, but an orchard exposed to a north-east wind in such a season as the present, I believe, a successful crop is out of the question; therefore, the situation of an orchard is an important matter. It should be well sheltered on land, and sloping to the south or south-west; and then by using such a mixture as I have described, a crop of fruit can be obtained in a season of ordinary character. A bad attack of the Winter-moth, with N.E. wind and drought combined, make a good crop of fruit, in spite of spraying, impossible. *R. M., Newbury, June 1.*

**CAMPANULA MIRABILIS.**—I do not well understand what the article on p. 648 means, mentioning a *C. Regina*, which, judging from the description, could only mean *C. mirabilis*, Alboff. As to the beauty of the plant, I judge it to be very remarkable; it must be remembered that Mr. Cuisin's plate was drawn from a dried specimen; notwithstanding, the beauty of the plant is admirably reproduced, especially in the life-sized branch; and if I may estimate the growth which the plants have made here up to date, we may expect to see much finer specimens than ever produced in its native place. It is as hardy as a weed, and grows in any sort of soil, and so far it will be an easily-managed garden plant. Whether it be a remnant of a bygone flora, I am incompetent to decide; but its entire vegetation and appearance is very distinct. The plate above alluded to is in *Tome III.*, No. 6, of the *Bulletin de L'Herbier Boissier*, 1895. *Max Leichtlin, Baden-Baden.*

—The *Campanula mirabilis* was found by my friend, M. Alboff, on September 2, 1894, on a perpendicular rock in the Abchasia mountains, and when he first spoke to me of that plant (of which he only found one example), he was so enthusiastic about it that he could not find for it a name corresponding to its beauty. He then regretted not to have been able to find any ripe seeds of it, but on my particularly asking him, he searched very near the capsules of the one plant he had collected and he found some (very few) ripe seeds. These seeds he gave to the Jardin Boissier and to our Jardin Alpin d'Acclimatation, and they gave nice plants which, I hope, will flower next year. The appearance of the plant is very peculiar, and has no relation with other *Campanulas*. I gave, in the *Revue Horticole* of Paris, p. 477, 1895, a description of it, after the description of Alboff in *Bulletin de L'Herbier Boissier*, t. III., No. 5 (fig. 6), and in his *Prodromus Florae Colchicæ*. I hope the new and beautiful *Campanula* of Alboff will soon be distributed in the gardens, as M. Leichtlin and myself have some for the trade. *H. Correvon, Geneva.*

**EARLY PEAS.**—If frames or pits cannot be spared, hasten those sown earliest; protection may be afforded on a sloping ridge. Plants from boxes should be planted on this in March, and wire Pea-trainers put over them, on which mats or other material may be spread when winds are cold or frost expected. Veitch's Chelsea Gem is the best we have tried for first gathering among dwarfs, and for several seasons past we have picked the first dish at the end of May. This variety, planted between Earliest-of-All, from seedlings raised in boxes, and with no other protection, is this year as early as on the ridges. Earliest-of-All sown in February is producing a fine crop, and was ready for use on June 1. Another sort deserving notice is Gradus, a little later than the former, but it produces fine large pods in great abundance. *M. Temple, Carron, N.B.*

**TELEPHONE AND TELEGRAPH PEAS (GROWN IN THE OPEN).**—I have to say (June 3) made gatherings of Telephone and Telegraph Peas from plants raised in heat during the first week in February, and transplanted in the open at the end of the same month. This is about a week earlier than I have heretofore gathered Peas of the same varieties, and grown under precisely similar treatment as regards time of sowing. Last year I was 12 days earlier than I had ever been before, and I showed Telegraph, together with specimens of William I. and Carter's Lightning, before the Fruit Committee on June 11. Herewith I send examples of Telephone and Telegraph Peas gathered to-day. [Good pods, moderately filled. Ed.] *H. W. Ward.*

**SIR JOSEPH BANKS AND MILDEW IN WHEAT.**—The following extract from a pamphlet, *On Mildew in Wheat*, by so eminent a writer as the late Sir Joseph Banks, first published about the year 1803, and more than once reprinted, contains a statement which appears to me so extraordinary, that I venture to send it to you in the hope that it may attract the notice of some of your readers who are better qualified

to give an opinion on the subject than I can pretend to be. It is as follows:—"Although the seeds of Wheat are rendered, by the exhausting power of the fungus, so lean and shrivelled that scarce any flour fit for the manufacture of bread can be obtained by grinding them, these very seeds will (except, perhaps, in the very worst cases) answer the purposes of seed-corn as well as the finest and plumpest samples that can be obtained, and, in some respects, better; for, as a bushel of blighted corn will contain one-third at least more grains in number than a bushel of plump corn, 3 bushels of such corn will go as far in sowing land as 4 bushels of large grain. . . . It is customary to set aside or to purchase, for seed-corn, the boldest and plumpest samples that can be obtained, that is, those that contain the most flour; but this is unnecessary waste of human subsistence. The smallest

sparrow, it has been observed, feeds its young at the rate of thirty-six times in an hour, for fourteen hours a day, and carries caterpillars and grubs to them by thousands in the week for some months in the year. The sparrow not only destroys the grubs of the Cabbage-butterfly, but the flying insect itself, which it is fond of catching. It also hunts and eats that most destructive fly called the "Daddy Long-legs," which lays its eggs beneath the turf, and the grubs of which live underground, and often lay bare whole pastures. The tit family does far more good than harm. They are always on the watch for blight, the Apple-moth, and a host of other destroyers too small for men to cope with, except by dangerous poisons. "Almost without exception," says Miss Carrington in one of the Humanitarian League's leaflets, "every small bird eats at least one-sixth its

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The friends and supporters of this excellent Institution held their 57th annual festival in aid of its funds at the Hôtel Métropole, London, on Saturday, May 30, the Earl of Lathom in the chair. Among those present were Viscount Powerscourt, Sir Oswald Mosley, Sir J. S. Montefiore, Judge Philbrick, Mr. H. J. Veitch, Mr. N. N. Sherwood, Dr. Fletcher Beach, Mr. R. M. Hogg, Mr. Bailey, Mr. Arnold Moss, Mr. W. Cobb, Mr. J. Cory, Mr. C. G. Braikenridge, Mr. D. Guedalla, Mr. Icton, Mr. P. Barr, Mr. J. H. Laing, Mr. Gefton-Salmond, Mr. H. Williams, Mr. O. Thomas, Mr. W. J. Nutting, Mr. J. Rochford, Mr. C. J. Ingram, the Secretary. The Institution, as many of our readers are aware, was founded in 1838, with the object of relieving by means of pensions and otherwise, aged and infirm gardeners, market gardeners, nurserymen, seedsmen, their widows, and others engaged in horticultural pursuits. The pensions were originally £16 a year to men, and £12 to women, but in 1885 these amounts were increased to £20 and £16. During the time it has been in existence the Society has distributed in pensions and gratuities a sum of £68,000.

The Chairman, in proposing the toast of the evening, alluded to the almost universal love of flowers, and to the varied and interesting operations of gardening, which should appeal to all. He asked where we should be without gardens and gardeners, and showed how they ministered to the pleasures and necessities of modern life. He had seen gardens at home and abroad, and was a lover of the beautiful everywhere, and he saw no reason why those who contributed to the pleasure and conveniences of life should suffer in their old age; and a society which sought to help those in time of incapacity was deserving of support. He laid great stress on its being a self-help society with a subscription of only £1 per annum, which was so trifling a sum that almost every gardener could afford it. Another point is the preference given to those who have contributed to its funds. There were at the present 157 pensioners on the list—82 men and 75 women, with 31 cases awaiting election. The annual cost is £2,840, and to meet this the society possessed an assured income of £880 from investments. It therefore required very liberal assistance from its friends and patrons, and he felt sure that such a charity would not fail to receive the support it deserved.

Mr. H. J. Veitch responded to the toast; he said that ten years ago they had 104 pensioners, and even now, with a greatly increased number on its funds (157), there were numerous deserving cases which could not be entertained for lack of funds. Many gardeners, owing to bad times, were out of places, and the numerous calls on the funds demand a large increase in subscriptions, donations, and bequests.

Mr. Veitch eulogised Mr. Ingram's great exertions on behalf of the Institution, and made an allusion to the absence of Mr. John Lee, the only surviving founder of the Institution, on account of the infirmities of old age—he is about ninety years old. A letter was read from Mr. Lee, which showed that he had neither lost interest in the Society nor a sense of humour. The toast of "Horticulture" having been proposed by Judge Philbrick, and responded to by Sir Oswald Mosley, the secretary announced a subscription list amounting to £2180. The following are some of the subscriptions received:—

£ s. d.		£ s. d.	
The Queen ... ..	25 0 0	W. Bennett ... ..	21 0 0
Messrs. Rothschild ...	105 0 0	Dicksons, Chester ...	10 10 0
L. M. Rothschild ... ..	10 10 0	W. Thompson, Esq. ...	15 15 0
The Chairman ... ..	25 0 0	John Cory, Esq. ... ..	25 0 0
N. N. Sherwood ... ..	105 0 0	Ditto, annual ... ..	3 3 0
Ditto, List ... ..	125 0 0	Viscount Powerscourt ...	10 10 0
Lord Burton ... ..	52 10 0	W. Mackay ... ..	25 0 0
Messrs. Veitch & Sons ...	26 5 0	J. H. White, Worcester Auxiliary ...	60 0 0
Walter Cobb, Esq. ... ..	112 5 0	Wolverhampton Auxiliary ...	60 0 0
Sir Oswald Mosley ... ..	10 0 0	Arnold Moss, Esq. ...	5 5 0
Ditto, annual ... ..	10 0 0	Baron Schroder ... ..	25 0 0
Duke of Bedford ... ..	50 0 0	Sir Trevor Lawrence ...	21 0 0
Baron Schroder ... ..	25 0 0	Sibray ... ..	5 5 0
Sir Trevor Lawrence ...	21 0 0		



FIG. 120.—FIMBRIATED BEGONIA DUCHESS OF FIFE: FLOWERS PALE PINK, WITH ROSY-CARMINÉ FRINGE.

(Exhibited at the Temple Show by Messrs. J. Laing & Sons.)

grains, such as are sifted out before the Wheat is carried to market, will be found by experience to answer the purpose of propagating the sort from which they spring as effectively as the largest." I know nothing of botany, or of agriculture; but still I have always had an impression that Horace's maxim, "fortes creantur fortibus et bonis," holds good in the vegetable as well as in the animal world. And this, I presume, is also the opinion of Mr. Beaver (*Successful Farming*, 1871, p. 161), whose advice is, "Select for seed-corn the best samples you can find, even though you have to pay a few extra pounds for it; when harvest comes, you will be more than amply rewarded." Mr. B., I believe, was a practical farmer; Sir Joseph, I suspect, was not. R. N.

**BIRDS AND INJURIOUS INSECTS.**—Caterpillars are said to be very numerous in some fruit-growing districts. It would not surprise anyone to learn that this was particularly the case in Sussex, where a local bird-destruction-club boasts of having killed 5,922 sparrows and tomits in twelve months. The

own weight of food in twenty-four hours. And this food of birds consists entirely, or almost entirely, of the worst foes to agriculture." The late Mr. Wetherspoon, the famous fruit-grower, welcomed all small birds to his gardens. Farmers and fruit-growers who slaughter, and encourage the slaughter, of birds are indeed warring against their own best interests. *Joseph Collinson, Belyfarth, London, N. W.*

FIMBRIATED BEGONIA.

MENTION was made in our report of the Temple Show, and also in our last issue, p. 682, of the exhibit by Messrs. J. Laing & Sons, of a form of tuberous Begonia, in which the edges of the sepals and petals were toothed, the teeth being of a pale rosy-carminé, whilst the rest of the flower was of a paler pink hue. Our readers can judge from the illustration we now give (fig. 120) how far they approve or disapprove of the change.

## NURSERY NOTES.

## THE ORCHID SHOW AT MR. W. BULL'S NURSERY.

To admirers of the quaint and lovely Orchid family we can heartily recommend a visit at the present time to the above establishment, situated in the King's Road, Chelsea. Here the plants can be leisurely inspected, free from the crowding inseparable from a flower-show, and an hour may be pleasantly wiled away in the purest of pleasures. The art of the floral decorator has been called in to aid the cultivator, with the result that the present show exceeds in beauty of arrangement any of Mr. Bull's previous displays. Moreover, it teems with improved varieties, "sports," if we may so call them, in the absence of any known reasons for these lovely apparitions of Nature's handiwork. Crosses effected by mau are rare in this collection, if we omit those among the Cypripediums and Lycastes.

The view of the house from the door by which we entered left nothing to be desired. There seemed no space of vantage left unoccupied, nor did anything seem to be out of place; even the roof was made to serve a purpose in carrying a few baskets with racemes of flowers drooping over their sides. The chief species used in the making of the display consisted of Cattleyas, Lælias, Miltonia vexillaria, Dendrobiums, Odontoglossum crispum (a few), O. citrosimum, Cymbidium Lowianum in four or five varieties, and Lycaste Skinneri. These plants formed the basis of the display, and intermixed with these were the more choice and highly-priced gems. The showy yellow and brown flowers of Oncidium tigrinum were often repeated, Phaius assamicus was conspicuous for the choice contrast of its buff sepals and white tube, with internal rose-coloured markings; the drooping-habited Ausellia floribunda, a very floriferous African species, drew attention by the peculiar plan of its colours, which are greenish yellow, spotted with brown; some very beautifully-formed flowers of Odontoglossum citrosimum were noted in the variety; O. c. concolor, of a beautiful pale pink colour; O. c. punctatum, large and well-formed; and in O. c. p. roseum, in which the spots come out with great distinctness, giving added attractions to the flowers; O. c. carmen superbum has fair buff-coloured sepals and petals; O. crispum, var. stupendum, has magnificently-broad petals, with a corresponding regularity of form.

Cattleya Mendeli majestica appeared as an old acquaintance; at the least, that was our impression. It is an exceedingly fine-looking flower, with the usual purplish rose-coloured sepals and petals, and lip with a regularly-outlined, rich purple-coloured apex, cut off from the rest of the lip in a straight transverse line. The Mosaic varieties of Cattleya noticed were remarkable for some peculiarity in form or in colouring. C. M. grandis has a very beautiful lip, frilled, and rich in colour; C. M. Lawrenceana has a prettily-frilled lip, the beauties of which are enhanced by a narrow white edging. The nursery has always been famous for Lælia purpurata, and we found several possessing very fine features of one kind or another. L. p. Her Majesty has sepals and petals of the purest white, which form a splendid contrast to the dark radiant purple lip and throat, with the same coloured lines in it. L. p. fulgens is another variety with lip colouring of much brilliancy. L. p. Bella resembles Her Majesty, excepting that the lip is of mauve with dark lines.

The plants of Renanthera Lowiana are well flowered, large specimens in most instances, and differ in several points from each other. R. L. magnifica has a patch of more brilliancy and deeper shade of purple-brown than the ordinary types; and others have more yellow in the sepals and petals, which give the flowers a richer appearance, and a variety of shades were remarked intermediate between the lighter and darker flowers, and they all formed good foils to the masses of the more brilliant coloured Orchids.

Masdevallia Harryana var. Comet has flowers of

brilliant scarlet colour. A nice-flowered example of Brassia Keilliana was remarked; several of Odontoglossum Harryanum and of O. læve Reichenheimii, a very distinguished-looking species, with rather large and showy flowers, sepals and petals oblong, linear-acute, greenish-yellow, banded with purplish-brown, the lip rosy-purple, apex white, and not deflexed as in the type. It flowers abundantly.

Dendrobiums were not numerous, but we remarked examples of D. Devonianum and varieties of the same wondrously well-flowered, with the pseudo-bulbs or stems trained upright to sticks stuck in the baskets in which they grew. D. candidulum is not the least pretty of these, the sepals and petals white without the magenta-coloured lip of the type; the lip is also white, with an orange-coloured blotch in the middle. Plants of D. Jamesianum gave desirable patches of rich colour. Very conspicuous were the varieties of Miltonia vexillaria, for which the establishment has long been celebrated. M. v.

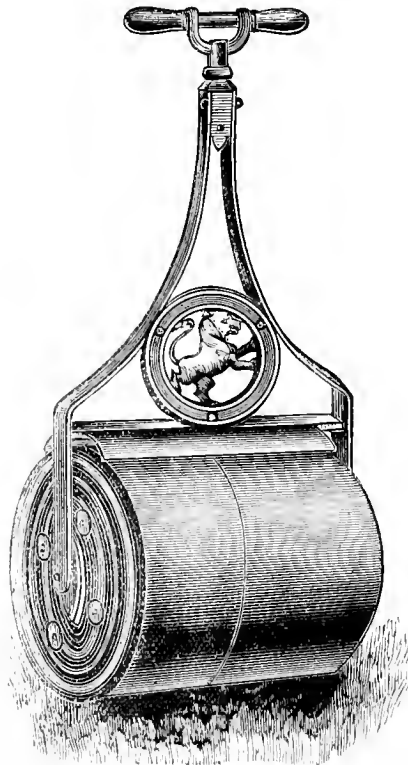


FIG. 121.—A FORM OF GARDEN ROLLER WITH SCRAPER.

amœna has very big flowers, the lip of great size and white. M. v. alba is distinct looking, and valuable as a variety; also M. v. abescens, M. v. radiata, M. v. rosea, and several more were noted in bloom.

Epidendrum prismatocarpum, a plant we seldom see at its best in private collections, is here to be seen in fine order, some of the plants bearing several scapes each bearing about fourteen flowers. It is excellent for flowering in the months of June and July, and will last for several weeks in perfection.

Of Orchids in smaller quantities, mention may be made of Disa Langleyensis, Masdevallia refracta purpurea, Oncidium Krameri, Lycaste Skinneri, Cypripedium Chamberlainianum, C. Mastersianum, the summer-flowering variety of Angreum sesquipedale, Odontoglossum polyxanthum grandiflorum, a flower with many rich tints of brown, chocolate, yellow in varying shades, and white; the bright purple-coloured Masdevallia Harryana, princeps, &c.

## NEW INVENTION.

## BRANGWIN'S GARDEN ROLLER, WITH SCRAPER.

THAT iron garden-rollers intended for use on turf, gravel-paths, and bare soil should have been made for fifty years or more without a simple contrivance for automatically removing the mud, clay, worm-casts, or whatever may adhere to the rolling surface, seems very strange, although some such scrapers are employed on steam street-rollers. Those who have had experience of the ordinary garden-roller will know of the loss of labour resulting from having to cease rolling for the purpose of cleaning off the adhering substances, or of keeping one man constantly at work cleaning the roller with a birch-broom, in doing which, he usually bespattered the adjoining turf or flower-beds with the removed small pebbles, clay, &c. This is, fortunately, a thing of the past, as for a very few shillings a scraper can now be bought and readily attached to the frame of a roller of either stone, iron, or wood (see fig. 121). The inventor and dealer is Mr. F. Brangwin, trading as F. Brangwin & Co., 58, Holborn Viaduct, E.C.

## SOCIETY.

## PANSY SHOW AT TAMWORTH.

MAY 27.—An exhibition of Pansies and Violas was held on Wednesday, in the grounds of Bolchall (Mr. Sydenham's), at Tamworth, and which was fairly well attended.

The Gold Medal and First Prize for forty-eight fancy Pansies, dissimilar, was secured by Mr. W. SYDENHAM; Messrs. J. SHELLE, of Blantyre, Glasgow, being 2nd; and Messrs. PAUL & Co., Aberdeen, 3rd. In the other open classes Messrs. SHELLE and PAUL were the principal prize-takers. In local classes for fancy Pansies, dissimilar, Mr. W. E. FOWLER (Fresley) obtained the first awards. Mr. J. W. PAUL (Wilcote) secured honours for fancy Pansies of one variety; and Supt. R. HANNAH (Atherstone) was successful in several of the Viola classes. The Rev. Dr. WATSON, of Water Orton, secured 2nd and 3rd prizes for fancy Pansies. There was not much competition in the cottagers' classes, but the displays were very creditable. The principal of the successful competitors in the open classes were Mr. R. (Newport), Messrs. T. NADIN (Derby), J. LAMB (Longton), T. WOODWARD (Coventry), and J. M. JOHNSON (Hints). The best bloom in the show was considered to be George Stewart, shown by Mr. FOWLER. A charming centre-piece of Nibetios Violas was shown by Mrs. SYDENHAM, and a Merit Certificate was given. Mr. Sydenham's Pansy grounds, containing upwards of a million plants in bloom, were open for inspection. The show was an improvement upon last year's exhibition. Coventry Standard.

## TRADE NOTICE.

MR. N. BLANDFORD, an old and valued contributor to these pages, and clever cultivator of Orchids, has retired from his post of head gardener to Mrs. Hasel-foot, at Moor Hill, Westend, Southampton, owing to failing health, after holding it for a period of twenty-nine years. He has settled at Bitterne, and is cultivating Orchids for sale, as well as the state of his health will allow.

## MARKETS.

## COVENT GARDEN, JUNE 4.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Heliotrope, per doz.	4 0-8 0
Arum lilies, pr. dz.	6 0-9 0	Hydrangea, various	per doz. ... 9 0-24 0
Aspidistra, per doz.	12 0-30 0	Ivy Geraniums, per	dozen ... 4 0-6 0
— specimen, each	5 0-15 0	Lilium Harrisii, pr.	dozen pots ... 12 0-21 0
Calceolaria, p. doz.	6 0-9 0	Lobelia, per doz. ...	4 0-6 0
Cineraria, per doz.	4 0-6 0	Marguerites, p. doz.	6 0-10 0
Dracena, each ...	1 0-7 6	Mignonette, p. doz.	4 0-8 0
— various, p. doz.	12 0-24 0	Palms, various, ea.	2 0-10 0
Ericas, various, per	doz. ... 9 0-24 0	— specimens, ea.	10 6-34 0
Evergreen Shrubs,	in variety, doz. ...	Pelargoniums, doz.	8 0-12 0
— small, doz. ...	1 0-2 0	— Scarlets, p. doz.	3 0-9 0
Ferns, various, doz.	5 0-12 0	Spireas, per doz. ...	8 0-12 0
Ficus elastica, each	1 0-7 6		
Foliage plants, doz.	12 0-36 0		

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.	Orcchids:—	s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Cattleya, 12 blms.	6 0-12 0
Azalea, 12 sprays	0 4-6 0	Od on toglossum	
Bouvardias, per bn.	0 6-1 0	crispum, 12 bn.	3 0-6 0
Carnations, 12 bms.	1 0-3 0	Pelargoniums, scar-	
Eucharis, per dozen	2 0-4 0	let, per 12 bun.	3 0-6 0
Forget-me-nots, p.		— per 12 sprays...	4 0-5 0
doz. bunches	1 6-3 0	Polyanthus, 12 bun.	2 0-4 0
Gardenias, per doz.	2 0-4 0	Poppy, doz. bun.	1 0-3 0
Iris, various, per		— coloured, p. doz.	2 0-4 0
doz. bunches	4 0-9 0	Pyrethrums, 12 bn.	2 0-4 0
Lilac, French, per		Roses, Tea, per doz.	0 9-1 6
bunch	3 0-5 0	— yellow (Maré-	
Libum Harrisii, bu.	2 0-4 0	chal), per doz.	3 0-6 0
Maidenhair Fern,		— red, per dozen	2 0-4 0
per 12 bunches	4 0-8 0	— red, doz. bun.	4 0-8 0
Marguerites, per 12		Gloire, doz. bn.	6 0-9 0
bunches	2 0-4 0	— Safrano, p. doz.	1 0-2 0
Mignonette, 12 bn.	4 0-6 0	— Moss, doz. bms.	1 0-2 0
Narcissus, White,		Spiraea, doz. bun.	2 0-4 0
12 bun.	2 6-4 0	Stephanotis, 12 eps.	1 6-2 6
Peony, doz. blooms	0 6-1 6	Tuberose, 12 blms.	0 4-0 9
Pansies, doz. bun.	1 0-2 0		

ORCHID-BLOOM IN VARIETY.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.	Peaches, 1st size	s. d. s. d.
Apples, Tasmanian,		per doz.	12 0-15 0
per bushel case,		— 2nd do., doz.	6 0-8 0
1st quality	9 6-11 0	— 3rd do., doz.	3 0-4 0
Figs, per doz.	4 0-6 0	Pine-apples, St. mi-	
Gooseberries, per		chal, each	2 0-5 0
half-sieve	4 0-5 0	Strawberries,	
Grapes, Alicante,		morninggather-	
per lb.	2 0	ered, Paxtons,	
— Hamburg, lb.	1 3-1 9	per lb.	2 0-3 0
— Muscats, Eng-		— packed in bxs.	
lish, per lb.	3 0-4 0	per lb.	1 6-2 0
— Muscat, Chan-		— seconds, per lb.	0 9-1 0
nel Islands, lb.	2 0-3 0	— Paxtons, South-	
Melons, each	1 6-2 0	ampton, per	
Nectarines, 1st size		basket of 4 lb.	8 0-9 0
per doz.	12 0	— Nobles, South-	
— 2nd do., p. doz.	0 0-8 0	ampton, do.	0 0-7 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.	Onions, English, p.	s. d. s. d.
Asparagus, Wores-		cwt.	3 0-4 0
ter, p. bundle,		Peas, per sieve	3 0-4 0
100 heads	1 4-1 6	Tomatoes, home-	
— Colchester, p.		grown, smooth,	
bundle, do.	1 6-1 9	p. doz. 1/2	7 0-8 0
Beans, English, lb.	0 8-0 9	— Channel Is-	
— Channel Is-		lands, per lb.	0 5-0 6
lands, per lb.	0 6	— ordinary home-	
Cucumbers, per dz.	2 0-3 6	grown, p. doz.	
Mint, per bunch	0 2-	lb.	5 0-6 0
Mushrooms, per lb.	0 6-0 5		

NEW POTATOES.

MARKETS continue firm. French and Channel Islands produce from 8s. 6d. to 10s. 6d. per cwt. Canary arrivals virtually closed this week. Markets firm, 7s. to 9s. J. B. Thomas.

SEEDS.

LONDON: June 3. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that to-day's seed market, as might have been expected, was bare alike of buyers and of business. Meantime Clover, and especially Trefoil seeds, are held for higher prices. Increased rates are also asked for French, Italian, and for Trifolium incarnatum. There is no change in either Mustard or Rape seed. Blue-Peas and Haricot Beans with poor prospects, for green vegetables tend upwards in value. The new Wisconsin Green Boiling Peas attract increasing attention. As regards Bird seeds there is no fresh feature.

FRUIT AND VEGETABLES.

BOROUGH: June 2.—Quotations:—Cabbages (summer), 2s. 6d. to 3s. 3d. per tally; Onions, 6s. to 7s. per cwt.; Spring do., 9d. to 1s. 3d. per doz. bunches; Carrots and Turnips, new, 4d. to 6d. per bunch; Horse-radish, 12s. to 15s. per dozen rolls.

SPITALFIELDS: June 2.—Quotations:—Cabbages, 1s. 6d. to 2s. 6d. per tally; Radishes, 4s. to 5s. do.; Spinach, 1s. to 1s. 6d. per bushel; Peas, 4s. to 5s. do.; Rhubarb, 1s. 6d. to 2s. per dozen; Mint, 2s. do.; Parsley, 1s. do.; Onions, 1s. to 1s. 6d. do.; Beet-root, 1s. 6d. to 2s. per bushel; Cauliflowers, 2s. 6d. to 3s. per dozen; bunch Greens, 1s. 6d. to 2s. do.; Asparagus, 1s. 6d. per bundle; Gooseberries, 4s. to 5s. per half-sieve; Leeks, 1s. to 1s. 6d. per dozen.

STRATFORD: June 2.—Quotations:—Cabbages, 1s. to 3s. per tally; Greens, 6d. to 1s. per bag; do., 1s. to 2s. per dozen bunches; Cauliflowers, 1s. to 2s. 3d. per dozen; do., 5s. to 11s. per tally; Beetroot, 4d. to 8d. per dozen; Horseradish, 2s. to 2s. 6d. per bundle; Parsley, 1s. to 1s. 3d. per dozen; Rhubarb, 1s. 6d. to 2s. 3d. per dozen bunches; Leeks, 1s. 6d. to 2s. do.; Spring Onions, 1s. to 1s. 6d. do.; Salad, 1s. 6d. to 2s. per dozen punnets; frame Cucumbers, 1s. 6d. to 3s. 3d. per dozen; Asparagus, 1s. to 2s. per 100 heads; Turnips, 2s. to 3s. per dozen bunches; Carrots, bunched, 5s. to 5s. do.; Mangels, 12s. to 18s. per ton; Onions, Egyptian, 9s. to 10s. do.; Apples, Tasmanian, 7s. 6d. to 12s. per caso.

FARRINGTON: June 4.—Quotations:—Peas, 4s. per bushel; Leeks, 2s. per dozen; Summer Cabbages, 4s. per tally; Spinach, 2s. per bushel; Lettuce, 10d. per score; Endive, 2s. per dozen; Mint, 2s. per dozen bunches Horseradish,

1s. 6d. per round; Parsley, 1s. 6d. per dozen bunches; Tomatoes, English, 9s. 6d. per dozen pounds; Jersey, do., 7s. do.; Cucumbers, 3s. per dozen; Pine-apples, 2s. to 3s. each (6 lb.); Cherries, 7s. to 9s. per bushel; Tasmanian, French Crabs, Sturmer Pippins, &c., 10s. to 12s. per caso.

POTATOS.

BOROUGH: June 2.—Quotations:—New, 8s. to 12s. per cwt.; Lisbon, 4s. to 5s. per case; Old, 35s. to 75s. per ton.

SPITALFIELDS: June 2.—Quotations:—Old: Highlands, 40s. to 60s.; Blacklands, 25s. to 40s.; New: Jersey Flukes, 9s. to 10s.; Myatt's, 8s. 6d. to 9s.; Cherbourg, 7s. to 8s. per cwt.

STRATFORD: June 2.—Quotations:—New: Jersey Kidneys, 9s. to 10s.; do. Flukes, 10s. to 11s.; Cherbourg, 7s. 6d. to 8s.; St. Malo Flukes, 8s. 6d. to 9s. 6d.; Lisbon, 5s. to 5s. 6d.; Canary, 7s. to 9s. per cwt. Old: Dark soil Bruces, 15s. to 20s.; light soil do., 17s. 6d. to 40s.; Reading Giants, 17s. 6d. to 40s.; Sutton's Abundance, 17s. 6d. to 40s.; Magnums, 17s. 6d. to 40s. per ton.

LONDON MARKET AVERAGES: June 3.—Quotations:—New: Jersey Flukes, 10s. to 11s.; do. Kidneys, 9s. to 10s.; Cherbourg, 8s. to 9s. per cwt.; Lisbon, 3s. 3d. to 3s. 9d. per box. Old: Dunbar Bruce, 60s. to 80s.; do. Main Crop, 60s. to 80s.; Imperators, 35s. to 45s.; Magnums, 20s. to 30s. per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 87s.; inferior, 38s. to 60s.; Hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 24s. to 40s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending May 30, and for the corresponding period last year:—1896: Wheat, 25s. 4d.; Barley, 21s. 5d.; Oats, 14s. 10d. 1895: Wheat, 24s. 5d.; Barley, 19s. 4d.; and Oats, 15s. 10d.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.			
	ACCUMULATED.								
	Above (+) or below (-) the Mean for the week ending May 30.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since December 29, 1895.					
	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Inch.				
0	3 +	73	0	+ 175	- 312	6 - 105	23-5	47	25
1	4 +	85	0	+ 198	- 240	5 - 74	7-1	47	33
2	0 aver.	65	0	+ 149	- 221	5 - 62	5-5	28	29
3	1 -	74	0	+ 76	- 228	5 - 71	6-8	49	32
4	1 +	82	0	+ 137	- 246	5 - 63	5-8	42	31
5	1 +	90	0	+ 126	- 239	5 - 60	5-4	54	34
6	3 +	86	0	+ 200	- 227	7 - 82	15-2	65	32
7	1 +	82	0	+ 206	- 257	6 - 73	10-6	47	33
8	2 +	97	0	+ 220	- 206	5 - 63	7-9	67	38
9	2 +	82	0	+ 228	- 232	6 - 82	12-1	67	30
10	3 +	99	0	+ 265	- 210	6 - 81	10-3	69	33
*	1 +	97	0	+ 304	- 100	5 - 70	5-6	68	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending May 30, is furnished from the Meteorological Office:—

"The weather was again very fine and dry in all parts of the kingdom, the only rain experienced being slight amounts at some of our northern stations.

"The temperature continued above the mean in nearly all districts, especially in Scotland and the south of Ireland, but only just equalled it in 'England, N.E.,' while in 'England, E.' it was 1° below the normal. The highest of the maxima occurred, as a rule, on the 29th, and ranged from 78° in 'England, S.' and the 'Midland Counties,' and 77° in 'Scotland, E.' and 'England, E. and S.W.,' to 67° in 'England, N.W.,' and 65° in the 'Channel Islands.' The lowest of the minima were recorded either on the 25th or 26th, when they ranged from 33° in 'England, S.W.,' and 34° in 'Scotland, E.,' to 41° in 'England, S.,' and to 40° in the 'Channel Islands.'

"The rainfall was entirely absent from by far the greater part of the United Kingdom, but some very slight falls were experienced at some of the northern and north-eastern stations.

"The bright sunshine was deficient in 'England, N.E.,' but abundant over the more western parts of the kingdom. The percentage of the possible duration ranged from 65 to 69 in all the 'grazing districts' excepting 'England, N.W.,' and from 42 to 54 in most other parts of the country; in 'England, N.E.,' however, the percentage was only 23."

FLORISTS' FLOWERS.

PINK HER MAJESTY AS A FORCING VARIETY.

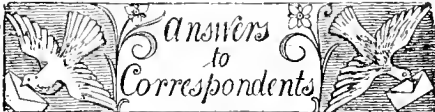
WHEN visiting the Hassocks Nursery of Messrs. W. Balchin & Son at the end of April last, I saw a number of plants of this variety of Pink in full bloom in one of the houses. It is largely grown for its cut blooms, and to obtain good plants cuttings are struck in April, which when well-rooted are potted into 60-sized pots, then planted out in the open to grow, and in the autumn potted on into 32-sized pots, and in early spring brought into flower under glass. There were from ten to twelve large full blooms on each plant, larger and fuller, as well as purer, than when grown in the open ground. One gains some idea of the size to which the blooms of this variety will attain when grown in pots in this way.

THE RANUNCULUS.

My next-door neighbour has a circular bed, the centre of which is occupied by some bright-coloured Ranunculus, mainly self-coloured. Despite the drought and sun, having been planted in rich soil, and well looked after in the matter of water, they have been, and still are, very effective. Some are white, others blush and pink, deepening also to rose; there are shades of yellow, some pale, others deep gold and orange; the scarlet and crimson shades are also very bright, while there is a fair succession of bloom. For late spring decoration and cutting they are of great value, and it is well this fact be noted, as the Ranunculus is not so much grown in gardens as it ought to be. There is no difficulty in obtaining roots of the varieties above-mentioned, as they are largely imported from Holland in a dry state at the end of the summer, and they will keep for two or three years if not planted, and still retain their vitality. It is not necessary they should be a long time in the ground, as the roots may be planted from February till April, and they will bloom in June. My neighbour planted hers with the Hyacinths early in November, and as the bed in which they are growing is an elevated one, they were not harmed during the winter months. We are now dependent upon the Dutch growers for the supplies of roots of this charming flower, though time was when collections were grown and seedlings raised in this country, and named and sold. The last catalogue of such plants was no doubt that of Mr. Carey Tyso, of Wallingford, Berks, who succeeded to this business established by his father, the Rev. Mr. Tyso, who was a Nonconformist minister. Here and there about the country a few of the finer type of exhibition Ranunculus are



still grown, and a class is found for them in some schedules of prizes—in that of the Commemoration show of the Royal Oxfordshire Horticultural Society, to wit. There is no doubt that we originally derived the flower from the Dutch, and it is to the Dutch we look for a supply in the present day. When planted, the small, dry, claw-like roots imbibe moisture, and largely increase in size; therefore, they should be placed deep enough below it so as not to be thrown up above the soil in the act of swelling. A mulch of manure after the plants have put forth their leaves is of great value, and water is necessary during time of drought. The old growers recommended that the roots should be lifted as soon as the leaves begin to turn yellow, then carefully dried and put away until required for planting. *R. D.*



**ASTER LEAVES:** *C. Wolley Dod.* The cuticle is separated from the subjacent tissue, and in a very strange condition. We should like to see it again later on, as it is very puzzling. Cells concatenate, with granules of chlorophyll, and no mycelium. *M. C. C.*

**CARNATIONS:** *X. P.* The leaves have small translucent spots which are like those described as characteristic of the presence of Bacteria. We have not the time nor the means of ascertaining whether this supposition is correct. An account has been recently published by Prof. J. C. Arthur and H. L. Bolley in the *Bulletin of the Purdue University Experiment Station* for March. Application to the Director of the Station at La Fayette, Indiana, together with a few stamps for the postage of the report, would probably be favourably entertained.

**COLD VINERY AND MILDEW:** *F. W.* The conditions are just such as favour the spread of mildew on the Vines, *Peronospora viticola*; and once the mould eizes on the leaves, young shoots, and bunches, it is too late to do anything that will save the crop, although there are antidotes for mildew, one of which is flowers-of-sulphur you have been using, and the Bordeaux Mixture. There are certain cultural methods which, if properly carried out, hinder the growth of mildew on Vines. These consist in maintaining a warm buoyant atmosphere, not admitting much, if any, ventilation by the lower lights of the vinery, having plenty of ammonical vapour in the air by sprinkling water in which Peruvian guano is mixed, on the border, floors, &c., or by maintaining a mass of fermenting stable-litter and tree leaves, and placing numerous pans about the vinery filled with flowers-of-sulphur and water.

**GLADIOLUS:** *E. D. T.* It appears that the cross of *Gladiolus trimaculatus* and the white form of *G. Colvillei* did not take, but there was reversion to the coloured form in the seedlings. It is too near *G. Colvillei* to name in any case.

**NAMES OF PLANTS:** *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*C. W. D.* *Pyrus lobata* (*Mespilus grandiflora*).—*W. W.* *Collomia coccinea*.—*H. S. T.* *Pyrus intermedia*.—*Oncid.* 1, *Bifrenaria inodora*; 2, *Cattleya Mossie*; 3, *Saxifraga hypnoides*; 4, *Anthericum lineare variegatum*.—*W. W.* Your *Cattleya Mossie* is an approach to *C. Mossie Hardyana*, but not nearly so handsome. Yours may be constant, but possibly it may not have the purple marks on the sepals and petals next season.—*H. T. 1.* *Ornithogalum thyrsoides*; 2, *Medicago echinatus*, the Calvary Clover, so far as we can tell, without the fruit; 3, *Oxalis Bowiei*.—*J. R.* An exceptionally fine *Cattleya Mossie*, of the richest colour of any we have seen this season. We are sorry your name was misspelt, but the fault was not entirely with the printer.

**NOBLE STRAWBERRY:** *C. Herrin.* The fruits got damaged in transit, but it was easily seen that they were very large and ripe.

**PEACH LEAVES:** *One in Doubt.* There is no fungoid disease which we can detect in the Peach and Nectarine leaves. The only mould is a saprophyte on some of the dead tissues, which is very slight, and has nothing to do with the spots. The spots

have the appearance of scorching or burns, produced by some external conditions. The leaves themselves furnish no clue to the mystery. *M. C. C.*

**POTATO-LEAF DISEASE:** *Z. K. B.* We have received from Cape Town some leaves of Potato which are affected with numerous nearly orbicular discoloured spots, about a quarter of an inch in diameter, or less. These spots are mostly brownish, but sometimes grey, usually marked with dark concentric lines, but without distinct orifices, or imbedded perithecia. It is always difficult to manipulate leaves which are suddenly dried, as they become so tender and brittle in the process, that what could readily be determined with living tissues becomes almost impossible. In this case we did not succeed in discovering any mycelium, but the cells are filled with a gummy brown matter of an ordinary kind. We failed also in detecting any fungoid spores, after repeated examinations, except in the very oldest and most decayed leaf, two or three Macrosporium spores, and one or two globose bodies, resembling young Pythium spores. Altogether, notwithstanding that the spots are not unlike those caused by some kinds of fungi, we could find no evidence that they are so originated. Our correspondent writes that the tubers are not affected perceptibly by this spotting of the leaves; hence we are disposed to consider the case one which should cause no alarm. It is easier to say what it is not than what it is, so that we can affirm it to have no relation to the common Potato disease, or to any species of destructive Ramularia or Gloeosporium, but simply a case of leaf-spotting, which, after all, may be dependent upon local surroundings which we are unable to appreciate. *M. C. C.*

**TOMATO:** *C. B. W. & Co.* Repeatedly figured and described. It is too late to do anything but destroy the plants. Had you, early in the season, sprayed with Bordeaux Mixture, carefully prepared and judiciously used, you would have been spared much of this mischief. Aster leaves not found in the box.—*R. Neustead.* There is no fungus disease in the stems of Tomato. Rotting seems to be caused by an excess of moisture. *M. C. C.*

**VINERY AND STOVE TEMPERATURE AFTER CLOSING:** *M. K. G.* No harm would result if the warmth reached 90° with sunheat; but, it is essential that the damping down of all surfaces—not necessarily that of the foliage of the Vines and plants—should be well done immediately after shutting up the houses. This high degree of temperature need not be maintained for many hours, and in the ordinary course, with no warmth in the heating apparatus, it will decrease to 75° by 8 o'clock P.M., and at that hour or earlier a small amount of ventilation should be afforded at the top of the houses, which may be left on all night, except in cold and boisterous weather, when it may be reduced between 9 and 10 o'clock. The morning temperature in a vinery, unless it be an early one, should not rise higher than 80° for Muscats and similar varieties of Grapes; and 75° for Black Hamburg, Sweetwater, Frontignans, &c., before air is afforded by opening the upper ventilators, more or less according to external conditions; and the same will hold good for an ordinary plant stove.

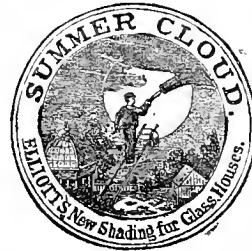
**COMMUNICATIONS RECEIVED.**—*T. K. & Co.*—*C. W. W.*—*C. T. D.*—*G. P.*—*U. D.*, Berlin.—*H. C.*, Geneva.—*E. C.*—*A. C. C.*, Paris.—*C. de B.*, Brussels.—*Marc Micheli*, Geneva.—*Marehese Hamburg*, Ventimiglia.—*D. T. F.*—*H. J. C.*—*C. T. D.*—*C. W. W.*—*J. L.*—*G. P.*—*A. U. C.*, Ferrières.—*G. B. G.*, Washington.—*J. W. R.*, Washington.—*T. D. Smith* (too late for insertion).—*C. H.*—*J. A.*—*Luxton Brothers*.—*H. M.*—*R. B.*—*T. B.*—*W. B. H.*—*J. McI.*—*E. C.*—*Sir C. W. Strickland*.—*O. Overbeck* (will you afford some nearer guide to the kind of Iris articles? they are very numerous in the volumes of the *Gardeners' Chronicle*).—*Saccalin*.—*W. T. D.*—*Joh Kirk*—*J. B. B.*—*G. P.*—*F. P.*—*M. D.*—*A. A.*—*W. Day*.—*Comins & Co.*—*H. W. W.*—*R. C. W.*—*Anxious One*.

**PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.**—*Sander & Co.*—*J. Herrin*.—*Smithsonian Institution*.—*D. T. F.*—*United States Department of Agriculture*.—*S. & M.*—*W. W.* (next week).

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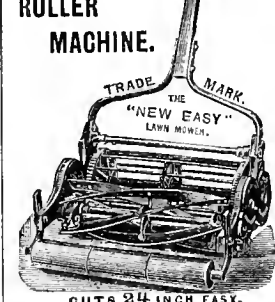
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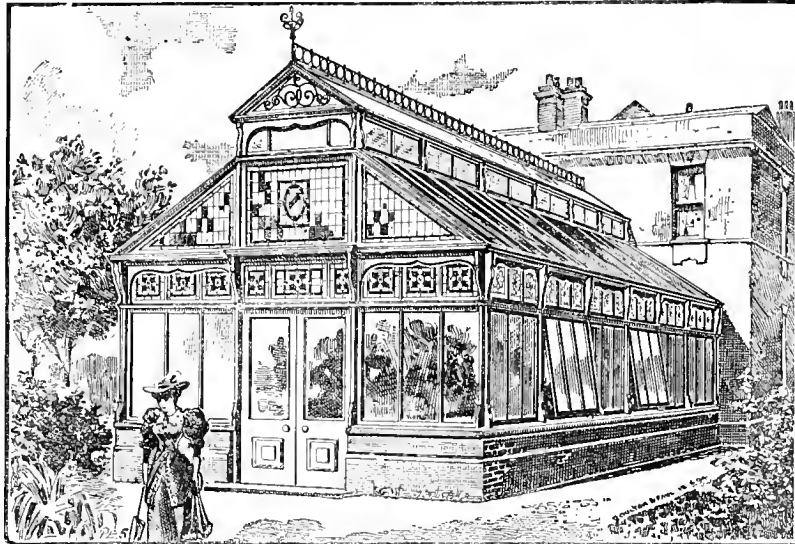


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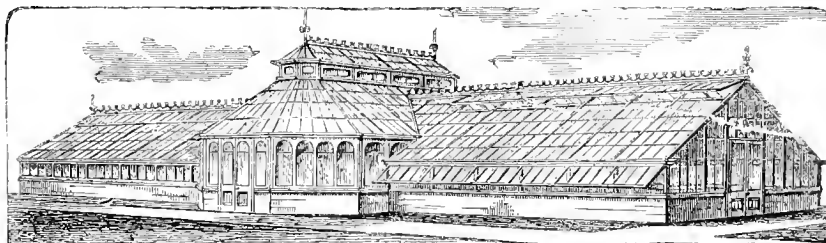
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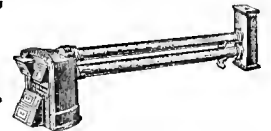
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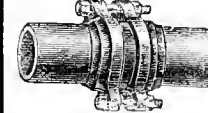
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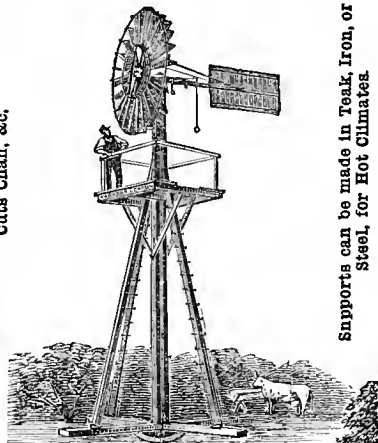
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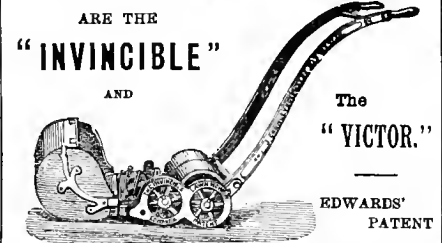
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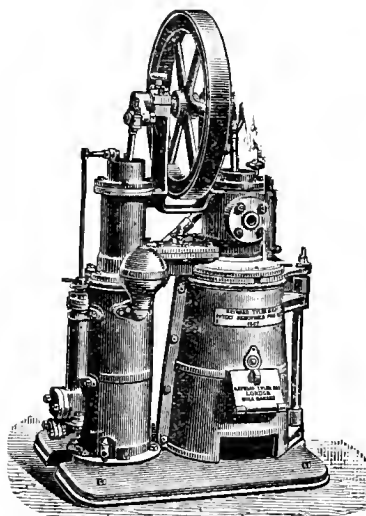
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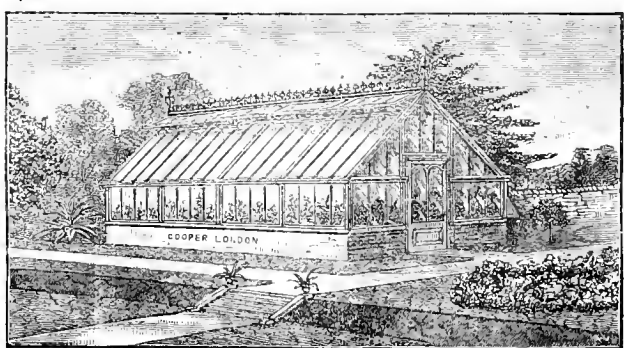
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III.—Rustic Work	99—134
IV.—Iron Buildings and Roofing, Church Furniture, &c.	135—178
V.—Heating Apparatus, Cooking Stoves, &c.	179—228
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VII.—Lawn Mowers and Edge Cutters, Teonis Markers, Garden Rollers, &c.	247—288
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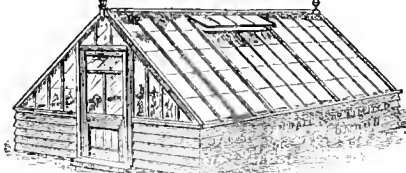
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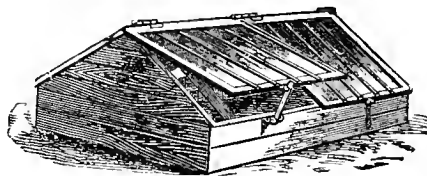
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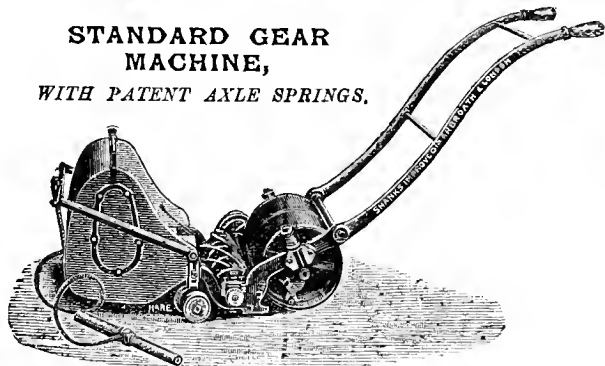
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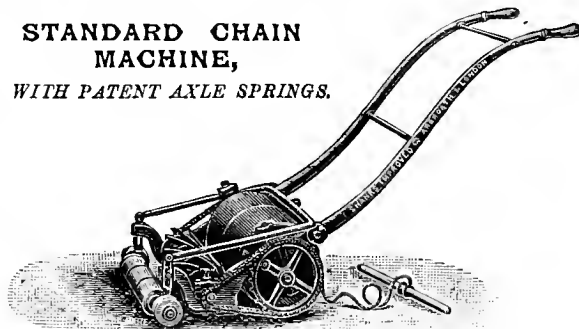
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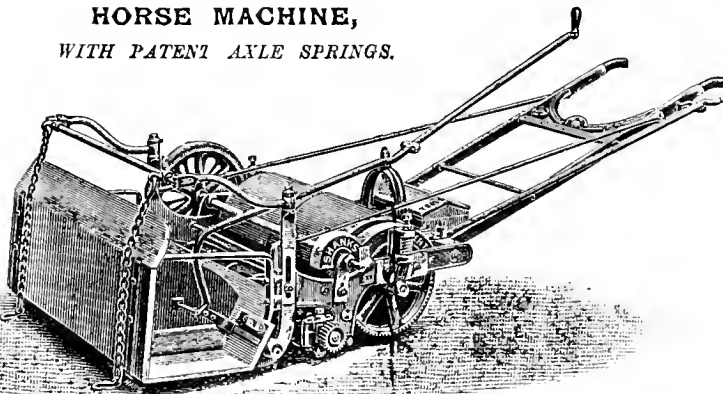


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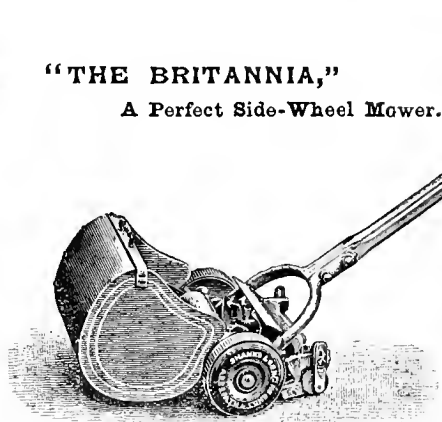
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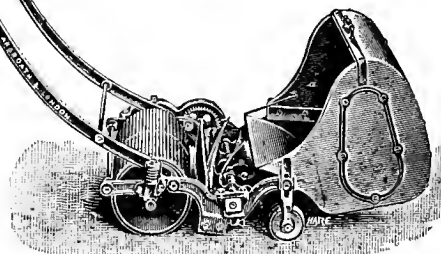
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## CONTENTS.

Apricot, chemical composition of the .....	728	Peas, early .....	738
Benevolent Institution, Gardeners' Royal .....	735	Pontederia crassipes, at Port Darwin .....	735
Botanical Magazine .....	735	Potatoes, moulding-up .....	728
Bougainvilleas, the culture of .....	730	Rose fête and bazaar .....	737
Cabbages, spring .....	738	Rose season, the .....	725
Carnations, some new .....	741	Shirenewton Hall, Monmouthshire .....	728
Climate, and tree growth Edinburgh Botanic Garden .....	730	Societies—	
Erinacea pluggens .....	738	Linnean .....	735
Flower mission, a .....	738	National Viola .....	735
French Strawberries .....	735	Royal Horticultural .....	739
Fruit from Australia .....	737	Stock-taking .....	736
Heuchera rubifolia .....	738	Strawberries, early .....	738
La Mortola, flowering plants at .....	738	Tring Park, notes from .....	729
London in May .....	738	Vegetable, a new .....	737
New Zealand, displacement and replacement of the native vegetation of .....	731	Veitchian Medals, presentation of the .....	734
Odontoglossum augustum sold for 800 guis. .....	736	Vine-grafting, utility of .....	730
Orchid notes and gleanings .....	726	Vine Countess of Moray .....	738
Fancies, a contribution to the history of .....	726	Wallflower seed, the sowing of .....	730
		Week's work, the—	
		Apiary, the .....	733
		Flower garden, the .....	733
		Fruits under glass .....	733
		Hardy fruit garden .....	732
		Kitchen garden, the .....	732
		Orchid houses, the .....	732
		Plants under glass .....	732

## ILLUSTRATIONS.

Burbidge, F. W., portrait of .....	736
Dunn, Malcolm, portrait of .....	737
Fancy, a fancy .....	727
Fancies, the old florists' .....	726
Pontederia crassipes, in the Botanic Gardens, Port Darwin (Supplement) .....	727
Sargent, Professor, Chas. S., portrait of .....	731
Vilmorin, H. L. de, portrait of .....	729

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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**BEGONIAS of the newest and most superb type,** including many rare varieties, Double and Single, for Conservatory or Bedding. See B. R. DAVIS' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s. B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

**BOX'S BEGONIAS,** for quality and quantity, are unequalled; obtained highest award for Begonias exclusively at the Temple Show. Exhibition, June till September, at West Wickham Nursery, near Station. A visit solicited. JOHN R. BOX, Croydon.

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MANGEL WURZEL and TURNIP SEEDS. H. and F. SHARPE are now offering their fine selected Stocks of MANGEL WURZEL and TURNIP SEEDS, Crop 1895, at exceptionally low prices, which may be had on application. SEED GROWING ESTABLISHMENT, WISEBECH.

**PRIMULAS! PRIMULAS! PRIMULAS!** 26th year of Distribution. Williams' Superb Strain, 1s. 6d. per dozen; 10s. per 100. CINERARIAS, same price; also, PRIMULA OBSCURIA, 2s. 6d. per dozen; DOUBLE WHITE PRIMULAS, 6d. each. JOHN STEVENS, The Nurseries, Coventry.

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**F. V. S. RASPAIL GERANIUM, 6s. per 100.** LOBELIA, Emperor William, 2s. per 100. COLEUS, in 25 varieties, 5s. per 100. COLEUS, Verschaffeltii, 6s. per 100. CALCEOLARIA, Golden Gem, 4s. per 100. HELIOTROPE, Miss Nightingale, 5s. per 100. WHITE MARGUERITES, 4s. per 100. Cash with order. Free on rail. P. BOULTON, Beechenlea Nursery, Swanley.

**WANTED, Daily Supplies of CHOICE CUT BLOOMS, &c.** Apply with prices. S Y M E, "Leeds Florist," Market, Leeds.

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**STANDARD ROSES in POTS,** coming into bloom, 42s. per dozen. J. PEED AND SONS, Mitcham Road, Streatham, S. W.

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**HENRY RIDES, SALESMAN,** Central Avenue, Covent Garden, W.C. Highest Market Prices. Prompt cash.

**JOHN NATHAN, Covent Garden Market,** is open to RECEIVE CONSIGNMENTS of Strawberries, Peaches, Nectarines, Melons, Grapes, &c. Terms, 5 per Cent. References, London & County Bank, C. O. Branch. Sale accounts daily; cheques weekly. Telegrams: "Nuntiator, London."

**PEACHES and NECTARINES.**—Fine Specimens, in pots, 6 to 8 feet high, full of fruit, 21s. to 42s. each. Fruit being young will travel safely. J. K. PEARSON AND SONS, Chilwell Nurseries, Notts.

**LOVELS' YORKSHIRE STRAWBERRIES.** Rooted Runners, from Maiden Plants:—Royal Sovereign, Noble, Thury, Paxton, President, and others. 6s. per 100. Ready in July. Sample dozen, 1s. W. LOVEL AND SON, Driffield.

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**ROSES on OWN ROOTS, for BEDDING.**—Most popular Teas and Hybrid Perpetuals, in 10 varieties. Good established plants in large 60's pots, at 6s. per dozen, 40s. per 100. Supersede all worked plants. Packing free for cash with order. FREDERICK PERKINS, Regent Street, Leamington.

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*Gardening World.*—"A concise essay dealing with all the elementary principles of manuring."  
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**EWING'S MILDEW COMPOSITION.**—The original, certain, and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. Sold by all Seedsmen. CORY & CO., Ltd., LONDON.

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**J. WEEKS & CO., Horticultural Builders** to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S. W. Telegraph Address, "Hortulanus, London." Telephone No. 8725.



## SALES BY AUCTION.

Friday Next, June 19.

**CATTLEYA LUDEMANNIANA**, free-flowering variety.  
**CATTLEYA MOSSILE**, a distinct type, from a new district.

**MESSRS. PROTHEROE AND MORRIS** will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 19, at half-past 12 o'clock an importation, just to hand in splendid condition, of **CATTLEYA LUDEMANNIANA**, from a new district. This is one of the most beautiful Cattleyas known, and is evidently a very free-flowering type, nearly every growth showing an old flower-spikes. Many of the plants have a very distinct appearance, and some remarkable varieties may be looked for.

Also from a new location a special consignment of **CATTLEYA MOSSILE**, showing much diversity, many of the plants being very distinct, and may be yielded some remarkable varieties including the white form, which collector writes, will doubtless be found among them. With them will be offered a batch of an exceedingly DWARF FREE-FLOWERING TYPE OF **CATTLEYA MOSSILE**. The whole in grand condition.

On view morning of Sale, and Catalogues had,

Friday Next, June 19.

By order of Messrs. F. Sander & Co., St. Albans.  
**SALE OF ORCHIDS**, including a Consignment of very rare ORCHIDS from Equatorial Africa (probably all are new to cultivation), consisting of *Polestachya cultrata*, *Eranthus pectinatus*, *Angraecum cucullatum*, *Liparis flavescens*, *Angraecum striatum*, *Eranthus arachnites*, *Angraecum gladiolifolium*, *Bulbophyllum species*, *Liparis species*, *Cryptopus elatus*, *Angraecum parvulum*, *Bulbophyllum prismaticum*, *Bulbophyllum nutans*, *Eulophia species* (?), *Bulbophyllum clavatum*, *Liparis gregoria*, *Angraecum carphorum*, *Phaius villosus*, *Phaius species*, *Calanthe sylvatica*, *Liparis purpurascens*, *Latyrium amoenum*, *Cynorebis fastigiata*, *Angraecum inasperum*, *Angraecum caulescens*, *Angraecum ramosum*, and *Peristylus spiralis*. All offered as received with Collector's labels attached.

**DENDROBIUM NOBILE**, Lang Tang variety, a grand consignment; many large plants are included, all are in best condition. No other district has yielded such splendid varieties, and new and peerless forms may be looked for among the plants offered.

**DENDROBIUM ALBO-SANGUINEUM**.—For the size of the bulbs, the largest-flowered Dendrobium known. Most showy and useful for all exhibition and decorative purposes.

**DENDROBIUM CRASSINODE BARBERIANUM TYPE**, abounding in the rich-coloured purplish forms so much admired.

**DENDROBIUM DEVONIUM**.—A most effective Dendrobium. The plants offered were found growing near Dendrobium Pierardii, and possibly the two species may have crossed, and the product be among many plants appear intermediate between the two.

**DENDROBIUM FORMOSUM GIGANTEUM**.—The true large-flowered form, than which no better florists' flower exist. The plants are plump and vigorous-looking.

**CYPRIPEDIUM INSIGNE MONTANUM** Sandersi Section.—A splendid consignment. The wonderful varieties already obtained will, we are confident, again be duplicated, perhaps surpassed; also strong imported bulbs of an

**ETCHARIS SPECIES**, probably *E. candida* or *E. grandiflora* var., and plump bulbs of **CRINUM SANDERIANUM**.  
Also, a **DENDROBIUM SPECIES**, sent home as *D. sanguinolentum*, but quite distinct from that species, &c.  
Also, 2 Volumes of Veitch's *Orchidaceous Manual*. (Another Property.)

**MESSRS. PROTHEROE AND MORRIS** will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 19, at half-past 12 o'clock.  
On view morning of Sale, and Catalogues had.

Putney Heath.

Important to Gentlemen, Nurserymen, Florists, and others.—**CLEARANCE SALE** of the whole of the **STOVE** and **GREENHOUSE PLANTS** and **GARDEN UTENSILS**. By order of Mrs. Venables, in consequence of the Residence having been let.

**MESSRS. PROTHEROE AND MORRIS** will SELL by AUCTION, on the Premises, "Hollywood," Putney Heath (Tibbet's Corner), one mile from Putney Station, S. W. Railway, and one mile from Southfields, District Railway, on THURSDAY NEXT, June 18, at Half-past Twelve o'clock, the whole of the well-grown **STOVE** and **GREENHOUSE PLANTS**, 70 Orchids, 100 Camellias and Azaleas, various size plants, together with *Pelargoniums*, *Fuchsias*, *Geraniums*, best show varieties; 50 Palms; Garden Tools, Wheelbarrow, Ladders, Hand-barrow, Corn-bin, Green's Mowing-Machine, 10 Glazed Handlights, Garden Seats, 300 *Chrysanthemums*, &c.

May be viewed the day prior and morning of Sale. Catalogues may be had of Mr. J. BATTEN, the Gardener, on the premises; and of the Auctioneers, 67 and 68, Cheapside, E.O.

Cholsey, Berks.

Almost adjoining Cholsey Station, and within 2 miles of the Market Town of Wallingford.  
A highly desirable and valuable **FREEHOLD PROPERTY**, comprising a well-stocked and very productive **NURSERY**, doing a capital trade, an extensive range of five Span-roof Greenhouses, well stocked with Vines, Tomatoes, Apricots, Cucumbers, &c.; a Lean-to Forcing-pit, Potting-shed, Mushroom-house, &c.; brick-built and tiled Dwelling-house, timber-built and slated Bungalow, modern range of Stabling, and small set of Farm Buildings. The property, which comprises an entire area of about 9 Acres, thereby affording full scope for the extension of the present business of a Nurseryman and Florist, and possessing, in addition, several eligible Building Sites ripe for immediate development, will be

SOLD BY AUCTION, as a Going Concern, by

**MESSRS. FRANKLIN AND GALE**, at the Town Hall, Wallingford, on FRIDAY, June 28, 1896, at 4 o'clock punctually, in One Lot, with possession on completion.

Particulars and Conditions of Sale can be obtained of **GEORGE F. SLADE**, Esq., Solicitor, Wallingford; or of the Auctioneers, Market Place, Wallingford, Berks.

Central Auction Mart, Bristol.

**THE ENTIRE COLLECTION OF ESTABLISHED GROHDS** formed by T. G. Binney, Esq., Clifton, including:—*Dendrobium nobile nobiliss*, 6 young growths; *D. Wardianum* Lowii, gigantic mass, 16 young growths; *Vanda cœrulea*, large plant, and superb variety; unfowered *Vandas* and *Cattleyas*, probably new; *Coleogyne cristata*, 3 large masses; *Acridia*, *Angraecum*, *Phalaenopsis*, *Gonotoglossum*, *Oncidium*, *Cypripedium*, &c., in great variety. Also—

**IMPORTED ORCHIDS**, including new and rare species, from Messrs. W. L. Lewis & Co. and Mr. J. W. Moore. **ORCHIDS IN FLOWER** or **BUD**, &c.

**MESSRS. DUROSE SUTTON AND CO.** will SELL the above by AUCTION, on THURSDAY NEXT, JUNE 18, 1896, at 11 o'clock precisely.

Catalogues of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol; and at Frome, Somerset.

**FOR IMMEDIATE DISPOSAL, a NURSERY and FLORIST'S BUSINESS**, doing good trade. Life-long Lease. Eight Glasshouses, all Heated and Stocked. An Acre of Land.—For particulars, write R. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

**SHOP**, close to Covent Garden, with large Light and Dry Basement. Lease, 7 years, or shorter, at £40 per annum. Inspection invited on application to **HOUSEKEEPER**, Bassett Chambers, 11 and 12, New Street, Covent Garden, W.C.

Also a **SUITE OF CHAMBERS TO LET**, same building, at moderate rental.

**TO BE DISPOSED OF Cheap, FLORAL NURSERY**.—Two Greenhouses, 90 feet; and one 35 feet long, fitted with boilers and pipes. Good Stock of Plants, &c. Six-roomed House on the Ground to be Let. Present owner retiring.—G. PEARCE, Floral Nursery, Hartley Street, Bow, E.

**FOR SALE, Old-established NURSERY, SEED, and JOBBING BUSINESS**. Growing neighbourhood, good position, same hands twenty years. Acre of ground, well planted; paddock, stable, shed; pony and cart, stock, shop-fittings, everything as it stands. Price, £125 Good reason for selling. Enquiries, Rent, £50. G., 3, Station Buildings, Wightman Road, Hornsey, N.

**HADLEIGH, SUFFOLK**.—**TO BE DISPOSED OF**, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above **NURSERY**, comprising about 1½ acres of Land, convenient **DWELLING HOUSE**, Packing and Potting Sheds, **SEED SHOP**, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—

**WILLIAM BADMAN**, Cemetery Nursery, Gravesend.

**To Nurserymen and Florists commencing Business.**  
**HAMPTON-ON-THAMES**, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, **FREEHOLD LAND** for **SALE** on easy system of Purchase, or to be **LET** on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

**HAMPSHIRE**.—**FREEHOLD NURSERY**, 30 acres, near station and sea. Six well-built Greenhouses, 50 Frames and Lights, extensive and model Piggery, and Sheds. Estate has nearly 1500 feet frontage to road, which could be developed for building, the residue retained as Nursery. Full particulars of Messrs. PROTHEROE AND MORRIS, Auctioneers, &c., 67 and 68, Cheapside, E.C.

**NURSERY & FLORIST**.—**TO LET** or **SELL**, Eight Glasshouses, Cottage, Lights, and Grounds. Rent, £40 the whole; or Freehold can be purchased for £575. Greater portion can remain on mortgage. Close to Station. Apply—

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**To Nurserymen, Fruit Growers, & Market Gardeners.**  
**TO LET**, or **SELL**, extensive **FREEHOLD MARKET NURSERY** (Middlesex). Large number of modern Greenhouses, in full working order, and necessary Out-buildings, with about 30 acres of Market Garden Ground. Immediate possession. Principals only.—**NURSERY, Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

**CARNATIONS**, Souvenir de Malmaison.—Strong plants, showing flower, in 5-inch pots, 12s. per dozen.  
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**FOR SALE, DICKSONIA ANTARCTICA**. Magnificent specimen, 8 feet stem, over forty fronds. Apply, **GARDENER**, Bartscholme Hall, Luccombe.

**ODONTOGLOSSUM LONDESBOURGHIANUM**, O. MADRENSE, *L. LIA PEDUNCULARIS*, and *L. DAYANA*. All fine imported plants, in grand condition, 2s. 6d., 3s. 6d., 5s., and 7s. 6d. each.  
**W. L. LEWIS AND CO.**, Southgate, London, N.

Plants Shipped to all Parts.

**WATSON AND SCULL, 90, Lower Thames Street**, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay. Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

**CHOICE TREE** or **PERPETUAL-FLOWERING CARNATIONS**.—Scarlets: Madame Waroque, Duke of York, Portia, C. Calcraft. Pinks: Reginald Oodfrey, Day-break, Lady G. Newall, B. Leopold de Rothschild. Whites: Lizzie McGowan, La Neige, The Countess. Yellow: Germania. Twenty other leading varieties. The above are good, strong, healthy plants, ready for 4½s pots, 6s. per dozen; 40s. per 100. Packing free. Cash with order.  
**FREDERICK PERKINS**, Regent Street, Leamington.

## EXHIBITIONS.

**HEREFORD and WEST OF ENGLAND ROSE SOCIETY**.—The Thirtieth Annual Exhibition of Roses (Open to the United Kingdom) will be held in the Castle Green, Hereford, on Thursday, June 25, 1896. £120 in Prizes. Prize Schedules, Entry Forms, Subscribers' Tickets, and further particulars may be obtained from the Hon. Secretary, the Rev. Preb. G. E. Ashley, Stretton Rectory, Hereford, or from Messrs. Jakeman and Carver, Booksellers, Hereford, who will be glad to receive the names of new subscribers.

To Nurserymen and Florists.

**WOOD GREEN HORTICULTURAL SOCIETY**.—**ELKVENTH ANNUAL EXHIBITION**, SATURDAY, July 11, 1896.

The Society's Silver Medal will be awarded to Exhibits of sufficient merit.

Applications for space to be addressed to the Hon. Secretary, E. J. WICKENDEN, F.R.H.S., Heathfield, Bounds Green Road, New Southgate, N.

**CHESTER HORTICULTURAL SHOW and FÊTE**. AUGUST 5 and 6, 1896. Over £400 in **HORTICULTURAL PRIZES**. For Schedules apply to the Hon. Secretary—

Mr. J. WYNE FFOULKES, Crypt Chambers, Eastgate Row, Chester.

**BRISTOL CHRYSANTHEMUM SOCIETY.**

**THE THIRTY-THIRD ANNUAL SHOW** will be held in the COLSTON HALL, on WEDNESDAY and THURSDAY, November 18 and 19, 1896.

In addition to many other Valuable Prizes, a **TWELVE GUINEA CHALLENGE VASE** will be offered for competition. Schedules of Prizes are now ready, and may be had free of the Florists and Nurserymen of the city and district; or of the Secretary—

EDWIN G. COOPER, Mervyn Road, Bishopston, Bristol.

**RICHMOND HORTICULTURAL SOCIETY.**

£300 offered in Prizes & Medals.

The **SUMMER SHOW** will be held in the Old Deer Park, Richmond, on WEDNESDAY, June 24.

For Schedules and all particulars apply to

C. CAPEL SMITH, Hon. Sec. Belle Vue Lodge, Richmond, Surrey.

**EDINBURGH SCHOOL OF RURAL ECONOMY.**

SESSION, 1896-97. BOARD OF MANAGEMENT appointed by the University Court, the Highland & Agricultural Society, the Town Council of Edinburgh, and Contributing County Councils. Chairman—The Right Hon. J. F. B. Robertson, Lord Justice-General.

COURSES OF INSTRUCTION are provided both in **DAY** and **EVENING CLASSES** for FARMERS, GARDENERS, FORESTERS, and others interested in Rural Economy.

The **SESSION** begins in OCTOBER and ends in MARCH. Fees Specially Moderate. The Syllabus may be had from the SECRETARY of the University Court, Edinburgh; or, from the SECRETARY, 3, George IV. Bridge, Edinburgh.

**FOR ORCHIDS and GARDENERS** to Grow them, apply to **SANDER'S**, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

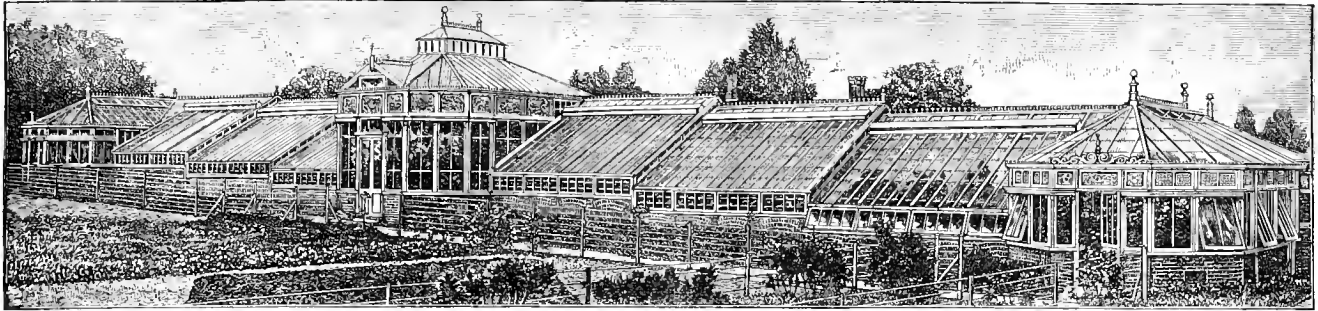
**PELARGONIUMS**.—**GARAWAY & Co.** offer good plants, in 5-inch pots, of the best market and decorative varieties, at 15s. per dozen.  
**GARAWAY AND CO.**, Clifton, Bristol.

**FERNS and DECORATIVE PLANTS**!—(TRADE).—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 4½s, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100; 50s. 1000; *Adiantum cuneatum*, in 4½s, for cutting, 8s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; *Cyperus*, *Aralias*, *Grevilleas*, *Spiræas*, *Rhodanthe*, & *Geraniums*, in 4½s, 6s. doz.; *Marguerites*, *Heliotropes*, *Mignonette*, *Fuchsias*, *Ivy* *Geraniums*, in bloom, in 4½s, 8s. doz.; *Ficus*, *Palme*, *Dracænas*, *Crassulæ*, *Pelargoniums*, & *Hydrangeas*, in bloom, in 4½s, 12s. doz.; *Liatris* free. Packed free. Cash with order.—**J. SMITH**, London Fern Nurseries, Longborough Junction, London, S.W.

**DUTCH BULBS.**  
PRICE LISTS of **HYACINTHS, TULIPS, &c.**, FREE on APPLICATION, for SEEDSMEN and FLORISTS. APPLY TO—**S. A. VAN KONIJNENBURG & CO.**, NOORDWIJK, HOLLAND.

**A HANDY TREATISE on the CULTURE** of **FERNS** from **SPORES**: Treatment and Management of Seedlings in all stages of their Infancy. Price 10d., post-free. **GROWER**, Nightingale Nurseries, Bath.

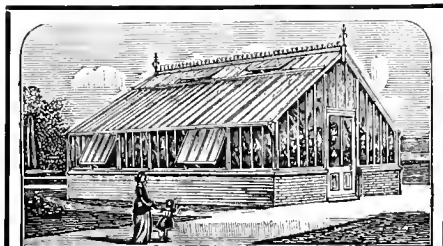
# Crompton and Fawkes, Chelmsford.



**HORTICULTURAL BUILDERS AND HOT-WATER ENGINEERS.**

Designers and Manufacturers of Ranges, Conservatories, Vineries, Forcing-houses, Greenhouses, and every description of Glasshouse. Best work. Lowest Prices. Every modern appliance. Surveys made in any part of the Kingdom. Estimates free. Large New Illustrated Catalogue post-free on application.

**CROMPTON & FAWKES, CHELMSFORD.**



**THIS GREENHOUSE** erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



**Superior Portable Frames**, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 55s.; 3-light frame, 12 x 6, 85s. 6d.; **Span-roof Frame**, 6 x 4, £2 5s.; 9 x 5, £3 15s.

**HARDY BRUIN & CO., LEICESTER.**

**HILL & SMITH,**  
BRIERLEY HILL, near DUDLEY.

**H. & S.'s BLACK VARNISH,**  
For Iron, Wood, or Stone Outdoor Work.



REGISTERED TRADE MARK.

Forty years' regulation. Ready mixed. Dries in ten minutes with perfect gloss. Is used at Windsor Castle, Kew Gardens, and London and Dublin Parks, and most Land-owners. In 15 and 36-gallon Casks only, 1s. 6d. per gallon at works, 1s. 8d. at nearest Railway Station.

**GARDEN NETTING, Tanned, Rotless, and Weather-proof.**

Protect your Gardens from the Ravages of Birds.  
100 yards by 1 yard wide, 3s. 200 yards by 2 yards wide, 12s.  
200 " 1 " 6s. 100 " 3 " 9s.  
100 " 2 " 6s. 200 " 4 " 24s.

Carriage paid on orders over 6s. Made any widths, at proportionate prices. As supplied to the Principal Public Gardens and Estates in the Kingdom. Maker to the Queen and Prince of Wales. Lists on application.

ANDREW POTTER, Melbourne Works, Wolverhampton.

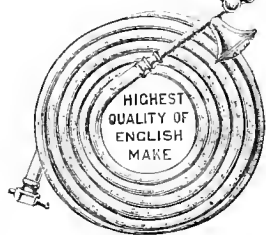
**ORCHID PEAT.**—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12-yard trucks. **BROWN FIBROUS PEAT**, 3s. 3d. per bag; 10s. per cubic yard. **WALKER AND CO., Poole, Dorset.**

**GISHURST COMPOUND**, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 18 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American light, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

**GISHURSTINE** keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

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**GARDEN HOSE**



HIGHEST QUALITY OF ENGLISH MAKE

60-foot Lengths, with Jets complete. CASH PRICES, CARRIAGE PAID.  
2 Ply. 3 Ply.  
1/2 in. ... 25/- ... 30/-  
5/8 in. ... 30/- ... 32/6  
3/4 in. ... 35/- ... 37/6

60-foot Lengths of ARMOURD HOSE, 2 Ply. 3 Ply.  
1/2 in. ... 27/6 ... 30/-  
5/8 in. ... 35/- ... 37/6  
3/4 in. ... 40/- ... 42/6  
Union and Jets extra. See New List.

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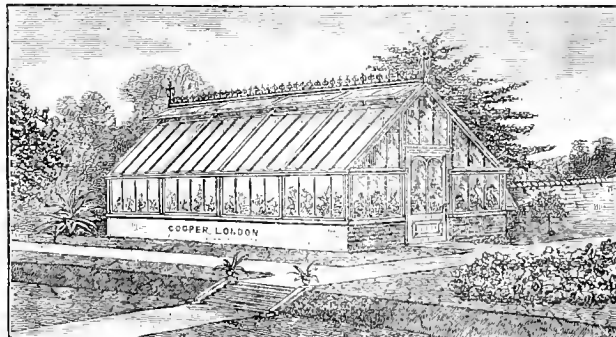
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IV.—Iron Buildings and Roofing, Church Furniture, &c.	135—178
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VII.—Lawn Mowers and Edge Cutters, Tennis Markers, Garden Rollers, &c.	247—288
VIII.—Horticultural Timber	289—290
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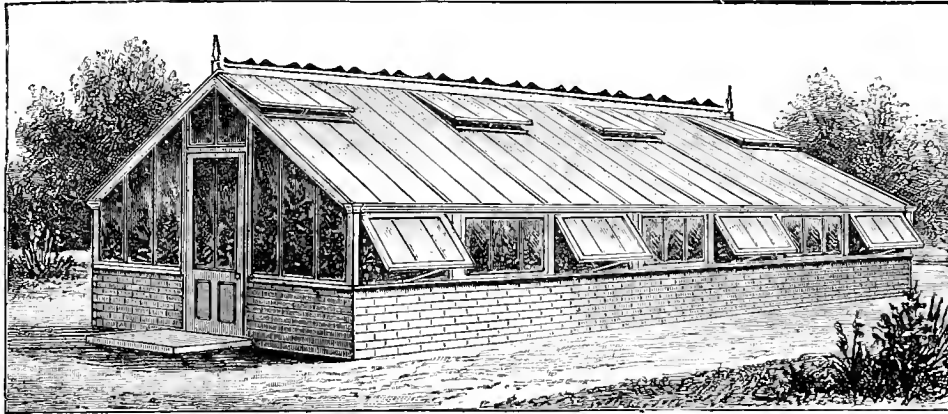
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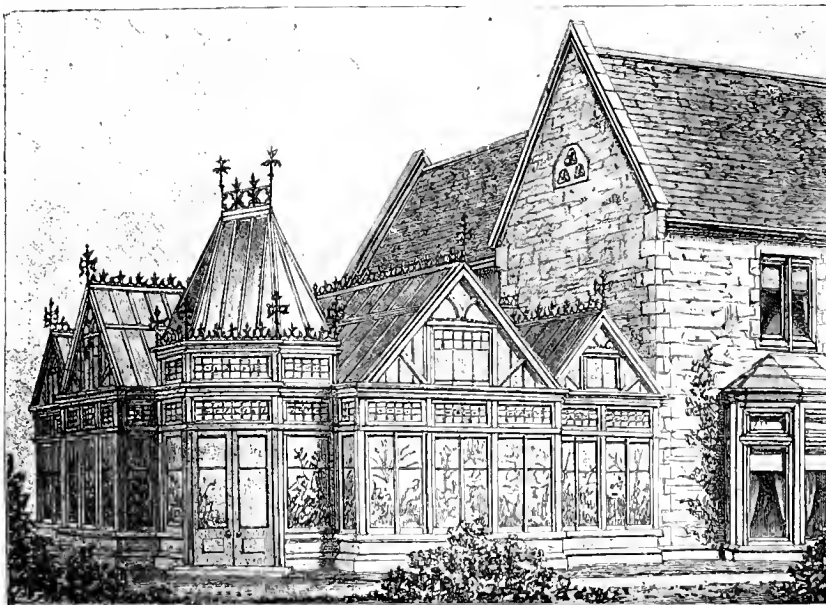
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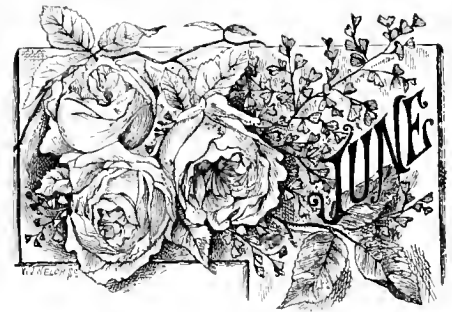
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## THE Gardeners' Chronicle.

SATURDAY, JUNE 13, 1896.

### THE ROSE SEASON.

ONCE more has disappointment come to all those who have to do with the soil in our variable climate; a winter of unusual mildness had done much to cheer the growers of the Rose, as well as the farmer, and when the time for the pruning-knife drew on, it was evident that there would be but little dead or injured wood to cut out. It was fortunate the winter was so mild, as the autumn had not been a particularly good one for ripening the wood, and if we had had anything like the severe weather experienced the two previous winters, it would have gone hard with many of our plants, but as it was I suppose there have been few seasons in which our Roses looked better at the time of pruning; but two rainless months in April and May greatly changed the character of the outlook, and although we did not experience, in many places at any rate, those frosts which come to us about May 20, and no where anything like we had in 1894, yet the long spell of cold northerly and north-easterly winds and a dry atmosphere very much altered the appearance of things. Insect pests multiplied rapidly, and now as I look round upon my own Roses, I see more signs of aphid on them than I have had for the last two years. I have not visited many Rose gardens as yet, but I find the same story where I have been, and also from many correspondents. Of course, the cry has been—we all want rain; and as Mr. Symons tells us that the drought is over, and we have experienced in many places refreshing showers, it is to be hoped that the remainder of the month may do much to remedy the evils of the previous weeks. To what an extent the drought has gone is evident from Mr. Symons' letter, in which he says that on June 3 there was more rain in three-quarters of an hour in London than there had been during the two previous months, April and May. Where a small number of Roses is grown these evils can be remedied if there be a good supply of water, though nothing can make up for the want of the genial temperature in which Roses rejoice. The showers with which we have been visited during the first week in June have no doubt been most beneficial, except in such places as Lincoln, where the devastation created by the almost tropical downpour must have affected the Roses as well as other crops injuriously; and a great deal will depend upon the weather of the next three weeks. The single Roses have already begun to display their beauty, so that I fear that there will be but few of them left for the show that takes place at the Crystal Palace on July 4. It is to the contests which take



place during the last few days of June and the month of July on which the thoughts of rosarians will now be fixed, for let people decry them as they may, I do not think that the enthusiastic culture which now exists would long prevail if they were done away with. I am not, and have never been, an exhibitor, but when I think of good Roses, my thoughts somehow or other gravitate towards the exhibition-table, and especially towards the great Rose tournament at the Crystal Palace.

The National Rose Society's shows are, as usual, three in number, the first of these takes place on the 24th instant at Reading, and a season like this ought to bring together in so central a position a large number of exhibitors. The *prix d'honneur* will, no doubt, be the cup offered by Messrs. Sutton & Sons for the best box of twelve to be exhibited by amateurs, and which will, no doubt, create a keen competition. The celebrated Reading firm has had it designed and manufactured on purpose. The experience of the Queen's cup at Windsor shows how very difficult it is to forecast who is to be the winner. There were three or four growers who were the special favourites, but to none of them did it fall, but it was taken by an outsider; and so we may leave Messrs. Sutton's cup in the same uncertainty, and I think he would be a very bold prophet who would fix upon the winner. But the show of the season is, of course, the Metropolitan one held at the Crystal Palace, and there are many circumstances which combine to make us look hopeful for a grand show. In the first place, I anticipate a very sharp contest for the Nurserymen's Trophy; this class has always been the great one of the show, and its interest will be increased by the fact that Messrs. Harkness & Sons have now their nursery at Hitchin from which to cut their Roses, as well as at Bedale; while Messrs. Alex. Dickson & Sons will be able from their new ground at Ledbury to enter into the contest without having to cross the Channel to do so. The place has been made classical ground for the lovers of Roses by Mr. W. J. Grant, who formerly occupied it—we can all recollect the fine Roses he brought up from there; and Messrs. Dicksons will now be another firm with which the older exhibitors will have to count. Then I believe Mr. George Mount intends to be an exhibitor in this class, and if he is as successful in the culture of his outdoor Roses as he has been with those under glass, he will be a formidable antagonist.

Another interesting feature of the exhibition will be the contest for new home-raised Roses for prizes offered by a well-known amateur; he has in the first place offered substantial prizes for a stand of Roses raised by Messrs. Dickson, Newtownards, both in the nurserymen and amateur sections; and in the second place, he has offered prizes for a stand of Roses raised and sent out by English nurserymen—both of these ought to be very interesting exhibits.

Lord Penzance's prize for garden Roses is another that ought to bring together stands of much interest; though I fear both single Roses and those Sweetbriar hybrids raised by himself, will have almost passed over before the exhibition-day.

I do not at present anticipate much change amongst amateurs. I have not heard of any new exhibitors coming forward, though I have heard that some of those who have already exhibited are about to take a higher place. Garden Roses, especially in their decorative aspect, have received more attention from the Society; and it is to be hoped that the encouragement given to them will be better responded to by exhibitors, although I am aware how much trouble is involved in setting up a stand for display, especially when the same exhibitor is contending in the other classes.

It is a "far cry" to Ulverston, where the North Lonsdale Rose Society has made arrangements for receiving the National Rose Society for its northern exhibition; it is a charming part of the country, close to the Lake district, and the North-Western service of trains is so good and convenient that although it is six hours from London it is reached more easily than some places not half the distance. Here, probably,

the most coveted prize is that offered by Mr. Victor Caveudish, and the Veitch Memorial Prize, offered by the trustees of that fund. The lateness of the fixture, and the distance will probably keep most of the Southern growers, especially amateurs, at home, and unfortunately the number of amateurs in the North has much diminished of late years; but unquestionably loyalty to the National Rose Society will induce many to come who but for that would stay away.

Another matter which will give additional interest to the exhibitions of the present year is, that the committee of the National Rose Society is about to publish a supplement to their catalogue of Roses, and that as there are several Roses whose claims to be put on the new list have been brought before the committee, Rose-growers and exhibitors have been particularly requested to look out for these flowers, and to take notes of their merits or demerits, so that when at the close of the season the matter shall be again brought before the committee, a considerable mass of information will be at their disposal; and they will be able thus to include such flowers as meet with general approval, and to exclude others which have, perhaps, had one or two zealous advocates, but which would not stand the test of more general criticism. The committee will thus feel that they have done their best to secure the interests of Rose-growers in general. *Will Rose.*

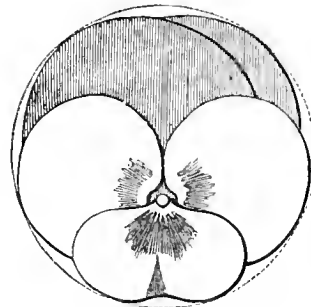


FIG. 122. MODEL OF THE OLD FLOREST'S PANSY.

## ORCHID NOTES AND GLEANINGS.

### CYPRIPEDIUM CALLOSUM SANDERÆ.

THIS, in my opinion, is the finest *Cypripedium* in cultivation, taking in all the species and crosses that have been submitted before public notice. It received a First-class Certificate at the Temple Show of 1894, and was noticed in your report on pp. 660, col. A, and 663, col. C. A plant of it is now in flower in the choice collection recently formed of Samuel Greatorex, Esq., West Point, Whalley Range, Manchester (Mr. R. McLeod, gr.), and as it has not been described in detail, I send you the following description of it: dorsal sepal of broadly-ovate form, white ground with bold emerald-green radiating lines from base, with intermediary lines of half the dimensions, and of paler green hue, stopping short in the centre of the sepal. Inferior sepal small, incurved, with three green lines running through it concealed under pouch. Petals of arching outline forming the serpentine beds of *C. Fairriannum*. They are broadly linear, and, from a colour point of view, are each divided into two sets of colours singularly beautiful in this respect. The upper half is an almost indescribable pale green with the edge adorned with four knobs placed at equal distances, and these knobs and the whole margin of the upper line covered with long hoary cilia; the lower half is clear white ground with five parallel lines of that lovely pale green above noticed, sharp and decided, stopping short within half-an-inch of the extremity, the tips being white with a shade of green through them. The labellum is yellowish-green, both pouch and lobes similar, and the surface as if varnished. The staminate is equally beautiful, the outline being

reniform, greenish towards the convolute lobes, and whitish with a green stripe very near the margin. Peduncle short and hairy. *J. A.*

### A REMARKABLE BULBOPHYLLUM.

In the collection of botanical Orchids belonging to the Honble. Walter Rothschild, at Tring Park, an extraordinary *Bulbophyllum*, as yet unidentified, is in flower. The pseudo-bulbs are long and slender, and the foliage is handsome. The flowers, which are very remarkable, are about 3 inches across, firm in texture, and handsome enough to arrest even the attention of those who say that they care not for such plants. In colour the flowers are yellow, faintly tinged with purple, and the large, showy, hinged lip, which moves upwards and downwards with every alteration in the position of the flower, no matter how slight, is of a rich crimson-purple. It may be classed with the showiest members of the genus. Also among other *Bulbophyllums* and *Cirrhopetalums* in flower in the same house, are the handsome coppery-yellow *C. Mastersianum*, the chrome-yellow *C. O'Brienianum*, the handsome *C. Colletii*, *C. pulchrum*, *C. elegantulum*, the elegant *C. fimbriatum*, two forms of *C. picturatum*, the one almost wholly greenish-yellow, and the other dark purple. Among the *Bulbophyllums*, *B. Dearei* and *B. Lobbi* are two of the more striking. Of other rare and noteworthy subjects in bloom we may note the pretty *Chondrorhyncha Chestertonii*, which here blooms almost the whole year; *Gongora scaphephorus*, a remarkable and rare species; *Polycycnis muscifera*, with its elegant sprays of insect-like flowers, which fill the house with their fragrance; *Eria obliqua*, *E. crassicaulis*, and other species of *Eria*; *Stenoglossis longifolia*, the salmon-tinted *Cœlogyne tomentosa*, and the new and showy *C. Micholitzii*; several species of *Spathoglottis*, which here thrive and bloom remarkably well; some old cultivated plants of *Epidendrum bicornutum*, and a large number of *Masdevallias*, *Pleurothallis*, *Restrepias*, *Stelis*, &c., of botanical interest. *J. O'B.*

## A CONTRIBUTION TO THE HISTORY OF PANSIES.

(Continued from p. 684.)

IN the thirties, one of the favourite flowers of the English was the Pansy, which competed with the Rose itself for popular favour. Both distinguished amateurs and talented nurserymen devoted themselves to the cultivation of the Pansy, and gained one success after another. The English horticultural societies offered prizes for the finest flowers. Every nobleman, every owner of an estate wished to have their special collection of Pansies, and the nurserymen, who were well rewarded for their pains, did everything they could to keep alive the interest of the public by constantly producing new varieties. In the middle of the thirties the price for new and good varieties was 5s. a plant, and for specially excellent ones a far higher price was paid; £10 was offered for the seedling of "Metropolitan," and refused.

Those varieties raised from 1820 to 1836 certainly possessed larger and more brilliantly-coloured flowers than their wild ancestors, but as regards the form of the flower no change was made, it being still more or less elongated in the same way as in the wild *Viola tricolor*, L., or *V. lutea*, Huds. During the latter half of the thirties, however, a change took place, as, dating from 1836, the first object of the British Pansy-raisers was to get the flowers as circular as possible (fig. 122). In *The Floricultural Cabinet and Florists' Magazine* of the above-mentioned year, this quality is described as more to be desired than all others, and but a couple of years elapsed before this ideal was attained. The magazine just mentioned of 1838 and 1839 contained several figures representing new varieties of Pansies, and among these we find at least two, viz., *Ne Plus Ultra* and *J. Burley's Lord Durham*, the flowers of which were almost perfectly circular.

In the beginning of the forties the interest for Pansies rose to such a pitch that special horticultural societies were formed solely devoted to this plant.

The Hammersmith Heartsease Society held its first Pansy show in 1841, and continued them for a long course of years. At the present time (1893) it has been succeeded by a society having the same objects in view, called the London Pansy and Viola Society. In 1845 the Scottish Pansy Society was formed in Edinburgh, which has shown such vitality, that from that day till now it has continued its activity with great success.

By these two Pansy societies, formed in the forties, certain demands were made on the Pansy flowers, which were to be complied with before the flower could obtain a prize at the shows. The principal demands were :—

1. The flowers should be circular.
2. The petals should be even, thick, and velvety.
3. The colour should be either uniform (selfs), or else but two (belted flowers).

But besides these, several other requirements were enumerated, and, curious to relate, these demands were fully realised in a large number of varieties raised at that time. Indeed, for about twenty years these show Pansies reigned almost supreme in Britain. All other varieties produced by the Pansy-raisers were discarded and ruthlessly destroyed.

The effects of this partiality in time, of course, became apparent. However interested the British public might be in the charming flowers of the forties, it must at last become evident that the numerous so-called new varieties continually appearing were, in fact, but a constant repetition of the five well-known types.\* The need of a change in this respect began to be more and more obvious.

Salvation then came to this lovely English flower from France and Belgium in the form of an entirely new class of Pansies, viz., the so-called Belgian or fancy Pansies. Here we find just what is wanting in the show Pansy, viz., great variety of colouring, the brilliant colours being prevalent, and a distribution of colour not only according to the old well-known scheme, but also on a number of others that agreeably appeal to our inherent love of beauty.

In the early thirties the English Pansy was introduced into France, and was there cultivated by skilful horticulturists, who took great pains in further improving it. Among these Pansy-raisers let me mention Miellez of Lille, and James Odier, the owner of Bellevue Castle, near Paris. From the latter come the Odier Pansies, remarkable for the enormous development of the blotches on the three lower petals, which is so characteristic of the fancy Pansies of the present day, and specially for those belonging to the Cassier, Bugnot, and Trimardeau classes.

In Belgium they also strove to improve the English Pansies in the thirties, and partly in the same way as in France, without regard to the laws of beauty laid down in England.

The French fancy Pansies were brought before the English public in the early fifties by John Salter, but gained scarcely any approval. By the prejudiced English they were dubbed "French rubbish," and it was only in 1858 to 1860 that the interest of the British public was aroused by a whole series of brilliant French forms of Pansies chiefly imported from the florist previously mentioned, Miellez of Lille.

These fancy Pansies were cultivated by eminent horticulturists in the north of England and southern Scotland, where the centre of the cultivation of Pansies had been removed, in the latter half of the fifties, in consequence of a destructive disease which had laid waste numerous Pansy grounds in southern England. New and splendid forms were now raised in great numbers, more especially by the activity of William Dean of Shipley, and Downie, Laird and Laing of Edinburgh, and in time these Pansies became so general and popular, that in 1871 The Scottish Pansy Society decided to offer prizes for this class of Pansies at their shows. Special rules of beauty were fixed, which the judges had to follow

when considering the several merits of the fancy Pansies on exhibition.

But now—as in former times with the English show Pansies—it happened that the limitations outside which it was deemed there could be no beauty, were far too narrow. The perfectly-circular form of the flowers was still one of the chief demands, the edges of the petals were to be without waviness or unevenness of any kind, and—most remarkable of all—no other Pansies than those provided with large blotches were entitled to a prize as fancy Pansies. This last rule has certainly greatly contributed to the fact that, in spite of their varying colours, the fancy Pansies have a tinge of monotony about them. The large dark blotch is seen everywhere, and in many cases this blotch is so large that it almost covers the entire surface of the flower (fig. 123). The general public has shown broader views in their ideal of beauty; and doubtless this is the cause why the fancy Pansies are being superseded by the far more unassuming but more natural bedding Pansies and the tufted Pansies or Violas.

BEDDING PANSIES.

The bedding Pansies are characterised by flowers of a smaller size, but at the same time they flower

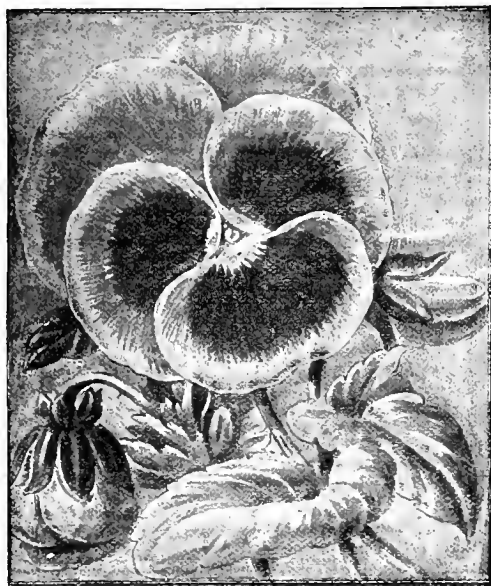


FIG. 123.—A FANCY PANSY (LORENZ).

more richly and longer than the typical fancy Pansies, and have their lower growth and are more branched. By these peculiarities they are specially adapted for the production of numerous flowers, and make particularly pleasing beds, and it is from this fact they have their name. The original bedding Pansies were direct descendants of the fancy Pansies, and, as a general rule, bedding Pansies are but richly flowering, more dwarf-like fancy Pansies.

The tufted Pansies or Violas have essentially another origin. They are derived from the English *Viola lutea*, Huds., as also from the Pyrenean fragrant *V. cornuta*, L., both crossed with garden Pansies. Their characteristics are: a more perennial habit; a tufted growth; smaller flowers which are not circular, and generally spread an agreeable perfume.

Cross-breeding has undoubtedly always played a great rôle in the production of new forms of Pansies, but in most cases without any plan, insects crossing varieties cultivated near each other. The horticulturists have simply made their selection among the numerous forms which have arisen as a result of this crossing performed by Nature herself. The tufted Pansies, on the other hand, have chiefly to thank for their existence Pansy-raisers, who themselves undertook the hybridisation. James Grieve of Edinburgh, in 1862 and 1863, crossed *Viola lutea* from the

Scottish hills with the ordinary show Pansies of that time; and about the same time William Dean began working in a similar way in the north of England. From these and similar hybridisations not a few of the tufted Pansies are derived, more especially those in which yellow is the prevailing colour. *Viola cornuta*, L., has played a still more important part than *V. lutea*. Dating from 1863 it has been used by different Pansy-raisers for crossing with varieties of dark Pansies in particular. Thus, in 1867, Dicksons & Co. of Edinburgh produced the, relatively speaking, large flowering dark purple Vanguard, concerning which it is stated that it is derived from hybridising *V. cornuta*, as female, with a dark purple Pansy as male flower. About this time B. S. Williams of Holloway sent out his noted *Viola cornuta* Perfection, and somewhat later the fragrant Sensation. These and other hybrids of *V. cornuta* were afterwards used for further hybridisation with suitable Pansy varieties; and by these means—more especially thanks to Dicksons & Co. and to Dr. Charles Stuart, of Hillside—a considerable number of new varieties of tufted Pansies were raised in the seventies.

Tufted the last two decades a most interesting kind of tufted Pansy has been raised, viz., the Rayless Violas, which have flowers of but one colour, free from the ordinary dark rays or streaks, whence their name. The first time I find any mention made of them is in 1881, when in *The Garden* W. Robinson related that at Laing's of Stanstead Park Nurseries, he saw two kinds of such Pansies (*Hybrida alba* and *Golden Queen of Spring*). Not until the very last years of the eighties did they become more widely known. Then appeared Charles Stuart's well-known *Violetta*, a very small-flowering almost pure-white fragrant tufted Pansy, the product of a cross between *Viola cornuta*, L., as the female parent, and the Pansy *Blue King* as the male plant. Dr. Stuart lays special stress on the fact that in hybridisation with *V. cornuta* it should be used as the female, and the Pansy chosen for the occasion as the male plant, if a progeny be desired resembling *V. cornuta* as regards perfume and perennial duration. *Violetta* has in turn produced a numerous offspring (among others, the celebrated *Sylvia*), which, together with other rayless tufted Pansies, play an important part in the shows of the Scottish and English Pansy societies.

Besides the species of Violas already mentioned, in very rare cases *Viola calcarata*, L., has been used for the improvement of the Pansy.

From Dicksons & Co., of Edinburgh, a statement has reached me that *Viola stricta* has been used for the same purpose (*Ariel*, *stricta alba*, *Indiana*, &c., are said to be derived from this species; but it is evident that this *Viola stricta* cannot be the *Viola stricta* of the botanists\*).

Dicksons & Co. declare that their *Viola stricta* is an Indian species. In consequence of this statement, I wrote to the author of the *Flora of British India*, Sir Joseph Hooker, concerning the matter, and in reply, he says, "There is certainly no Indian species remotely even allied to the cultivated Pansies."

It has been mentioned above that a double Pansy was known even to Parkinson, the old English writer on horticulture (1629). In the present century double Pansies have now and again made their appearance, among which the most known is probably Good Gracious, a variety which was cultivated largely in Ireland and Great Britain in the middle of our century, and "Lord Waverley" from the Hale Farm Nurseries, near London, in 1876.

Into Germany the English Pansies were introduced during the thirties, but it was not until the fifties and sixties that the German Pansy-raisers began to produce new varieties. As an instance, let me mention Negerfurst, the product in 1861 of careful selection made year after year by C. Schwauecke of Oeschersleben, and Kaiser Wilhelm, introduced about 1872 by Chr. Lorenz of Erfurt. At the present day the German cultivation of Pansies ranks very high.

\* 1. Yellow-ground varieties; 2. White-ground varieties; 3. Yellow selfs; 4. White selfs; 5. Dark selfs.

\* *V. stricta*, Hornem., belongs to the section *Nomimum*.

The northern limits of the Pansy is attained in Norway, where it has been cultivated with perfect success in several places in the arctic region, in East Finmark, at 69° or 70° N. latitude. V. R. Wittrock.

(To be continued.)

### THE AMERICAN SPECIES OF RHAMNUS.

In comparison with Europe, says Professor Green in *Erythra*, to which twenty-three species are credited, North America north of Mexico is not well stocked with Rhamnus, for there are not more than fifteen, four or five of which are of the Atlantic slope, all the rest belonging to the Pacific slope proper; that is, to the narrow strip of territory intervening between the crest of the Cascades and Sierra Nevada and the shores of the Pacific; neither the Great Basin nor the Rocky Mountain region exhibiting any species, excepting at the extreme north, where one of the eastern, *R. alnifolia*, traverses the Continent, and becomes the only one common to both the eastern and western floras of the country. If, then, eastern North America has of this genus three or four endemic species, the much smaller area of the Pacific slope proper has at least three times as many. In California alone the species are distributed upon all altitudes, from the sea-level up to almost 7000 feet; some of them occurring only where the annual rainfall amounts to no more than 4 or 5 inches, others where it amounts to 100 inches or more. They are distributed all along from where the mercury seldom in the coldest winter indicates the freezing-point of water, and snow never falls, up to where zero of Fahrenheit is reached, and snow falls to the depth of 10 feet, or even more. Indeed, so great is the diversity of environment on that narrow strip of the far-western field, that one might with reason expect a greater number of species than have been recognised hitherto. It may be useful to indicate certain natural and easily-recognisable subdivisions of the genus. The names of these and their characters are as follows:—

1. *RHAMNUS* proper.—Leaves thin, deciduous; fruits black; pyrenes thin-walled, indehiscent; seeds with cartilaginous testa, grooved on the back; cotyledons foliaceous, revolute-margined.
2. *FRAXELA*.—Leaves firmer; fruits black; pyrenes thick, indehiscent; seeds with thin testa, not grooved; cotyledons fleshy, plane.
3. *XANTHORHIZANS*.—Leaves coriaceous, evergreen; berries cherry-red; pyrenes crustaceous, promptly dehiscent; seeds with crustaceous testa, deeply grooved or excavated on the back; cotyledons fleshy, strongly curved.

### CHEMICAL COMPOSITION OF THE APRICOT.

FROM analyses made in California it is shown that the Apricot crop draws upon the fertility of the soil as follows: Each ton of fruit takes from the soil 5 lb. of nitrogen, and 10·6 lb. of ash.

In analyses of several varieties it was found that the Bleuheim variety contained the most ash, and the Pearl variety the least. Naturally the pit or stone contains more ash than the fresh flesh, but the difference is much smaller than one would be apt to think. The average amount of ash in the flesh alone was found to be 10 lb. to the ton, and the ash of the fresh pits alone 14 lb. to the ton. An important fact in this connection is that nearly one-half of the total ash ingredients consist of potash.

A ton of Apricots will carry off from the soil 4·3 lb. of potash, and a crop of 15 tons per acre will remove a total of 64½ lb. of potash. It also takes away 21·4 lb. of phosphoric acid and 38·7 lb. of nitrogen. The ash of the flesh is exceedingly rich in potash, containing 58·6 per cent., while the pits have but 11 per cent. It is the constituent phosphoric acid that the pits more especially take up, the ash having 43·8 per cent. of this valuable ingredient. The Apricot fruit also requires much magnesia and iron to build up its tissues.

The flesh of the Apricot constitutes about 94 per cent. of the total weight, and the pit but 6 per cent., according to the examination of a half-dozen varieties made at the Californian Experiment Station. An examination of nine varieties at the Arizona Experiment Station resulted in finding an average of 6·2 per cent. of the total weight of the fruit to be

pit. The variety having the smallest ratio of pit to total weight of fruit was the Kaisha, of which variety but 5·2 per cent. was pit. The largest weight of pit was found in the Breda variety, in which 8·1 per cent. of the total weight was pit. The Apricot is a very juicy fruit, the flesh containing 87 per cent. of juice to but 13 per cent. of fibre. The amount of juice varies with different varieties from 80 to 90 per cent. The juice of the Apricot contains about 13 per cent. of sugar, the flesh including juice and fibre or cellulose about 12 per cent., and the whole fruit, including pit, about 11 per cent., showing that there is very little sugar in the fibre and pits.

The Apricot has some nutritive value as human food, ranking among the best fruits in this respect. In the edible portion of the fruit there is 1·2 per cent. of albumineids. This constituent is found to be very variable according to investigations made at Berkeley Experiment Station, a minimum of 0·84 per cent., and a maximum of 1·37 per cent. of albumineids was obtained. J. J. Willis, *Harpden*.

### SHIRENEWTON HALL, MONMOUTHSHIRE.

BEAUTIFULLY situated on an eminence commanding extensive views of a varied and interesting tract of country, Shirenewton, the residence of E. J. Lowe, Esq., is of more than ordinary interest to gardeners and lovers of a garden. Of course, one expects to see Ferns in abundance there, and he will not be disappointed, but a visitor to the grounds will soon have it manifested that other prominent features are in course of formation. Crossing the lawn in the direction of the garden, a fine specimen of *Abies Welbiana* attracts attention, and close beside it a handsome young specimen of *Thuja dolabrata variegata*, much more conical in form than usual. Good specimens of *Cupressus Lawsoniana* are to be seen, and Mr. Lowe calls attention to the fact that he never cuts off the duplicate leaders, but lets them grow on, and in this way the trees become much more handsome than when the leaders are reduced to one. Plants of *Veronica Hendersoni*, self-sown, grow freely under trees in the garden, thus showing the use to which the plant may be put. Ferns in all stages of growth, form immense groups under the spreading Beech and other deciduous trees, but they get only a cursory glance in passing, as they are merely planted there until they show sign of developing their full character, when the best forms are transferred to more favourable positions.

The garden is stocked, in all probability, with a larger and more varied collection of subjects than any other of its size in the kingdom. Mr. Lowe is not a Fern specialist only, for herbaceous perennial plants in endless variety are planted in a manner more suited to their well-doing than to afford effect, and these meet the eye on either side on entering the garden. Straight in front there stands a withered stem of *Ferula gigantea*, 9 feet high, showing what it must have been the previous season; and at its base there is growing a group of a fine variety of *Forget-me-not*. A little further on is a plant of *Pyrethrum balsamita* (Lucense plant), a portion of the original plant from the gardens of the Vatican, and, as we all know, a plant with a history always has a special interest; another such is a species of *Pæony* found by Mr. Lowe on the Steep Holmes. Large pyramidal graceful specimens of Japan Roses are conspicuous objects. Immediately beyond these plants are *Michaelmas Daisies* in many varieties, several of them seedlings raised by Mr. Lowe. I may here relate one of the anecdotes he is fond of telling when walking among his plants. When living in Nottinghamshire before he came to Shirenewton, he related, he used to go to a barber's shop in the county town, which from its proximity to the railway-station was much frequented. One morning, on entering the shop, the barber then busily engaged in operating on a gentleman whose back was towards the door, he enquired of Mr. Lowe, with the familiarity of his craft, as to what particular plant he was at that time devoting his energies. Mr. Lowe told him *Michaelmas Daisies*, adding that he had over 200 seedlings

"Then you cannot sing 'Lack-a-Daisy,'" came from the gentleman, who proved to be the well-known Canon Hole, now Dean of Rochester.

A distinct form of Elder was noted, which I learnt was found in a wood near to the mansion by Mr. Lowe's coachman when riding to hounds, and since named *Quintholm Queen*. A group of older Ferns than those previously remarked, and possessing distinctive features, were admitted by Mr. Lowe to be good forms, but I am told something better will be seen further on. *Cynoglossum Omphalodes* was studied with its small flowers of a beautiful shade of blue. Then a fine collection of *Spiraea* in many varieties was remarked, including *S. prunifolia*, *flor pleno*, which should be more commonly cultivated than it is.

On a wall which intersects the garden, a variety of climbing plants are grown, including a large one of *Abutilon vitifolium*, the only protection the plant had during the winter being a covering of mats. Here was a magnificent specimen of *Hydrogea scandens*, which, though planted only four years ago, already covers a large space of wall. A lean-to house on the north side of this wall gives access to the Ferns. Just outside the door is a sunken pit built with brick up to the ground-level, with a shading of *Willesden* scrim over the glass. Here are the *Film*-Ferns, some of them very fine specimens, and all in robust health. Being removed to a distance from artificial heat, and afforded a humid place in which to grow and live, the *Film*ies are remarkable for health and vigour. The Ferns which gained so many honours at the Fern Conference held at Chiswick in 1890 occupy a sheltered corner. The plants that then did such good service are in the best of health, but better forms of many of the varieties, and in surprisingly large quantities, are distributed all over the garden, interspersed with a fine collection of *Narcissus* and other bulbous plants.

In a span-roofed house the miniature Fern, *Asplenium Trichomanes*, and the equally humble *A. Ceterach* in greatly improved form, keep company with the more rare *Kelwayi diversum*, except that they were denied the luxury of a bell-glass, which the latter demands. A cold frame in this section contains probably one of the finest collections of *Polypodiums* extant, the result of many raids on the walls of not distant Raglan Castle, the Welsh hills, vales, and several foreign countries.

The glass structures are largely devoted to Ferns, intermixed with uncommon plants. *Camellia Titiana*, one of Mr. Lowe's seedlings, which has, if I remember rightly, been twice figured in the *Gardeners' Chronicle*.

I was reluctant to leave Shirenewton and its gardens, a place where gardeners have a kindly welcome always, and where much is to be seen out of the ordinary run of gardens. J. McDonald.

### MOULDING-UP POTATOS.

As this is the season for the performance of work of this description, it seems to be a very fitting time to invite discussion as to the real reasons which may exist for the doing of work of this nature, work every gardener would be willingly saved from if it can be shown that it is superfluous. I have always been in favour of the practice, and so far as was practicable, always moulded-up Potatos. There have, however, been occasions such as is presented this year, arising from baked or dried-up soil, when the proper and useful performance of the work has been impossible. But under ordinary conditions, such as weather and soil usually presents, when Potato plants are of sufficient height, it is the rule to mould-up the plants, a rule to which there seems to be very few exceptions. The grower of Potatos in fields in a large way first works the horse-hoe freely amidst the breadths; then, when the soil has become well pulverised, sends the moulding-plough down between the rows of plants and casts up on either side a ridge of soil. In gardens where Potatos are grown in small breadths relatively, it is the rule to deeply stir the soil between the rows with hoes, at once destroying

\* E.g., Cornuta Perfection and Ariel.

weeds and pulverising the surface of the ground; and then to draw ridges of soil to the plants with the same tools. It is rough-and-ready practice, perhaps it may be termed rule-of-thumb practice, but done chiefly because it is ordinary practice, and without, in many cases, much intelligent comprehension as to the cause for such work being performed. Last year, having to conduct numerous trials of Potatoes on diverse soils in Surrey, the work of cleaning and moulding being done locally, and beyond my immediate control, I found late in the summer that one trial breadth growing on sharp and rather poor sandy soil, the only manure applied being of a chemical nature, had not been earthed-up as all the rest had been, and when

compared with moulding-up, may be obtained. So far as ordinary reasons for moulding-up Potato plants are furnished, they seem to be, first, the need for fully covering the newly-forming tubers with soil, so as to prevent deterioration from greening, by exposure to the air and light; second, to support the stems erect when subject to sweeping winds; third, to enable the rows to be readily found when the tops have died away; and, finally, by heaping soil over the tubers, to prevent, according to the Jensenian theory, contact of the disease germs or spores with the tubers, and thus preventing disease. This latter result, assuming that earthing-up does produce the desired protection, in any case can

assumed that fungoid spores would have been washed readily through a thin coat of loose soil, where there had been no moulding-up, into contact with the newly-forming tubers. And yet my experience was, on the land as stated, absolutely no disease, and a fine crop of tubers; whilst on other light though not sandy soil, and where there had been given the customary earthing, the crop was shockingly diseased—indeed, I have seldom seen it in worse form. However, all experience, I think, goes to show that, where the disease is destructive, mere ordinary earthings furnish little or no protection. Of Potato trials at Chiswick, there is a large one in prospective this summer. I have often in the past been greatly disconcerted because the tubers have been much diseased. The soil is light, but that may, after all, not be the real cause of these attacks. [We think it is, the rain freely carrying the spores to the tubers. Ed.] I have, however, noticed in lifting the tubers that the upper ones (for the crop is usually large) have been very near the surface. I have suggested that deeper planting may prove a palliative or perhaps higher moulding. In any case, whether so or not, it would be interesting to see the effects of these methods if applied.

But there has recently been made known, chiefly through American investigations, another reason for moulding-up Potatoes not previously understood. It is found, apart from the fact that some varieties have a far higher percentage of starch in them than others, that with some varieties and plants, the deeper the tubers are in the soil the greater the relative proportion of starch. If that be so, then it furnishes good reason, not only for moulding, but for deep moulding. No doubt sun-heat has much to do with the development of large tubers, and it is natural to assume that the nearer the tubers to the surface, the greater amount of heat. Those deeper in the soil are cooler, and it may be assumed that with them growth is slower, consequently the formation of starch is all the greater relatively. No doubt were small and large tubers from the same roots tested for starch, it would be found that weight for weight the larger tubers would have less, and the smaller more. If that really be so, how strongly does it exhibit the absurdity of growing such large tubers as are frequently seen, which are but masses of sap, whilst much smaller ones contain a far larger proportion of real food. Any analysis of Potatoes should be applied to tubers of the same variety, cooked and uncooked: to large and small tubers, to those near the surface, and those more deeply buried, and to some varieties from three or four diverse soils. Even farther may be, tested effects in starch-production of diverse manures so that experiments or inquiries in that direction may become almost endless. A. D.



MR. H. L. DE VILMORIN.  
(Veitch Medallist. See p. 734.)

the tops had died away the surface was as level as when planted. I commenced the lifting of the tubers with much concern, fearing that there would be found much disease. So far from that being the case, the crop throughout was perfectly sound, and really the heaviest relatively that was anywhere lifted. Many of the samples were wonderfully fine, and the entire crop elicited great admiration from all who saw it lying as lifted. I was so much impressed with the apparent effect on the crop of the non-moulding that in connection with a similar trial elsewhere on somewhat similar soil, I have requested that in the case of several varieties, of which there are several rows of each planted, that some two or three of the rows of plants remain unearthed, so that a fairer test of the relative effects of non-moulding, as

only be obtained when the moulding is very deep, such, for instance, as is found where true protective earthing is adopted. But earthing-up of this nature can only be efficacious when heavy penetrating rains prevail. When the weather is dry, it is a precaution that is, so far as crop-production is concerned, positively harmful. Last year we had, as all remember, a remarkably dry time up till August. It was specially a time when non-moulding might be regarded as beneficial, seeing that moulding does expose to the hot rays of the sun roots that it would doubtless be better to leave protected by such coating of soil as the ordinary flat-hoeing furnishes. But very heavy washing rains did come in the autumn, and with them the propagation rapidly of the Potato disease. It was a time when it may have been

### NOTES FROM TRING PARK.

SOUVENIR DE LA MALMAISON CARNATIONS.—These are not the easiest of plants to manage, and those who grow them in more or less quantity are always anxious to learn how Malmaisons have fared in places where they are extensively grown, whereby to form an opinion whether it is a bad year for the plant, and estimate their own failures or successes accordingly. Mr. Hill, gardener to Lord Rothschild, grows enough of these varieties of Carnations to fill several houses, but they chiefly consist of the flesh-coloured variety, with a good proportion of the Tring Park Pink form of it. This season the plants have done very well, some profusely-flowered, grand examples being noticeable. Few kinds of florists' flowers require a greater amount of skill to bring them to perfection, and few reward the cultivator so richly as these varieties of Carnation.

#### RICHARDIA PENTLANDII.

When the newer yellow-spined Callas, as they were called, were first introduced, every one sought for tests whereby they might be distinguished from *R. hastata*, a tolerably common plant in gardens, and some alleged that they might be distinguished by the presence or absence of the purple colour at the base of the interior of the spathe, but that this is not so is



proved by a strong plant of *R. Pentlandi* flowering at Tring Park which bears two flowers from the same crown, the one having a dark purple eye, and the other wholly of a clear yellow colour inside and outside the spathe, and showing no trace of purple colour at the base. A large number of the beautiful yellow *R. Elliotiana* and *R. Pentlandi* have flowered at Tring Park, and when seen together, it appears that the chief difference between these two is that the former has foliage spotted with white, while the latter has unspotted leaves.

## CULTURAL MEMORANDA.

### BOUGAINVILLEAS.

How rarely are fine well-flowered specimens of these plants to be seen, although if proper treatment is given them they are not at all difficult to grow. A few years ago excellent specimens of *B. glabra* were shown each year by Mr. Cox, of Corhampton Gardens, Bishop's Waltham, at the Southampton summer shows, and it may be well to give his mode of treatment.

It is most essential in the first place to obtain the cuttings from suckers, as flowering shoots never make fine plants. The soil for specimens should consist of equal parts good fibry loam and peat in a rough state, with an addition of dry cow-manure, and a good addition of coarse sand and charcoal. Good drainage is most essential. The training of the plants may vary at the discretion of the cultivator; but if grown as standards, the cutting when rooted should be grown on, and all side-growths removed until the requisite height is obtained, when the point should be pinched out to form a head. As soon as they have finished flowering, and their growths are thoroughly matured, they should be gradually dried off, and during winter they may be stored in a cool greenhouse. In spring, the greater part of the old soil should be removed, and the plants repotted, using the compost recommended above, at the same time tying the shoots into place for the forming of good-shaped specimens. To encourage them into growth, they should be placed in strong heat (a vinery in forcing suits them best), and watered sparingly until well-rooted. They delight in full sunshine; a slight shading is only required when the plants are in flower to prevent the sun from discolouring the blooms. Cuttings of flowering shoots, if taken when the flower first appears, and struck in strong bottom-heat, make nice little plants for table or conservatory decoration.

*Bougainvillea spectabilis*, although rarely seen at its best, may, I am sure, be grown successfully under glass in England, the main point in its culture being as much sunshine as possible, and drought at the roots. Plant it in a bed or border, where the water may be given sparingly. Here, in the Riviera gardens, it may be seen covering sides of houses with blossom, and it has well gained the name of "Glory of the Riviera." True, the greater amount of sunshine we get is favourable to the ripening of the wood, but the five to six months' drought we get during the summer is equally so, for I have proved that, if watered during this period, the plant does not flower so freely. *Riviera*.

### THE SOWING OF WALLFLOWER-SEED.

Seeds of the Wallflower should be sown in the second week in June for flowering in the spring of the year following. This I find is the best time for sowing in the midland counties, but in southern counties a fortnight later is better. Some cultivators sow the seed in May, and by so doing get plants which are too tall for small beds by flowering time.

Seed should be purchased from a trustworthy source, in order to have the colours true to name, and the plants of uniform height; home-saved seed is almost sure to get crossed with undesirable varieties, which are far too plentiful about cottage gardens and elsewhere, and then only disappointment awaits the gardener. An important point is to prick out the plants into nursery-beds as soon as they have reached a height of 2 inches, crawling in the seed-bed leading to legginess

in after-life. Plenty of space must be afforded them, and weeds diligently destroyed. One foot between the rows and 9 inches between the plants will be found suitable distances to plant in the nursery-beds. Choose a showery day early in September to begin operations, partially lifting the plants with a steel fork, so as to break the main roots, but leaving a ball of roots and soil intact, which, while it checks growth for a time, ensures lots of fibrous roots by the time the plants are transferred to the beds in which they are to flower. This final planting should be done soon after the middle of the month of October.

There are many strains of Wallflower seed now offered by the trade, but the old Belvoir Castle Yellow and Veitch's Dwarf Dark Red are the kinds which are grown at Belvoir for spring flowering, which give full satisfaction. A few of the double-flowered German varieties are grown, but these are chiefly for cutting; they have a rather formal appearance when growing, but if tastefully arranged in large vases, they look very pretty; being of a stronger habit of growth than the single varieties they are not quite so hardy, and should be wintered in a dry and sheltered position.

The old dark, double-flowered Wallflower, once common in cottage gardens all over the country, seems to be lost to cultivation, for though I have made many enquiries, I have failed to obtain it. The double-flowered yellow variety is plentiful still, also the small dwarf-growing yellow variety which recently gained an Award of Merit from the Royal Horticultural Society's Floral Committee under the name of Harpur Crewe. Can anyone give the origin of this variety? It came to Belvoir many years ago from Miss Hope, of Wardie Lodge. All of these old double kinds have to be propagated by cuttings (slips), which should be put in a handlight under a north wall as soon as they can be obtained. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

## THE UTILITY OF VINE GRAFTING.

THE question of grafting delicate Vines on other and stronger-growing varieties was discussed many years ago, when a number of new Grapes of excellent quality were raised, and in many cases discarded for the reason that they were poor growers or bad setters. There was not so much headway made as was anticipated, and in many cases strong-growing Vines were proved to be unsuitable as stocks for delicate-rooting varieties. My notes of observation date back over a period of many years. Some of our enterprising nurserymen used to prepare Vines by grafting them on stocks in pots; Muscat Hamburg was one that was frequently so treated, but the advantage from grafting appeared to be but of short duration.

Of late years I have seen much good attempted by grafting among our northern Grape-growers, but there is nothing of special note to record. Golden Hamburg was among the first which I made a special effort to improve, and I succeeded better with that excellent Grape than with any other. Grafted on Black Hamburg it produced large, finely-flavoured berries, which kept as late as the end of the year. Muscat Hamburg grafted on Black Hamburg, was a success for some years, though it gradually became very similar to those on their own roots, yet they always set well, and kept fairly well. It would be most pleasing to again see that Prince of Black Grapes exhibited as it used to be seen at the Edinburgh shows, when exhibited by the late Mr. Fowler, Castle Kennedy. The bunches were fine, and 6 lb. in weight, with berries nearly 1½ inches in diameter. Some years later the late Mr. Johnstone, then at Glamis Castle, grew them with remarkable success. In each of these cases the Vines were grown upon their own roots. I have a Vine of that variety now carrying ripe Grapes inarched on Foster's Seedling. It does fairly well, but the flavour is decidedly inferior to the same variety produced on its own roots; inarched on Gros Guillaume, the berries were somewhat smaller and more round; while on Alnwick Seedling they are much the same,

but bunches are more compact, and not better than those on their own roots. We have Duke of Buccleuch inarched on Black Hamburg, but I think it was more fruitful on its own roots. I should always prefer to grow it where the roots are entirely under control in a space confined by bricks and mortar. Gros Colmar grafted on Gros Guillaume is smaller in berry, and ripens earlier than the same variety grown on its own roots. White Tokay make a good stock for Gros Colmar. The greatest change in size and appearance on any Grape I have seen was Duchess of Buccleuch inarched on West's St. Peters. The bunches were shorter and wider, and the berries became nearly as large again as those from a Vine on its own roots. Madresfield Court has been often grafted on another stock, but in no case have we seen it larger in berry, finer coloured, and more free from cracking, than from Vines on their own roots. I have always seen it quite free from cracking when ripened in a house where abundance of air has been given, and the atmosphere kept quite dry. That is the treatment that Mr. Kirk at Alloa has given to those large and excellent bunches he has exhibited so often. Mrs. Pince has justly received more attention in the north, but I fail to see where it is superior to first-rate Lady Downes. We have still some of the latter fresh, and of fine flavour. *M. Temple, Carron, N.B.*

## CLIMATE AND TREE GROWTH.

Most people are aware that the latitude and longitude of a particular district afford but a very poor indication of the climate it enjoys. Proximity to the sea, a range of hills, or the difference in the elevation of the ground, make much difference in the climate and rainfall of two spots but a very few miles apart. The effect of these climatic variations are very evident in the condition and growth of vegetation in various districts. The budding of plants in spring, flowering in summer, and ripening in autumn, afford sufficient proof that plants are more sensitive to outer influences than animals, and that these influences exert what we may term a cumulative effect upon tree growth. Climate, to a limited degree, it is true, has rather a relative than an absolute effect upon vegetation in any one season. If temperature alone were to decide the active or dormant condition of our trees, we should have buds bursting in mid-winter, or shoots continuing their growth into December in some seasons. But there is in plants a certain periodicity of growth which is affected but not entirely ruled by climatic conditions, and which acts as a deterrent upon the curious inconsistencies of the weather. Continuous and uninterrupted growth for any length of time is almost an impossibility, and rest is as essential to plant as to animal life. In all perennials we find alternating periods of rest and activity comparatively constant and well defined, and whatever the weather may be, these periods vary by a few days only. It is during the growing stage, however, that climate chiefly asserts its influence, and by affording or withholding the necessary degrees of heat and moisture, promotes or retards growth. The effect of severe winter frost upon arboreal vegetation is largely determined by the weather of the preceding autumn. Should the latter be warm and sunny, the annual growth is thoroughly matured, and able to bear a greater degree of cold than badly-ripened wood. This condition of maturity is probably further reaching in its effect than would appear at first sight. The formation of buds in autumn is one of the most important functions of the whole season's growth, and upon this the growth of the following season greatly depends. When buds are imperfectly developed for successive autumns, the vitality of the tree is undoubtedly weakened, and its timber is more prone to decay. Injuries to such a tree by late frosts, &c., are less readily repaired than in the case of one with a good supply of reserve material stored up in its wood, the result of proper ripening.

The humidity of the atmosphere is also of importance in connection with growth. The effects of late frosts, and cold, drying winds, are greatly intensified or decreased, as the case may be, in situations

where the air-moisture is a few degrees more or less than the average. Late frosts may be highly injurious in one situation, and comparatively harmless in another, owing to the slope or exposure of the ground, its elevation, or a few days' difference in the state of forwardness of the trees. Species easily injured by frost when young, such as the Beech or Silver Fir, are rarely damaged in late life, for the reason that, in the late stages, the growing points are further removed from the ground and region of stagnant air, and also are late in commencing growth. Trees which naturally make a rapid and uninterrupted growth, as is the case with many of our introduced Conifers, are most likely to receive serious injury from late frosts. Most of our indigenous trees, apart from their constitutional hardness, possess special means of protection. The Pines, for

way in autumn or spring, and are comparatively inactive during the growing season of their hosts. In a climate where the winters are long and severe, the development of such parasites is necessarily restricted to the short autumn and spring, and their growth, compared with that of their host, is limited. Where, on the other hand, the average winter temperature is sufficiently high for the growth of the mycelium and the development of spores, the power such fungi are able to exert over their host is enormously increased, and the balance of Nature upset. This power is further increased when the health and growth of the host is affected in any way by adverse conditions. Should the latter be a species which is unusually stimulated by temperature and rainfall, so that in warm autumns its growth is not checked until the advent of frosty nights, it is evident that its wood

on in the vegetable kingdom. A very slight advantage or disadvantage may, in the course of centuries, determine whether a species is to predominate or become exterminated, and any cause which tends to hinder the development of a plant, is an advantage to those of its competitors which may not be affected by that cause. Spells of sunshine and cloud, heat and moisture, alternating with one another, favour now one and now another species, but the general effect depends upon a combination of circumstances which most nearly approach the optimum demanded by the most vigorous species present. What these conditions are we can only learn from experience, and then, as often as not, probably we arrive at an erroneous explanation of many phenomena observed in the development of a plant in any given locality. *A. C. Forbes.*

DISPLACEMENT AND REPLACEMENT OF THE NATIVE VEGETATION OF NEW ZEALAND.

In an Address delivered before the Philosophical Society of Wellington, New Zealand, and published in the *Transactions of the New Zealand Institute*, vol. xxviii., Mr. Thomas Kirk has brought together a large number of most interesting facts relating to the changes the native fauna and flora have undergone, consequent on the advent of civilised man. It is difficult to realise what changes have taken place in the vegetation of our own country since the dawn of civilisation, but they must have been very great, as a few isolated facts suggest. To give an illustration: Sussex, I believe, has a larger relative area under wood than any other English county, and certain parts appear to be practically undisturbed remnants of the primeval forest that covered the weald. In these reserves there linger, or lingered, until recent collectors extirpated them, such plants as *Hymenophyllum tunbridgense*, *Carex montana*, *Habeuaria albidia*, *Empetrum nigrum*, and *Sibthorpia europea*, which were never known to exist in the adjoining counties, though we may assume that they did formerly exist, and have been displaced, as they now occur only in distant western or northern counties. Known instances of introduced plants having spread nearly all over the kingdom are now numerous. *Veronica Buxbaumii* is a familiar example of a prolific colonist, and there is no doubt that most of the corn-field and domestic weeds, as well as many herbs formerly cultivated for household purposes, were originally introduced. Further, there is no doubt, that the indigenous flora was poor in species. But we have not the complete history of the changes wrought here directly or indirectly by man. In New Zealand it is otherwise. The native flora was investigated before it had been much disturbed by the immigrant people from the North, who have now spread all over the islands. And among the early, as well as the more recent settlers, were observant men who have from time to time recorded the rapid changes that have taken place around them. Mr. Kirk himself has been most active in this direction during the last thirty years or thereabouts—the period in which the greatest changes have taken place. Although man was the primary, and indirectly the sole cause, of these changes, he has been the means of starting many operating agents. Apart from subsequent results, the felling of the forests for timber and the firing of the bush for cultivation entirely altered the aspect of the country; but the introduction of foreign plants, animals, insects, and birds, have effected changes that could not have been foreseen, and changes incredible, were they not authenticated by competent observers. It is computed that 500 species of exotic plants have become more or less completely naturalised in New Zealand, and they pervade the country from the sea-shore to the highest limits the shepherds have reached in the mountains. Many have become so abundant in certain districts as to be much more prominent than the native plants, and many have reached and established themselves in localities where, in the absence of evidence to the contrary, they would certainly have been regarded



PROFESSOR CHARLES S. SARGENT.  
(Veitch Medallist. See p. 734.)

instance, merely push out the main axis of the shoot under a protecting sheath of bud scales for the first week or two of growth, and not until late in spring do their needles become exposed to danger. The Ash is particularly sensitive to both late and early frost, but as it begins growth late in spring, usually escapes injury. In the case of Beech, Oak, and Elm we find two distinct growths are made in most seasons, so that should the first be injured, the second (midsummer shoots) are able to compensate the injury. By such devices do our trees usually manage to evade or make good the dangers and casualties of a fickle spring, and by generally finishing their growth in good time, ensure a well-ripened condition of wood and buds.

It is not merely in connection with the growth of trees themselves, but in the development of their vegetable parasites also, climate plays an important part. Many of the parasitic fungi make most head-

cannot be properly ripened, and is consequently easily injured by frost and other causes which have little effect upon well-ripened wood. Should spores of a parasitic fungus gain an entrance into any of these wounds, the condition of the wood is highly favourable to their germination, and the growth of the mycelium, the latter penetrating the tissues without meeting with great opposition. Add to this condition of the wood, a mild and wet winter, and there is a combination of circumstances all in favour of the parasitic development, which may make it a deadly scourge in place of a comparatively harmless affection.

The effect of climate upon any species of tree is pretty accurately indicated by its range of distribution. If this be extensive, the species is usually hardy and suited to different conditions and surroundings; where limited, the reverse is usually the case. The reason of this is obvious, if we consider for a moment the struggle for existence which is continually going

as indigenous. In deed, what has taken place in New Zealand throws a new light on the geographical distribution of plants.

The displacement of such vigorous native plants as *Phormium tenax*, *Aciphylla* of various species, *Cyperus ustulatus*, *Pteris esculenta*, and *Leptospermum scoparium*, by introduced grasses and Clovers seem well nigh impossible; but we are assured that it is so, and the process is described. Anyone who knows these plants would have thought that they, having possession of the soil, no interlopers would have a chance in the struggle for existence, much less the relatively delicate grasses and Clovers. Dense masses of the formidable "Spaniard" and "Spear-grass" (*Aciphylla* spp.), absolutely impenetrable to stock of any kind, are gradually destroyed by this apparently impotent agency. On the other hand, some of the most valuable native grasses, *Microlæna stipoides* and *Danthonia pilosa*, for example, are able to compete and amalgamate with the invaders, to the great advantage of the grazier. Among woody plants capable of replacing and displacing the native vegetation, Mr. Kirk names *Epacris purpurascens*, *Eucalyptus* (various species), *Albizia lophantha*, *Acacia decurrens*, *Hakea acicularis*, *Robinia pseudacacia*, *Ulex europæus*, *Cytisus scoparius*, and *Rosa rubiginosa*, the three last being particularly troublesome.

With regard to the actual extinction of indigenous species, Mr. Kirk is hopeful, and believes that no large number will disappear unless under special conditions not yet experienced. Certain exceedingly rare plants may be exterminated by accident, or an unusually hungry rabbit or sheep. For instance, the beautiful *Clianthus puniceus* is now restricted to one or two islets where sheep are unknown, to which circumstance it owes its existence.

It is impossible to read Mr. Kirk's article without being impressed with its value and interest, and to speculate on what may have happened in countries of early civilisation. *W. Botting Hemsley.*

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

By C. HERRIS, *Gardener, Draymans, Maidstone.*

**BRUSSELS SPROUTS.**—The plants for the main crop, if they be large enough, may now be planted out. Choose an open situation where the plants will grow dwarf and strong. The land should be in good condition, and if a space of 2 feet 6 inches to 3 feet can be allowed between the plants, it will not be too much. Draw drills about 4 inches deep in which to put the plants, and it will facilitate watering if this be necessary, and the ground can be levelled during the process of hoeing.

**CARDOONS.**—If these have been raised in pots and hardened off as advised, they will now be ready for planting out in the trenches that have been prepared for them. Sufficient room should be given each plant for proper development, such as 2 feet apart in the rows, and if more than one row be required, place them from 3 to 4 feet asunder from each other.

**SALADS.**—Make sowings of Lettuce and Radishes once in every ten days. Mustard and Cress should be sown oftener, according to requirements. A small sowing of the curled type of Endive may be made, although for salading this is usually in little request while plenty of good Lettuces are obtainable.

**LATE PEAS.**—Make a last sowing of late Peas. If they are to follow some other crop on ground that has not been trenched and prepared for Peas, trenches should be thrown out and a good dressing of rotten manure dug in, as is done for Celery. If the late Peas usually suffer from the attack of small birds, it will be advisable that dwarf rather than tall varieties be now sown, that the rows may be the more conveniently covered with garden netting when pecking commences. Autocrat and Late Queen are suitable varieties, and they are less subject to mildew than some others. If the soil is dry, well water the drills a short time before sowing, and after the seeds are covered in, lightly tread the soil over them to prevent the evaporation of moisture, germination will then sooner take place.

**GENERAL WORK.**—Where Marrows are growing freely the ban-lights or other protection may now be

removed, and the longest shoots should be carefully pegged down to prevent their blowing about; more seeds may be sown to provide a late supply. The same treatment may be afforded ridge Cucumbers. Late Potatoes should be moulded up as soon as high enough, for if left until the tops fall over, the work cannot be properly done. A bed of the Silver-skinned Onion may be sown for pickling purposes. Sow the seeds broadcast, and rather thickly; they will not require thinning. A further sowing of a variety of Short-Horn Carrot may be made for the supply of young small roots later in the season.

### PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

**ERICAS.**—Specimen Ericas require very careful management during the warm months, which is the most critical season. They succeed best in a cool temperature, and much difficulty is experienced if a house is not set apart for their cultivation, in which the plants may be kept sufficiently cool and ventilated. Those specimens which are to flower this summer should be removed to the north side of a building, hedge, or wall, a temporary covering of glass sashes being placed over the plants. The summer sun should not be permitted to shine on the pots wherever accommodated, as it heats them to such an extent, that frequently the fine roots perish in consequence. The finest specimens of Ericas I have seen were managed during the summer season in the manner indicated; and it is one very well suited to the needs of the plants. If a house can be devoted entirely to Heaths, the management is much less difficult, and there need then be no makeshifts. Cultivators differ in regard to the potting season; my method, however, is to shift a flowering plant immediately after the flowering is past, and before fresh growth begins. It is at this period that disturbance at the roots causes the least amount of injury. The greatest care is necessary in re-potting aged specimens; only the most experienced gardeners should be allowed to undertake the operation. The pottio-g-soil should consist of the best fibrous hard peat, all peat of a spongy nature being avoided. The dark-coloured peat with a large proportion of sand in it is the best, and for large plants a considerable quantity of coarse silver-sand should be mixed with it after it has been pulled to pieces. The soil should be placed in a small quantity at a time round the old ball, after the outer roots are carefully loosened with a sharp-pointed stick, and rammed firmly with a tapered potting-stick, thereby making it quite firm to the very bottom of the ball. Good drainage and clean pots if new, soaking them in water before using them are indispensable; and to make it impossible for the drainage to get out of order, humps of peat should closely cover the mass of crocks. The soil of the ball and the new peat used in the re-potting should be in a moist condition. If the regulating and training and staking the shoots were operations that received attention during the winter, nothing will be required at the present season beyond placing the flower-trusses so that they may be seen to advantage.

**RHODANTHE MANGLESII.**—A good sowing of seeds of *Rhodanthe Manglesii* and *R. m. alba* should be made, for furnishing plants for the greenhouse in the late summer months. Sow the seeds thickly in a light compost in 5-inch pots, thinning the seedlings to twelve plants in a pot. Place the pots in a cool pit, and keep them near the glass to prevent spindling.

**PELARGONIUMS.**—Zonals for winter flowering should be turned out-of-doors on to a bed of coal-ashes, but afford them the final re-potting. For small young plants, pots of 6 inches diameter are large enough, as larger pots do not give more or better flowers, and the soil is difficult to keep free from conferva. Moreover, artificial or other manure can always be given when plants become pot-bound and the soil exhausted. Pinch the points of all the shoots, to give bushiness. The potting-soil should not be of a rich nature, and may consist of two thirds loam and one third leaf-mould, with sand in quantity, to prevent souring.

**ALOCASIAS.**—There are many handsome species and varieties, but few exceed the beauty of *Alocasia Sanderiana*. Next to that one I would place *A. Lowii*, then *A. metallica*, of which a well-grown specimen is difficult to beat. *Alocasias* thrive in a compost of fibrous peat, sphagnum-moss, and coarsely-broken charcoal, anything of a close nature being injurious to them. Throughout their season of growth, water at roots should be copiously afforded, and they should be shaded from bright sunshine. Some gardeners

dry off these plants in the winter; but for the generality of *Alocasias* this is detrimental, the roots perishing and the plants decreasing in size year by year. I find that water in sufficient quantity to keep the roots plump and healthy should be afforded during the resting period. Plants which lose their roots spend a great part of the growing season in replacing them, with the result that the cornus suffer. *A. macrorrhiza* is one species which may be safely dried off, the corn being of a very succulent nature; but all other species should have water only partially withheld.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

**APRICOTS.**—The final thinning of these fruits may now be made with safety. The exact number that should be left will depend on the variety and healthfulness or otherwise of the trees. A vigorous tree may perfect more fruits without showing weakness than a weaker one, and in all cases it is better to err by leaving fewer than more than the tree can properly perfect, as small fruits are but little appreciated.

**PEACHES, NECTARINES AND CHERRIES.**—Continue to make secure all young growths upon Peach, Nectarine and Morello Cherry trees, and thin the fruits upon the two former as required. Carefully remove and burn all blistered leaves resultant from the attack of the fungus *Exoascus deformans*. Trees which show unusual susceptibility to such attacks should be marked, that the trees may be lifted and root-pruned in the autumn, it being very probable that the roots have penetrated into cold and ungenial soil. Healthy trees with their roots close to the surface are seldom attacked with blister. Secure adequate protection from birds for the Strawberry quarters, and if some extra fine fruits are required for exhibition, some of the best trusses should be supported by forked twigs of sufficient length to keep the fruits well above the soil. Nets must be placed over Cherry trees as soon as the fruits begin to change colour, or the blackbirds and thrushes will soon succeed in clearing the trees. When the stoning process is over, and the fruits commence their final swelling, it is extremely important that the roots be not allowed to lack moisture. Thorough soakings of manure-water will greatly conduce to the swelling-up of the fruits.

**GRAFTS.**—Many of the young grafts are growing freely, and now require to have the old fastenings removed, that the natural swelling of the stocks may not suffer any hindrance. It is advisable, however, to retie the grafts (not too tightly) for a while longer, and a stick should be tied to the stock for the purpose of supporting the scions, to prevent dislocation by the wind.

**MISCELLANEOUS.**—The young shoots of red and white Currants are badly infested with aphids, but if the points be pinched-off and burnt, it will, in most cases, clear the trees. Gooseberry-trees, if likewise attacked, should be similarly treated. Where Pear or Apple-trees have set heavy crops of fruit, some of the smaller ones should be removed, and at the same time take away and burn all that have been attacked by caterpillars.

### THE ORCHID HOUSES.

By W. IL WAITE, *Orchid Grower, Burford, Dorset.*

**SPECIES OF CHYSIS.**—Plants of *Chysis bracteosa*, *C. Sedeni*, *C. Limnighei*, *C. aurea*, and *C. Chelsoni*, during the summer months, should be suspended in a warm, shady part of the Cattleya-house, for if kept in the East Indian-house, the younger leaves assume an unhealthy hue, and insects of various kinds will usually upset them. For a period of a week or ten days after removal the plants should be sparingly afforded water, or the slight check the change of abode causes may cause the loss of the young growths from damp, but copious applications will be necessary afterwards. As summer wanes the plants should be replaced in the warmest division to complete and mature their growth and pseudo-bulbs.

**ODONTOGLOSSUM CITROSUM.**—This fine species should, now that its flowering season is past generally, be re-potted or top-dressed as the case may suggest. Owing to the flower-spikes being pendulous, baskets or shallow pans which can be suspended from the roof are better than flower-pots, and as this species does not make many roots, the baskets or pans should be relatively of the smallest size, and ample drainage should be afforded, over which

a layer of sphagnum-moss should be placed so that the lowest roots may be kept moist during the growing season. Fibrous peat and fresh living sphagnum, with a handful of broken crocks mixed with these to keep it porous, make an excellent compost for this plant. Pot firmly, as by so doing the pseudo-bulbs retain their plumpness longer when the season of rest arrives, than if the materials are loose. *O. citrosum* is one of the few species of *Odontoglossum* which requires a warm temperature. It should be suspended close to the roof of the Cattleya-house, where it gets plenty of fresh air at all times. For a fortnight after re-potting keep the compost merely moist, but after that time has elapsed water copiously, and keep it up till the new growths are matured. Some cultivators syringe them overhead at closing-time, but this is better omitted, unless the plants are so placed as to be exposed to sufficient sunlight to enable them to get dry quickly. Careful cultivation is necessary, and when *O. citrosum* is really well grown, few plants are more beautiful, or have a more distinct appearance.

**MILTONIA VEXILLARIA.**—In many collections these plants will be going out of flower, and nothing should be done that will induce growth, because the longer the period of rest this species enjoys, the stronger will be the new breaks when the season of activity recommences. For the next six or eight weeks the plants should be afforded a light position in the cool-house, exposed to as much fresh air as the rest of the occupants. Very little water will be necessary to keep the pseudo-bulbs and foliage plump and healthy till new growth appears. The distinct and late-flowering varieties of *M. vexillaria*, as *M. v. rubella*, *M. v. Leopoldi*, and *M. v. sup rba*, may also be removed to the cool-house. The hybrid, *Miltonia Bleuana*, should always be kept in the intermediate-house. It is a species that begins to make growth at this season, and close observation must be kept on the young growths for a species of small yellow thrips, which quickly infest them, causing the foliage to take on an unsightly appearance throughout the growing season.

**EPIDENDRUM VITELLINUM.**—This bright-flowered plant, now passing out of bloom generally, should be re-potted if this be required. It does not require much root-space, but much moisture is necessary till growth is completed. It will generally be found to do well in a light, airy position in the cool-house. For providing flowers which last for several weeks when cut, and for the general effect they produce when arranged with *Odontoglossums* of the crispum section, this species is amongst the most useful that can be grown.

**ODONTOGLOSSUM GRANDE.** *O. Schlieperianum*, *O. Inseayi*, and its variety, *leopardinum*, will now be starting to grow, and the plants should be re-potted into a very porous compost, for although they delight in plenty of water when growing, it should pass away quickly, otherwise the fleshy roots will be very liable to decay. As the breaks push up, and the leaves expand, see that no water lodges in the centre of the growths, or they will probably damp-off.

## THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**WORK IN GENERAL.**—Now that true summer weather has set in over most parts of the country, the planting-out of the tenderest bedding plants may be proceeded with, including Dahlias of all kinds, and the various species of plants used in sub-tropical gardening. In parts where the rainfall has been light, due attention must be given to affording water to plants of all kinds in beds; and in some instances an occasional stirring of the surface of the beds with a small short-handled hoe will be of benefit to them in giving a more ready entrance to water, and in aerating the soil, besides making the beds more trim-looking till such time that the plants cover the ground. All plants needing support should be securely staked and tied as soon as they are planted. The grouping on the lawns and other places of plants in tubs and pots may now be proceeded with. These include the hardier species of Palms, Bamboos, Plumbagos, Lemons and Orange-trees, Myrtles, Tree Ferns, Fuchsias, *Cordylina australis*, Pomegranates, *Yuccas* in variety, Ivy-leaved *Pelargoniums*, &c. By plunging the pots (tubs must not be plunged) up to their rims in the turf, or in beds of fine gravel, taking care that no worms can enter the pots, a great saving in watering will be ensured, and the unsightly appearance of the pots avoided, besides more stability given to the plants against wind. Plants of 6 feet or more in height should be secured to stout stakes,

which should be kept out of sight as much as possible. The mowing of lawns and verges, and clipping the edges of the turf as occasion requires, will require constant attention, as will the weeding of garden walks and carriage-drives.

**GLADIOLUS.**—The earliest-planted being now advanced in growth will require water at the root unless rain has been very abundant, the soil being stirred with the Dutch-hoe previously to applying water. Afterwards, a mulch of short dung in a rotten condition should be afforded to beds or patches of the plants.

**SEEDLING CARNATIONS** may now be planted in beds or lines of well-dressed, deeply-dug land, at about 18 inches apart. If these are raised from early sowings, there is still time for many of them to flower the present year, and those which do not may be lifted and potted in October, or allowed to remain for flowering next year. In very damp land it is, however, best not to risk the plants out-of-doors during the winter, but to pot up all.

**ROSA RUGOSA.**—This species is in excellent form, with foliage fresher and brighter than that of any other Rose; and although most other Roses are greatly infested this year by various kinds of insects, *R. rugosa* has so far escaped their attentions, and the plants are flowering with freedom. Our plants of it are not hard-pruned, many of the branches being left at full length, thus giving it an appearance more in harmony with its surroundings in the shrubbery and wild garden.

**AUSTRIAN BRIARS** are also blooming freely, and the ephemeral nature of their flowers is compensated with their extraordinary abundance in such years as the present. The colours of the flowers are so strange and yet so charming, that no garden of any extent should be without them.

**BORDERS OF HERBACEOUS PERENNIALS.**—In old borders many of the plants are flowering freely, and the decussata *Phloxes*, tall *Delphiniums*, perennial *Lupins*, and plants generally which make great numbers of flower-stems should be examined forthwith, and have all of the weaker stems cut away at the base, thus throwing energies of the plants into the stems that are left, with the result that the flowers and flower-heads are much finer than would be otherwise the case. It is, however, work that needs careful doing, to avoid giving an unnatural appearance to the plants. Many herbaceous perennials require stakes for tidiness' sake, but they must not be bunched up, but each plant should be allowed to assume its proper character. Attend to the watering of such plants as appear to be suffering from lack of moisture at the root.

**GARDEN PINKS**, although now in full bloom, have not suffered from the drought [they like it. Ed.], but look very healthy. Propagation of Pinks from pipings may take place as soon as the general flowering period is over and the grass of sufficient length. Pinks root well in sandy soil in frames or hand lights, keeping them close and shaded till renewed growth is seen; then air gradually, and in a fortnight give full exposure.

## FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

**THE EARLIEST PEACHES AND NECTARINES.**—As soon as a tree is cleared of its crop of fruit, much of the wood which has borne it should be removed, which will allow the sun and air to reach next year's bearing-wood. Should red-spider or plant-lice infest the trees, employ the garden-engine or a powerful syringe, and some good kind of insecticide, or use soft-soap at the rate of 2 oz. to the gallon of soft-water, which will be found a very efficient remedy if it be applied warm and rather forcibly, so that the under-sides of the leaves be well wetted. If there are no insects on the trees, washing with soft clean water only will be necessary to remove all dust and dirt from the stage, daily syringings being afforded to keep it clean. The borders should be kept in a moist condition, and, if necessary, fresh mulchings of short manure may be applied to them. Admit plenty of air at all times, and endeavour to preserve the foliage in health as long as possible, the starving of the plants in any form being avoided, as it causes premature ripening of the leaves.

**SECOND EARLY AND LATER HOUSES.**—Plenty of air should be admitted by day to ripen fruit, and a certain amount of circulation during the night by means of the ventilators at the top and bottom of the houses. Keep the borders thoroughly moist,

and afford the fruit all the light possible, tying aside leaves or shoots which shade it. The fruits should, in most cases, be gathered a few days before required for use, going over the trees each day and taking such as are found to part readily from the stalk, storing them in a dry, cool room. In dull weather the fires should be made use of to ensure a circulation of air in the houses. In the late houses disbudding and thinning the fruit will now have been finished, and where the new shoots are crowded, remove a few to afford more space for those that remain. In favourable weather, ventilate the house freely, and close it in good time, syringing the trees twice a day. Mildew, if it should appear, must be checked without any delay, or the crop of fruit will be spoiled, and the trees much injured. The best remedy for mildew on the Peach is to spray with  $\frac{1}{2}$  oz. of sulphide of potassium mixed in 1 gal. of water applied in the evening, the dressing being repeated if it be deemed necessary. If aphid infest the points of the shoots, pick off and burn the curled leaves, and then fumigate the house for a few nights; and should the daily syringings not suffice to destroy red-spider, use soap-suds instead of clean water for a day or two, or till the foliage is freed from the pest.

## THE APIARY.

By EXPERT.

THE cool weather experienced in this part (Berks), has in a great measure prevented the bees from swarming, and also stopped them from doing much work, but in the more southern parts of England the sections will be found to be half or three-parts filled, and in some cases quite full; it is then better to raise the crate and place another underneath it, filled with starters or full sheets of foundation, the latter way being the best, as this will give the bees a good chance of filling two lots of sections at the least, as they will generally travel up through an empty one to finish off, filling and sealing the sections which have been raised up, whereas if the empty crate is raised on the top, the bees do not in all cases take to it so readily when the sections are fit to come off. The best thing is to use a "Porter Bee Escape," which can be bought for 1s., and fixed in a board the size of the crate, and placed underneath it, the bees who do not care to be separated for long from the chamber below will soon commence to pass through the escape, which also prevents them from returning. If this is placed on in the evening, the sections in the morning will be found free from bees, and ready to store away in a dry place free from dust and insects. For extracting honey, the following method may be adopted with success:—Take two strong stocks, and from one of them remove all the combs, brushing the bees back gently into the hive; place the combs in an empty hive, and fill the hive from which the brood-combs were taken with empty combs, if you have any by you, if not with comb foundation. The hive with the brood-combs is now placed on the top of the other stock, which forms a second storey, by which means a double set of combs are given; the hive full of comb is soon filled with bees, and this large number of bees will soon fill the frames with honey, which can be emptied by the extractor and again returned—by these means swarming is in a great measure prevented. Where it is wished to start fresh colonies by swarms, care should be taken that they are well fed for a few days in wet weather, as they then have no chance to collect honey; care should also be taken to keep the hive level. Keep a careful look out for toads, as they are most destructive to bees.

## THE SEASON IN THE NORTH OF SCOTLAND

—The season hitherto, writes a Northern correspondent, has been exceptionally fine—perhaps the finest within living memory. Fruit promises an abundant crop, and it is more abundant on trees whose blossoms expand late. Gooseberries, in some localities thin, are generally very abundant; and the same report has to be given of Strawberries. Vegetables were, perhaps, never so far advanced. Potatoes are already of a good fair size, even those planted in the open border without starting. Sharpe's Victor, an Ashleaf, is conspicuous as one of our best earlies. It will soon be ready for table use—indeed, in some districts it is now being used. In the end of April and during the whole of May, autumn-planted Cabbages have been cut; while of Broccoli there was hardly a head but reached maturity. Young Carrots and Onions are already being used. As a whole, the garden may be said to be nearly three weeks earlier than usual. Grateful rains have fallen during the past few days.



## EDITORIAL NOTICES.

## ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

## APPOINTMENTS FOR THE ENSUING WEEK.

SUNDAY,	JUNE 14—	Brussels Orchidéenne Meet.
WEDNESDAY,	JUNE 17—	York Floral and Hort. Fête Roy. Hort. Soc. deputation. (Three days.)
THURSDAY,	JUNE 18—	Linnean Society. Colchester Rose and Hort. Show. Royal Gardeners' Orphan Fund (Annual Dinner).
FRIDAY,	JUNE 19—	Roy. Bot. Soc. Lecture.

## SALES.

THURSDAY	JUNE 18—	Clearance Sale of Greenhouse Plants and Garden Utensils, at Hollywood, Putney Heath, by Protheroe & Morris.
FRIDAY,	JUNE 19—	Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—61° F.

The Royal Horticultural Society. The vitality of the Royal Horticultural Society is really astonishing. Who that remembers the evil days it passed through could have anticipated the measure of success it has attained since it made horticulture its first consideration, and abandoned those ruinous attempts to conciliate the fashion and frivolity of the town? To come to this present week, who could have anticipated, so soon after the Temple show, that the next ordinary meeting would be so extensive and so brilliant? The Drill Hall, which was adopted as a temporary meeting-place in default of any other, is now seen to be all too small in the summer season. The fortnightly meetings have developed into large shows. It may be ungracious to say so, in view of the magnificent exhibition of Tuesday last, but we fancy most plant-lovers would prefer the old fortnightly meetings, when it was possible to see and examine carefully the relatively small number of new and interesting plants that were brought together for the consideration of the experts. As things are at present, the exhibits are so numerous that anything like critical inspection is out of the question, especially when the number of committee and other meetings which are held on the same day is considered. To take one instance which attracted our attention: never we suppose was so extensive a collection of the species of *Brodiaea* brought together as was done by MESSRS. WALLACE of Colchester on Tuesday last. How valuable this was for botanical purposes, how interesting from the point of view of decorative horticulture, but, as careful examination was out of the question, the opportunity was necessarily

lost. The same may be said of some of the Orchids, the Roses, the Alpine plants, the Streptocarpus, and the Cinerarias shown by Mr. LYNCH. But, after all, the fine show of hardy shrubs, the specimens of Streptocarpus, the noble plant of *Carpenteria* in full bloom, the brilliant Roses, Peonies, and Larkspurs—but are not all these duly chronicled in another column?

Among the special proceedings of the day we may note the presentation by the President of the Society of the Medals awarded by the trustees of the VEITCH Memorial Fund to the distinguished recipients selected for the honour. Unfortunately, M. H. L. DE VILMORIN was unable to be present by reason of a family bereavement; whilst the broad Atlantic prevented the presence of Professor SARGENT. The other two—Mr. MALCOLM DUNN and Mr. F. W. BURBIDGE—were happily present, and the applause with which they were greeted suffices to show that the trustees had exercised a wise discretion in their choice. The work done by all four of the medallists is too well known, and too highly appreciated by the horticultural community, to necessitate any lengthened comment; but we may appropriately avail ourselves of the words of the President in making the respective presentations:—

HENRI LEVÉQUE DE VILMORIN, "for distinguished services to scientific horticulture."—The head of the firm of VILMORIN, ANDRIEUX & CIE., of Paris, which originated more than 150 years ago, and was established in the same locality in which the principal offices now stand—the Quai de la Mégisserie, in Paris. M. VILMORIN's great-grandfather became the head of the firm in 1781, after his marriage with the only daughter of the former head, M. ANDRIEUX, and from thenceforth it became known under its present title. From him (PHILIPPE-VICQOIRE DE VILMORIN), the headship has descended to the present M. HENRI DE VILMORIN, under whose direction it has grown in importance still more rapidly than under his predecessors, and has extended its business relations to all parts of the world where agricultural and horticultural seeds are in request. Besides the central establishment on the Quai de la Mégisserie, it has extensive seed warehouses in the Rue de Reuilly, large nurseries at Verrières near Paris, and at Antibes on the Mediterranean coast, for the cultivation of choice flower seeds; also seed-farms for the production of vegetable and other seeds. In these various establishments upwards of 400 hands are employed. All the Vilmorins who have directed the firm have been distinguished not less by their scientific acquirements than by their sound practical knowledge of horticulture and its requirements, but none in so high a degree as he whom we honour to-day. Under their direction various useful treatises on horticultural subjects have been issued by the firm from time to time, and among these the recently-published *Les Plantes Potagères*, prepared under the immediate care of M. HENRI DE VILMORIN, is unquestionably the best of its kind that has ever been compiled; it is not only a work of the highest utility to the gardening public at large, but it also possesses great merit from a scientific standpoint. It is worthy of note that the firm of VILMORIN & CIE., under the able direction of its present chief, has not only effected great improvement in many of the ordinary vegetables, but it has also pressed into service edible plants previously neglected, and introduced others for the first time into cultivation. M. HENRI DE VILMORIN is the recognised chief authority on horticulture in France, he is premier Vice-President of the Société Nationale d'Horticulture de France, he has travelled much and often, and has acquired an experience of horticultural matters probably unsurpassed by any living horticulturist.

F. W. BURBIDGE, "for eminent services to scientific horticulture."—Mr. BURBIDGE commenced his horticultural career as a student in the Royal Horticultural Society's gardens at Chiswick, whence he

removed to Kew, where he attended the lectures on "Botany and Vegetable Physiology." While at Kew, he also attended the examinations in botany and horticulture held by the Society of Arts, at which he obtained several first class prizes and certificates.

From 1873 to 1877 he was one of the most active of the staff of *The Garden* newspaper started by Mr. W. Robinson. During this period he wrote several works on gardening subjects, including *Cool Orchids* (1875), *Domestic Floriculture*, still the best of its kind in the English language; *A Monograph of the Genus Narcissus, and Cultivated Plants* (1877), an excellent text-book for young gardeners.

In 1877—1878 he went on an exploring mission to North Borneo for the Veitchian firm, during which he visited the little-known Sulu Archipelago. This mission resulted in the introduction of several plants new to British gardens, including *Cypripedium Lawrenceanum*, one of the finest of the genus. Mention may also be made of *Burbridgea nitida*, a Scitamineous plant previously unknown to science, and upon which Sir J. D. HOOKER founded the genus, "in recognition of his eminent services to horticulture" (*Botanical Magazine*, t. 6493). After his return, Mr. BURBIDGE published a narrative of his mission entitled *Gardens of the Sun*, a work of considerable literary merit, and which doubtless did much to secure for him the honorary degree of M.A., conferred on him by the Dublin University in 1888.

In 1879 he was appointed Curator of the Botanical Garden of Trinity College, Dublin, to which was added the Keepership of the College Park in 1894. Mr. BURBIDGE is a Fellow of the Linnean Society of London, a member of the Royal Irish Academy, a life member of the Royal Dublin Society, a member of the Scientific Committee of the Royal Horticultural Society, and an honorary life member of the Scottish Horticultural and Botanical Society.

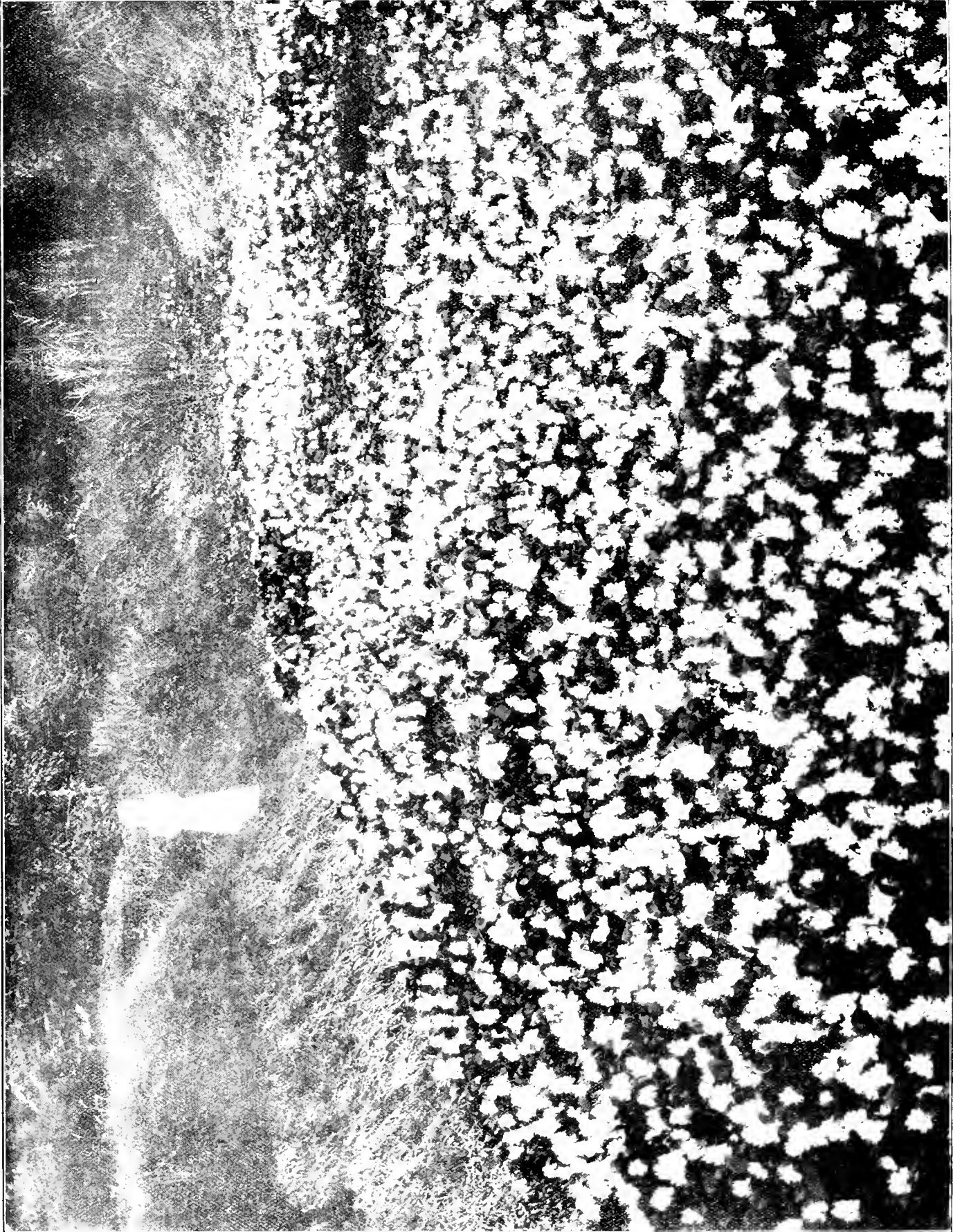
MALCOLM DUNN, "for eminent services to horticulture and Forestry."—Mr. DUNN was appointed to the Dalkeith Palace Gardens in 1871 in immediate succession to WILLIAM THOMSON, one of the most successful Scotch gardeners of his time, and the best cultivator of the Grape-vine. By his untiring energy the high reputation of the Dalkeith Gardens was fully maintained by Mr. DUNN, and they are known far and wide to be among the best managed north of the Tweed.

Mr. DUNN's exertions in the cause of horticulture have not been confined to his own immediate sphere. In the same year in which he became head gardener at Dalkeith he was elected to the Council of the Royal Caledonian Horticultural Society, a position he has held ever since with the exception of short intervals of one or two years at the end of every six years, the term for which every councillor is elected. He has also been on the Council of the Scottish Arboricultural Society since 1872, and has served twice during this period a three years' term as Vice-President, a position that involves many onerous duties. He was one of the originators of the great Forestry Exhibition held in Edinburgh in 1884, which contributed much towards bringing before the British public the importance of scientific forestry as applied to the profitable planting of trees on waste and other lands in this country. But Mr. DUNN's most enduring service to arboriculture has been the collecting of materials from which he compiled the statistics of Conifers published in the Report of the Conifer Conference of the Royal Horticultural Society held at Chiswick in the autumn of 1891.

Besides the official positions held by Mr. DUNN in the above-named societies, he is also a member of the Scottish Horticultural Association, instituted in Edinburgh in 1877 to promote the cultivation of florists' flowers (*Chrysanthemums*, &c.), of which he filled the office of President for the first five years. He is also a Fellow of the Royal Horticultural Society, of the Edinburgh Botanic Society, of the Highland Agricultural Society, and several others.

Professor C. S. SARGENT, "for eminent services to scientific forestry and arboriculture."—The Director of the Arnold Arboretum, near Boston, Massachusetts, the most complete of its kind in North America, and planted under his own superintendence. The Pro-





WATER-HYACINTHS, PONTEDERIA CRASSIPES, BOTANIC GARDEN, PORT DARWIN.

essor has long been known in Europe as well as in America as one of the most able exponents of arboriculture; his knowledge of hardy trees, especially of those of N. America, is profound. His great work, *The Sylva of North America*, now complete to the end of the ninth volume, will long remain an enduring monument of his scientific labours. Scarcely less valuable are his smaller works on *The Forest Flora of Japan* and *The Woods of the United States* [and his Teuth Census Report on the Trees of the North American Continent]. Also his papers contributed to the *Garden and Forest*, of which he is chief Editor. His powerful protests against the wanton and wasteful destruction of the Coniferous forests of the Pacific and other States have unquestionably done much towards bringing about the intervention of the Legislature and the establishment of "reserves," &c.

This pleasing ceremony over, the fellows present were entertained and instructed by a singularly lucid account of the movements exercised by the various parts of plants in the course of their growth, and in response to various stimuli. The lecture was delivered by the Rev. Prof. HENSLow, and illustrated by numerous lantern-slides thrown on the screen, and taken mostly from DARWIN'S *The Power of Movement of Plants*. A more instructive lecture has rarely been delivered before the Society.

**PONTEREDIA CRASSIPES** (see Supplementary Illustration).—In this country we value this aquatic-plant for its singular leaf-stalks, inflated like a balloon. By their agency it is enabled to float on the surface of the water. It is not so infrequent inmate of our stove-aquaria, where its spikes of blue flowers are occasionally seen, but such a mass of flower as is shown in our illustration, is not likely to be witnessed here. Our illustration is taken from a photograph obligingly furnished by Mr. NICHOLAS HOLTZE, Curator of the Botanic Gardens, Palmerston, Port Darwin.

**LINNEAN SOCIETY.**—At the annual meeting held on Thursday June 4, Dr. GÜNTHER was elected President in the room of Mr. C. B. CLARKE, resigned. The other officers continue their valuable labours. The Treasurer, Mr. CRISP, found it necessary to give a warning against disproportionate expenditure, but as the expenditure was chiefly devoted to publications and to the improvement of the library, while the reserve-fund is still in a satisfactory state, in spite of sundry sellings-out, the Fellows did not appear to be made very anxious by the Treasurer's forecasts. Nevertheless, it is obvious that means must be taken either to increase the income of the Society or to lessen its expenditure, which latter could not be done without impairing the value of the Society. The Linnæan Medal, given alternately to a botanist and to a zoologist, was this year awarded to Professor ALLMANN, a former President of the Society. The medal was received on Dr. ALLMANN'S behalf by Sir JOSEPH HOOKER, who, in felicitous terms described the career of the distinguished naturalist, which, he said, had been passed, as it were, in the shadow of LINNÆUS, from the time when the youth took delight in determining the plants he collected by means of SMITH'S *Flora*, till the present, when the Linnæan Society conferred upon the venerated Professor the highest honour it is in its power to bestow.

— On the occasion of the evening meeting, to be held on June 18, at 8 P.M., the papers to be read are:—1, "On the Inter-muscular Bones of Fishes," by Professor T. W. BRIDGE; 2, "On the Relation of the Growth of Foliage-leaves of the Chlorophyll-function," by Professor MACDOUGAL; 3, "On the Value of Specific Characters," by Dr. A. R. WALLACE, F.R.S.; 4, "Descriptions of some New Species of Forficulide, in the Collection of the British Museum," by W. F. KIRBY, F.L.S.; and, 5, "On the Epiphragm of *Helix aspera*," by Professor G. J. ALLMAN, F.R.S., F.L.S.

**GARDENERS' ORPHAN FUND.**—We may remind our readers that the annual dinner of this excellent

institution will be held on Thursday, June 18, at the Hôtel Métropole, Northumberland Avenue. His Grace the Duke of BEDFORD, maintaining the traditions of his house, will preside at the festival. We earnestly hope that he will be well supported on the occasion.

**THE BOTANICAL MAGAZINE.**—The June number contains coloured figures and descriptions of the following plants:—

*Agave larifolia*, Baker, a caulescent species, with finely serrulate leaves and tall scapes, bearing globose heads of flowers arranged in loose terminal racemes, Royal Gardens, Kew; t. 7477.

*Habenaria Elwesii*, J. D. Hooker. A green-flowered species, with deeply-divided petals, and a horn-like process on the lip at the mouth of the spur, on the side opposite the column. Native of the Nilghiri Hills. Flowered in Mr. Elwes' garden at Colesborne; t. 7478.

*Phaius mishmensis*, Rehb. f. In this species the racemes of flowers proceed from the side of erect leafy stems. Each flower is about 2 inches across, dark rose-coloured, with a yellow spur. The species is a native of the Eastern Himalaya, whence it was introduced to Kew by the Earl of SCARBOROUGH; t. 7479.

*Eranthemum reticulatum*. A stove shrub described in these columns in 1875, vol. i., p. 619. [Oct. 3, 1874, p. 430.] It has ovate-lanceolate green leaves, speckled with golden variegation; t. 7480.

*Episcia densa*, C. H. Wright. A native of Demerara, with long stalked oblong-acute leaves, claret-red on the under-surface. The yellow tubular flowers are in clusters, the outer surface of the calyx-lobes red, like the dorsal surface of the leaf, green within; t. 7481.

**NATIONAL VIOLA SOCIETY.**—A meeting of the committee, presided over by Dr. SHACKLETON, of Sydenham, was held in the Museum of the Royal Botanic Society, Regent's Park, N.W., on the 8th inst. The hon. secretary, Mr. A. J. ROWBERRY, reported a rapid development of the society, nearly 100 members having been enrolled during the past two months. Final arrangements were made for the show to be held in the Botanic Gardens on the 20th inst., when it is anticipated that a very fine display will be made, the recent rain coming at the right time for the growth of exhibition blooms.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—We are asked to acknowledge the following contributions, which were omitted in a former list, making the total amount received as a result of the Festival Dinner, £2200:—

Mr. George Monro's List ... 25 0 0	(including his and Mrs. Geo. Monro's donation of £5 ss. each).	Per Mr. N. Sherwood ... Messrs. Haage & Schmidt ... 1 1 9	Per Mr. Sherwood—Cont. Mr. E. F. Fitch 1 1 0 Mr. David Smith 3 3 0 Mr. Jameson ... 3 3 0 Messrs. Dippe Bros. ... 1 0 0 Thames Bank Iron Co. per Mr. W. Y. Barker ... 17 17 0 Per Mr. H. J. Cutbush ... 11 11 0
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— Arrangements are being made, we believe, for holding a meeting for the furtherance of the aims of this society on the 17th inst. in the Gala Field at York. The committee has granted the use of their tent, and the meeting will be held at 4 o'clock. The Right Hon. the LORD MAYOR OF YORK has been asked to preside, and among those who are expected to address the meeting are Sir TREVOR LAWRENCE, Bart., Mr. H. J. VEITCH, and Mr. G. J. INGRAM, the Society's secretary. The local hon. secretaries are Mr. H. J. CLAYTON and Mr. McINTOSH. We wish the meeting every success possible.

**THE AGRICULTURAL SEED TRADE ASSOCIATION. 6, MARKET BUILDINGS, MARK LANE, LONDON, E.C.**—On Monday, 1st inst., the annual dinner of the Agricultural Seed Trade Association was held at the Holborn Restaurant, HERBERT LE MAY, Esq., in the chair, ARNOLD MOSS, Esq., being Vice-Chairman. After the usual preliminary toasts, the leading toast of the evening was proposed by the chairman in the following terms:—"I now have to

propose to you the principal toast of the evening, viz., 'Success to the Agricultural Seed Trade Association.' This society, formed in the interests of those engaged in the seed trade, has gradually grown until it now numbers amongst its members all the leading firms. One amongst the many objects for which the association was started was the settlement of disputes between the members without recourse to law, and in this, as you are well aware, it has been thoroughly successful, many a small difference being settled amicably by arbitration which otherwise might have grown into a costly law-suit. It has done most excellent work in the past, and I have no doubt that under the hands of the present able directorate, it will continue to flourish in the future."

**LA MORTOLA.**—The MARCHESE HANBURY sends us the following list of some interesting plants at present in flower in the open air at La Mortola, near Mentone:—

Agave ferox	Isomeris arborea
Anthoecercis littorea	Isoplexis canariensis
" viscosa	Isopogon formosus
Banksia gracilis	Laurus Camphora
Bauhinia candida	Leucadendron globularia
" bryoniifolia	Lotus pelorhynchus
Brachyichiton populneum	Lycium atrum
Burchellia capensis	Obolontospermum maritimum
Cesalpinia sepiaria	Pavonia premorsus
Cantua bicolor	Persea gratissima
Capparis spinosa	Pilocarpus plantifolius
Carpenteria californica	Pithecolobium buccinatorum
Cheiranthus mutabilis	Quilaja saponaria
Convolvulus floridus	Raphiophyes rubra
" oleifolius	Rogiera litifolia
Echinocereus argyrenus	Rosa Rupini
Franciscia eximia	Roupala Pohlil var. multifluga
Goldfussia isophylla	Rulingia corylifolia
Grevillea buxifolia	Samolax officinalis
Grewia occidentalis	Sterculia acrifolia
Haplocarpha scaposa	Strelitzia Reginae
Heuchera sanguinea	Toxicophlea spectabilis
Hymenopodium flavum	Trachelospermum jasminoides
Lochroma grandiflora	Veronica Girdwoodiana.
" fuchsoides	

**BEAUMONTIA GRANDIFLORA.**—We have received a well-developed flowering truss of this magnificent warm greenhouse plant. It should be grown on the back or end wall of all large greenhouses, where if well planted in a border it will reward the cultivator with a profusion of its large fragrant trumpet-shaped white flowers in the generality of years. It was figured in the *Gardeners' Chronicle* for May 8, 1886, from materials furnished from Panshanger, Lord COWPER'S Hertfordshire seat. The present sender of the flowers is Mr. R. MARIES, nurseryman, at Lytham, who states that a plant which has been growing in an intermediate-house, possesses thirty-eight heads of bloom, similar to the one sent to us.

**FRENCH STRAWBERRIES.**—We note in the newspapers that the Strawberry cultivators in the North of France are sending their early produce direct to Plymouth, *via* St. Malo, by special steamer, and during the first week of running the vessel employed in the conveyance of the produce made four trips, landing 120 tons of Strawberries and Peas. Our season is just beginning, and will last a month, long before the end of which the French Strawberry season will be practically over; and we would suggest that English, Irish, and Scotch growers might very well add to their incomes by sending Strawberries, Cherries, Gooseberries, &c., to that country—i.e., if this Protectionist tariff in force is not practically prohibitive. Surely we possess the true trade instinct in as great a degree as the French—at least, they never tire of calling us a nation of shopkeepers.

**THE WOODMAN MEMORIAL FUND.**—It appears, from a statement made by the Hon. Secretary, Mr. NAPPER, 489, King's Road, Chelsea, that enough money has been raised to provide for the erection of an inexpensive but suitable memorial to Dr. WOODMAN, late of the Exeter Nurseries. The best form of memorial, one that would relieve the necessities of the widow, has still to be raised. The few pounds that remain after the payment of the cost of the monument may serve as a nucleus around which, it is to be hoped, a substantial sum may accrue.

**MR. J. BURTT DAVY**, as we learn from *Erythraea*, is now investigating the vegetation of the alkali areas of the Upper San Joaquin Valley, in California.



**SOILS AND COMPOSTS.**—We are glad to announce the publication of a small treatise on this subject from the competent pen of M. GEORGES TRUFFAUT, who, to a knowledge of chemistry and biology, adds that of a practical cultivator. We shall take another opportunity of alluding to M. TRUFFAUT'S *Sols, Terres et Composts utilisés par l'Horticulture*. In the meantime we may say that it is published by M. OCTAVE DOIX, 8, Place de l'Odéon, Paris.

**STOCK-TAKING: MAY.**—The political weathercock has had a turn about since last we reported on the Trade and Navigation Returns: what hard times our folks may have had in the matter is of no account here, only with results have we to deal, and these, to some extent, are of importance. In *primis*, according to the Board of Trade Returns for May, just issued, our importations have fallen off to the tune of £1,402,098, as compared with the figures for the same month in 1895. But we are to the good by £11,473,114 on the five months' imports, as compared with the same period last year: the figures for the five months in 1895 being 169,830,616, and for the past five months £181,303,730. The increases in the past month's imports are to be found in live-stock (£130,722), tobacco (£64,469), metals (£194,666), raw materials (£11,406). Our usual excerpt from the "Summary" table is as follows:—

IMPORTS.	1895.	1896.	Difference.
	£	£	£
Total value of imports	34,752,086	33,349,988	-1,402,098
(A.) Articles of food and drink—duty free ... ..	11,815,499	10,628,933	-1,186,566
(B.) Articles of food and drink—dutiable	1,734,648	1,716,187	-18,461
Raw materials for textile manufactures ... ..	5,794,849	5,615,257	-89,592
Raw materials for sundry industries and manufactures	3,471,679	3,483,985	+11,400
(A.) Miscellaneous articles ... ..	1,168,445	1,141,978	-27,367
(B.) Parcel Post ... ..	81,550	58,267	-23,282

Respecting the imports of fruits, roots, and vegetables, the following little table will be found to possess its usual interest:—

IMPORTS.	1895.	1896.	Difference.
<b>Fruits, raw:—</b>			
Apples ... .. bush.	83,260	88,252	+4,992
Cherries ... .. "	11,782	7,170	-4,612
Plums ... .. "	242	853	+611
Pears ... .. "	299	14	-285
Grapes ... .. "	2,706	2,914	+208
Unenumerated ... .. "	58,965	74,425	+15,460
Onions ... .. "	337,341	501,217	+163,876
Potatoes ... .. cwt.	598,456	530,959	-67,497
Vegetables, raw, unenumerated ... .. value	£118,701	£98,192	-£20,509

Although in the important matter of

#### EXPORTS

we have to record an increase in value for the month of £468,183, it is very evident that the aforesaid weathercock has had something to do with the limited expansion of trade. There is a shuffling of the political cards going on in the United States, which cannot fail to do harm to trade for some months to come. The items which show a decrease are live stock, raw material, yarns and textile fabrics; chemicals, machinery, and articles of wearing apparel, still continue to show a favourable aspect. It may be worth noting that the increase on five months is given as £10,155,253—the figures being, for five months last year, £98,317,416, and for the past term is £98,472,669. More need not be said, excepting that, like Master Twist, we wish for more.

**HOW TO LIVE?**—The enclosed letter affords some practical suggestions which we commend to all concerned:—"The Ragged School Union is now engaged in its great summer work of filling up the Holiday Homes with poor children from the indigent quarters

of the Metropolis. In their own homes there is hardly any approach to a rational style of diet. We therefore want them while at our Holiday Homes to learn, among other things, the corrective and nutritious properties of fruits and vegetables. Most of our homes are within easy distance of the great market-gardening and fruit-growing districts of the country. I should therefore be glad to hear from any market gardeners, fruit growers, &c., in Surrey, Kent, and Sussex, &c., who would like to forward to our Holiday Homes any gifts of fruits and vegetables. We have already been favoured with such gifts by several London firms, and they perform not the least valuable part in making a stay in our Holiday Homes of permanent value to our *protégés*. Our aim for fifty-two years has been to teach the children how best to live, alike in material, moral, and spiritual directions, and as it is in our Holiday Homes that we get complete control of our *protégés*, they there, in the course of a fortnight, so far as diet is concerned, not to mention

give up the plant, but this, in spite of the heavy sum which he had paid for it, he declined to do. The sum of 300 guineas is the highest ever paid for an *Odootoglossum*, being about double the sale price of *O. crispum* var. *apiatum*.

**BOTANICAL ANACHRONISMS.**—In the fine panorama of "Rome in the time of Constantine" (A.D. 312), now on view at the India Exhibition, groups of magnificent Agaves are shown. *Opuntias* clamber about the masonry, and in one place a stately *Dracena*, allied to *Cordylina indivisa*, is used most effectively. Unfortunately, the Agaves and *Opuntias* are of American origin, whilst the *Dracena* is derived from New Zealand! The plants were not known for more than a thousand years after the time of Constantine. Stately *Cypresses*, and distinct-looking Stone Pines, are more in place. It is needless to say that, from the artist's point of view, the plants in question add greatly to the effec-



F. W. BURBIDGE, M.A.  
(Veitch Medallist. See p. 734.)

other matters, learn better how to live than they possibly can do in their own homes. So if in the important direction I have indicated readers of the *Gardeners' Chronicle* can help, I shall be extremely grateful. That we also need, and shall gratefully welcome, money contributions I need hardly say. *Holiday Homes Fund, Ragged School Union, 37, Norfolk Street, Strand, W.C., John Kirk, Secretary.*"

**ODONTOGLOSSUM AUGUSTUM.**—We learn from *Le Journal des Orchidées* for June 1 that the specimen of *Odontoglossum augustum* shown in bloom for the first time at the recent Temple show by MM. DALLEMAGNE & CIE., of Rambouillet, was sold for an unprecedented sum. Various offers were made for the specimen as soon as it was unpacked and staged. Two hundred guineas were offered by one enthusiast; then, by other bidders, 250; finally, Mr. BACKHOUSE, of York, promised 300 guineas if the plant might be his. But M. JULES HYE, of Ghent, had made the first offer, regardless of price, so that he became the fortunate possessor of the treasure. At the end of the day M. Hye was offered 50 guineas if he would

tiveness of the panorama; but the botanist might fairly think, if the artist permitted himself such an amount of inaccuracy in the one case, his version of the architectural details might be equally wanting in verisimilitude. The vegetation of modern Rome differs conspicuously from what it must have been in the time of Constantine.

**ON BEHALF OF THE REPORTER.**—The interest felt by horticulturists in town and country would not be increased, if when they received their *Chronicle*, *Journal*, *Garden*, or other gardening paper the lists of certificated plants shown at the meetings of the Royal Horticultural Society were scanty, garbled, or inaccurate. That this misfortune has seldom befallen them is due, in great measure, to the industry and carefulness of the reporters in the service of those journals, little help being accorded by the officials, who draw up the lists of such plants, &c., generally absurdly mis-spelt and inaccurate. It would conduce to a proper inspection of the plants, &c., as well as to rapidity of note taking if tables or parts of tables were set aside for the exhibition of

certificated subjects. On these, Orchids, florists flowers, border flowers, hardy shrubs, hothouse, greenhouse plants, bulbous plants, hardy fruit, hothouse fruit, and vegetables might each be assigned a place, and not mixed up promiscuously. The tables should occupy a prominent position in the Hall, and be readily accessible by the visitors and those whose business it is to attend these meetings. We are sure that the new superintendent of Chiswick, who, at present, it may be hoped, is unfettered by red tape or long usage, could readily carry out this welcome change.

**FRUIT FROM AUSTRALIA.**—Mr. J. B. THOMAS, of Covent Garden Market, showed in the Floral Hall, Covent Garden, on Wednesday and Thursday, 10th and 11th inst., a quantity of choice Australian fruit sent over by the Government of Victoria for exhibition here. The fruit, which consisted principally of Apples, had an extremely fine appearance, high in colour and clear of skin. The varieties included

as it is probably through these spaces that the micrococci, capable of infecting the parenchyma, are introduced. Again, it is essential most carefully to test tubers of RICHTER'S Imperator before planting them. And, as it is to be feared that these micrococci exist in a latent state in the soil of the field whence tubers are harvested containing the germs of infection, it is advisable, after a time, to use the ground for some other crop than that of Potatoes. It is by these preventive measures that those infinitely small creatures known as micrococci can be most successfully fought against.

**"BULLETIN DE L'ASSOCIATION POUR LA PROTECTION DES PLANTES."**—The Association was formed in 1883, to check the extermination which threatened many of the rarities and interesting plants of Switzerland. By directing public attention to the subject, no doubt much good has been effected. It will be a misfortune if the increased attention

and successful a part. The three brothers are well known in Essex and Suffolk, and their prowess won them many friends, many of whom will doubtless regret their retirement.

**A NEW VEGETABLE.**—In a recent number of the *Revue Horticole* M. André calls attention to the use of the roots of *Aralia edulis*, alias *A. cordata*. The plant is a native of Japan, and its roots have an aromatic taste which may not be agreeable to all palates. We hope the Royal Horticultural Society may see its way to try it at Chiswick. It may be had from M. Saillier of Neuilly, near Paris.

**A GIFT TO ABERDEEN.**—We learn that Mr. HARPER, the head gardener at the Duthie Park, Aberdeen, has received from Sir WILLIAM BROOKS, Bart., of Glen Tana, Aberdeenshire, a very fine collection of Orchids for cultivation in the park. The gift is much appreciated.

**A ROSE FETE AND BAZAAR** will be held at the Queen's Hall, Langham Place, W., on Tuesday, Wednesday and Thursday, June 23, 24 and 25, in aid of the North-Eastern Hospital for Children, Hackney Road, Shoreditch. Chairman of the Rose Show Committee: J. B. Scott, Esq., Hillhead, Broxbourne. The Committee are organizing a great exhibition of Roses, and appeal to our readers to help them. Prizes (gold and silver medals) will be offered in the following classes:—

*Amateurs.*

A. Class I. 24 Cut Roses in Stands (distinct varieties named), 2 prizes; Class II. 12 ditto, 2 prizes; Class III. 6 ditto, 1 prize; Class IV. 12 ditto (of one variety), 2 prizes; Class V. 6 ditto, 1 prize; Class VI. 12 ditto, Teas and Noisettes (distinct varieties named), 2 prizes; Class VII. 6 ditto (in threes), 2 prizes; Class VIII. 12 Button-hole Roses, in bunches of three, 2 prizes; Class IX. 6 ditto, 1 prize; Class X. Basket of Roses, 2 prizes; Class XI. Table decoration of Roses (6 feet x 3 feet), 3 prizes; Class XII. Garden Roses in bunches of six, 1 prize; Class XIII. Lady's spray of Roses, 1 prize.

*Professional Growers.*

B. Class I. Group of Roses for a space not exceeding 50 square feet, 3 prizes.

C. The Committee also ask for quantities of cut Roses for decoration (in baskets or otherwise), and will be much obliged for any kindly forwarded for that purpose.

Donors of Roses for decorative purposes are requested to forward them to the Queen's Hall, between 9 and 11 a.m. on one of the three days. The prizes will be awarded by well-known Rose growers. Each exhibitor will receive a free admission to the bazaar. Further particulars may be obtained of T. GLENTON-KERR, Esq., Secretary, 27, Clement's Lane, E.C.

**NEW PUBLICATIONS.**—*Journal of the Kew Guild* (will be noticed shortly).—F. BOYLE, *Über Orchideen*, translated by Professor KRÄNZLIN (Berlin: PAUL PAREY).—*Cottage Gardening*, edited by W. ROBINSON, F.L.S.; Vol. 7 (CASSELL & Co.).—*Lloyd's Natural History: British Birds, Part I*, by W. BOWDLER SHARPE (E. LLOYD).—*Die Rüben Nematoden*, by JOHANN VANHA and JULIUS STOLASKA (Berlin: PAUL PAREY).—*Natur und Haus, illustrierte Zeitschrift für alle Naturfreunde*, fourth year of issue, No. 9, ROBERT OPPENHEIM (GUSTAV SCHMIDT), Berlin.—*English Mechanic and World of Science*, May 29 (Strand Newspaper Co., Ltd., 332, Strand; also the International News Co., Canada and U.S.A.).—*Les Nepenthes et Leur Culture*, par JULES RUDOLPH (OCTAVE DOIN, 8, Place de l'Odéon, Paris). A useful illustrated handbook containing descriptions and cultural notes of various species of Nepenthes.—*27th Annual Report of the Fruit Growers' Association of Ontario*, 1895. This contains papers on Apple Culture, Fruit Exhibitions and how to make them educative, Top grafting on the Tolman Sweet, Spraying and cultivation of Orchards, and other important subjects.—*The Farm Magazine*, May (W. M. GOODMAN, Editor and Manager, OGDEN BROS. & Co., Publishers, Knoxville, Tenn.). A very satisfactory number.—*Le Jardin du Crest*, par MARC MICHELL.



MALCOLM DUNN.  
(Veitch Medalist. See p. 734.)

London, New Rock, Sturmer, and Stone Pippins, Stewart, Gooseberry, and King of Tomkins County, which are names well known in gardens in this country; others less well known, or not at all, were the varieties Jonathan, Rokewood, Yate's, Callasaga and Nickajack. The few Pears included in the consignment were well-developed nice fruits, but their names did not transpire. Most, if not all, of the fruit came from the colony of Victoria, and some Pumpkins and Squashes were included. This lot of seventy-five cases, which are, we suppose, merely samples of what the colony can send us, should find ready sale at remunerative prices.

**POTATO BACTERIA.**—M. E. ROZE has recently published a paper on the Bacteria affecting the Potato. The researches which he chronicles were undertaken with a view to ascertaining how best to prevent or combat with the species of micrococci known to produce the scab. The conclusions at which he arrives are the following:—That it is absolutely necessary to avoid planting such tubers of Potatoes as have more or less corky defects upon them

given to these plants prove the cause of their destruction, as is happening with some Orchids. The necessity for botanic gardens and herbaria is emphasised by the fact that those institutions bid fair in some cases to be the only refuges left.

**"THE BOTANICAL GAZETTE,"** the representative of botanical progress in the United States, has passed into the hands of the University of Chicago. No change is made in the editorship, and the journal is to be not merely the organ of the botanical department of the University, but is to be more freely open to the botanists of the world than it has been in the past.

**PHOTOGRAPHS OF ORCHIDS.**—In the last number of *Knowledge* is a series of representations of Orchids, from the collection of the Right Hon. J. CHAMBERLAIN.

**THE BROTHERS KING.**—It will interest some of our readers to learn that Messrs. H. T., S. J., and L. G. KING, seed merchants, of Coggeshall, have retired from the football field, wherein they played so long

## HOME CORRESPONDENCE.

**SPRING CABBAGES.**—In the column dealing with this subject in the last issue, one not unimportant point has been entirely overlooked, i.e., that Cabbages are supposed to be grown to be eaten, and some of the sorts which are often very highly praised are little or no use for this purpose. There is a greater difference in the flavour of Cabbages than in Strawberries or Peas, and some varieties, such as Myatt's Offenham and Clibran's Tender-and-True, may fairly rank amongst the finer class of vegetables, being welcome as a change from Peas or Asparagus. Other Cabbages, similar if not identical in appearance and habit, may be useful to sell, but they are either rank or flavourless, and even if they were better in any other respect, which is very doubtful indeed, their inferiority as a table vegetable should entirely condemn them. This matter has been brought forcibly before us recently; we have been accustomed to purchase spring Cabbages grown in the south before our own were ready, and this year, after several trials, we failed to obtain any which we considered fit to eat, and we simply stopped buying, as did many of our friends who found the same fault. It is a pity that a good and profitable trade should be damaged or lost through ignorance or carelessness of this kind. In our experience, on light sandy loam, Myatt's Offenham is in every other respect equal to the best, and it has the special advantage of being unequalled in flavour, and also of being singularly free from the atrocious stench emitted by most Cabbages whilst being boiled. We have only had one season's experience with Clibran's Tender and True; it is very similar to the Offenham, but does not appear to be quite so perfect in flavour, and, of course, if the flavour is to have the first consideration, nothing but the white heart should be used. *Thos. Fletcher, Grappenhall, Cheshire.*

**FLOWERING PLANTS AT LA MORTOLA.**—One of the greatest charms to be experienced in the whole of the Riviera is to visit this garden in the month of April or May, where the greater part of our greenhouse plants are growing and flowering luxuriantly in the open air. One of the most striking plants at the time of my visit was the Pigeon-beak Lotus, *Peliorhynchus*, which was hanging over the sides of terrace walls, ablaze with its bright scarlet *Clinanthus*-like flowers. No spot seems too dry and sunny for its well-being. If cultivated in England in hanging-baskets in the full sun, I am sure it would make a fine plant for conservatory work. I saw a plant last year at Cannes that had covered a space of over 12 feet square in less than two years. Amongst other plants, one of the most striking was *Cantua dependens*, in large bushes, and bending under the weight of its trusses of red funnel-shaped flowers. *Echium arboreum* in variety was finely flowered in several parts of the garden. The pretty blue *Francisca eximia* was covered with flowers, and *Solanum crispum*, with its great heads of blossom was a sight one scarcely would have expected to meet with in the open air. Large bushes of *Genista monosperma*, 6 to 8 feet high, and nearly as much in diameter, were one mass of blossom, the pearly-white flowers being very distinct amongst the many other flowering plants around it. *Olearia stellulata* was profusely flowered, and a much purer white than it is generally seen in England. A most interesting plant was *Moraea* (*Iris*) *Robinsoniana*, in good health, and throwing up four or five flower-spikes. *Kennedia nigricans* as a creeper, is an uncommon-looking plant, with flowers having black corolla and green calyx. A host of *Polygalas*, *Grevilleas*, *Hakeas*, and a multitude of other plants were seen in such profusion and variety of blossom, and the natural effect produced, combined with the notes of the blackbird and nightingale was such, that led one to wonder if the garden of Eden could have been more charming. *Riviera.*

**A FLOWER MISSION.**—It has occurred to me that a quiet work, which is being done to brighten the lives of some of our London toilers "behind the scenes," might be of interest to your readers. I refer to the "Flower Mission to the London Workrooms." Once a week a few ladies meet together to make up into tasteful little bouquets the flowers sent up by country friends; texts are also attached to the bouquets, and they are then taken to different workrooms belonging to the shops to which an entrance is kindly permitted by the managers, in some of the principal thoroughfares. The flowers and their bearers are eagerly welcomed, and hearts are cheered by the little messages and loving words which are given with the flowers. One can understand that

these workers, whose everyday lives are so monotonous and unvaried, would be gladdened by the flowers, few of them ever having the opportunities to see them growing in all their beauty. Perhaps some of your readers who have more than sufficient flowers in their own gardens, might like to share them with those who have so little brightness in their lives. If so, weekly or occasional gifts would be most gratefully received by the Flower Mission Secretary, Clondesley Institute, 34, Barnsbury Street, Islington, N. on Thursday mornings. All gifts would be acknowledged, and hampers returned if addressed label is enclosed. *E. C. C.*

**LONDON IN MAY** (continued from p. 682).—**BATTERSEA PARK.**—I have generally gone here to see Mr. Gibson or his successors, and the sub-tropical gardening, in the autumn. This year I went to see the trees and shrubs, and what bulbs or flowers might be found at Battersea in May. The trees and shrubs were all that one could desire. The mild winter has stimulated our hardy trees and shrubs to do their best this season. The contrast between the two Mays, 1895 and 1896, is violent in the extreme. At Battersea and elsewhere frost-bites and scars were the order in May, 1895. This May all such *contretemps* were conspicuous by their absence. On the 16th of this May not a sign or trace of frost injuries could be seen. Bedding-out was also proceeding merrily, a few days too early according to my experience, confirmed by the cold rains and big hailstones we have had in East Anglia on the 20th and 21st. I hope no hail, with its almost absolute certainty of night-frosts afterwards, fell on these days at Battersea Park, to the chilling of the newly-planted-out bedding-plants. But it is quite too late to see what the grouped bulbs had been, and altogether too early to estimate what the summer or subtropical plants will grow into. Suffice it to say for the present, that the Park roads, walks, and grass, were in good condition, though showing traces of the dry May; that the trees and shrubs have bulked greatly into verdure and beauty within the last few years, and that this fine park and gardens seem to be growing in popularity every year. I was told that the cyclists had taken possession. But though the latter were exceptionally numerous, the general public still preponderated in all directions. The flowering and growing trees and shrubs were also everywhere at their freshest and best. The lake, like that of the Victoria Park, is also rapidly ripening and mellowing into beauty. It is often said that all true landscape gardeners should or must be poets. There is much truth in this. But there is more in the statement that they are bound to be prophets. Unless they can foresee the future they cannot well, truly, broadly, and wisely lay the foundations of true art and beauty in the present. Foresight is as essential as sight and taste, and needs more genius than either. If any fault can now be found in the lake and its environments at Battersea Park, it may readily be remedied by a richer variety of colour and form in the plants and shrubs—more graceful drooping down from the banks to rest on the water; and a richer clothing of banks and lake with such plants as Flag Irises, Horsetails, Bulrushes, Water Lilies, &c. *D. T. F.*

**VEITCH'S CHELSEA GEM AS AN EARLY PEA.**—From this variety, sown outside in the first week in February, we gathered our first dish on May 23. In this district many acres of agricultural land are now devoted to the cultivation of culinary Peas, and picking began with the first week in the present month. Owing to the drought, the early Pea crop in many places will be unsatisfactory. *W. H. W., Moor Hall, Stourport.*

**EARLY STRAWBERRIES.**—As showing the earliness of the season here, I gathered ripe Strawberries on June 6, from plants growing unprotected on a south border, having a wall to the north. The varieties are Royal Sovereign, Scarlet Queen, and Laxton's Noble. They were layered into small pots last summer, and as soon as the plants were ready, they were set out on the same day, and all three are fruiting simultaneously. *J. Easter, Nostell Priory Gardens, Wakefield.*

**ROYAL SOVEREIGN STRAWBERRY.**—Herewith we send for your inspection a few sample fruits of "Royal Sovereign" Strawberry from runners planted in September of last year, and growing in an open field, the lay of which is direct north. We consider it a splendid acquisition as an early variety, and bound in time to supersede Noble and others, the flavour being good and the flesh firm, and well fitted

for sending to a distance. We picked fruits of Noble on the 4th inst. from plants growing on a south border, while Royal Sovereign, growing alongside, was only two days later. It throws a remarkably bold truss, and sets freely in inclement weather. Shortly after setting their fruit we experienced 2° of frost, but while others were partially nipped, the Royal Sovereign escaped, therefore we cannot speak too highly of it as a first-class variety. *R. Blackstock.* [A fine specimen. *Ed.*]

**ERINACEA PUNGENS** (p. 698).—You express a wish to know what degrees of cold this plant has stood at Bitton. I have had it for many years, and never knew it injured in any winter; but it was in great request, and in an evil hour I pulled my good plant to pieces, and gave more than half away. Some went to Kew, and I am glad to see by your account that it is doing well there. But the result to my own plant was a lingering death, and I should be glad to know where I could obtain a plant again. I grew it in full sun, but in a sheltered place. *H. N. Ellacombe, Bitton.*

**VIOLA COUNTESS OF MORAY.**—I am sending for your inspection some cut blooms and full-length growths of a new Viola called Countess of Moray. It is dwarf, only 6 inches high, carrying its blooms erect amongst a tuft of glossy-green leaves, and beautifully scented. I think when it becomes better known gardeners will find this Viola an effective and useful garden plant. *John W. McHattie, The Gardens, Strathfieldsaye, Mortimer, R.S.O., Berks, June 9, 1896.* [Flowers nearly 2 inches across, of good substance, flat, pale sulphur-yellow, lower petal deeper yellow; eye marked with short irregular lilac rays; plant robust. *Ed.*]

**HEUCHERA RUBIFOLIA.**—Last October I replanted two large beds of *Heuchera rubifolia* in new and carefully-prepared soil, chiefly fresh loam and old manure, as I have done repeatedly with the parents of these plants for some dozen years. Everything that we could think of was done to ensure success; but the result has been, that out of forty-three large clumps so treated, chiefly 9 inches to 1 foot across in breadth, twenty-four have withered up. The ground below is moist, and the remaining nineteen clumps are vigorous and in good health. I may add, that of the lesser parts not replanted after being dug up, one clump only out of some dozen has succeeded. I have called in my friend Mr. Cumming, who is a correspondent of yours, and well qualified to form an opinion. Similar results have occurred at times after removal (always effected carefully and with huge balls), but I have never experienced so sweeping a failure. I may say that I was introduced to the plant years ago by Mr. Ingram, of Belvoir Castle Gardens, and have grown it continuously ever since. *Edward A. Scott.* [We could find neither fungus nor insect. *Ed.*]

## SCOTLAND.

## ROYAL BOTANIC GARDEN, EDINBURGH.

The following species of plants were recently flowering in the Royal Botanic Gardens of the northern capital:—

## CONVOLVULUS CNEORUM.

A species which is a half-hardy one—one of the earliest introduced, cultivated in the Chelsea Botanic Garden in 1739, and figured in the *Botanical Magazine*, t. 459. It is shrubby in habit, with rather slender stems, which bear lanceolate leaves, covered with silky-grey hairs, giving it a distinct appearance. The terminal inflorescences bear whitish flowers, tinged with pink. It flowers for several months in the summer, and is propagated with ease; grows under rather dry treatment in the cool greenhouse, although it may occasionally be met with on walls and like positions in the south of England.

## PRIMULA REEDII.

This species, very rare in gardens, in spite of being a vigorous grower, is in flower at the present time. The scape carries four drooping flowers, in colour a creamy-white. The foliage is distinct, and the ovate-lanceolate leaves are covered with long silky-white hairs. Another species of *Primula* worthy of note is *P. imperialis*, better known in gardens under the name *P. imperialis*, about which there is a very interesting fact, namely, that the plant is found in

widely-separated countries—the Himalayan range and in Java. The stout flower-spikes bear whorls of yellow flowers, arranged in a bold manner, rising out of the dense crown of large light green foliage to a height of 12 to 18 inches. To grow this plant well a rich compost is necessary, and the pots, well filled with roots, should be stood in a saucer of water.

**COMBRETUM PURPUREUM.**

A plant of this lovely Madagascan climber is now in profuse flower in the Palm-house. There are about forty panicles of blossoms. It occupies a place amongst other roof climbers, and is planted beneath the stage in a special kind of soil.

**INCARVILLEA DELAVAYI.**

When better known this plant will probably become popular, on account of the beauty of its flowers, and the ease with which it may be cultivated. The tuberous rootstock attains to a large size, and the fleshy, pinnatifid, leaves are of a dark tint of green. The corolla is rose-coloured, the throat yellow streaked with purple. Although a plant flowered for the first time in this country in Sir Trevor Lawrence's garden in 1895, it has, I believe, been known in Continental gardens for some time. Mr. W. Thompson, of Ipswich, who flowered his plant in the open border where it withstood 32° of frost, had his plant under the name of *I. alpina*, which is merely a synonym. Seeds will germinate readily, and a stock of plants can therefore be easily raised. *R. L. H.*

**ANEMONE SYLVESTRIS, FLORE-PLENO.**

THE Snowdrop Anemone (*A. sylvestris*), a common European plant with single flowers, occasionally produces double ones, similar in most respects to that illustrated in fig. 128. We are indebted to the kindness of Mr. Gumbleton, of Belgrove, Queenstown, for furnishing the flower from which our illustration was taken. The plant was discovered growing wild in Germany; and although six days had elapsed since the flower was removed from it, it had preserved its freshness in a remarkable degree, the only shrivelling noticed was in what may be called the "guard petals," which had disappeared, and which our artist has not reproduced. The flower, like the type, is pure white.

**SOCIETIES.**

**ROYAL HORTICULTURAL.**

JUNE 9.—The high standard at which the ordinary meetings of the Society are now sustained was strikingly evident on Tuesday last, when a meeting was held in the Drill Hall, James Street, Westminster. Albeit this occasion is the first time the committees have sat since the large display was made at the show in the Temple Gardens, the capacity of the Hall was tested to the utmost, every part of it being inconveniently full. Though there was necessarily somewhat of smothering in many of the exhibits of hardy flowers, all of which were rich in varieties of herbaceous Peonies the show contained abundant specimens and groups of great interest, while in the gay picture presented, the exhibition could hardly be surpassed in the same area. A group of specimen plants of the hybrid *Streptocarpus* was of interest in the fact that it showed, in a manner such as has hitherto not been seen, how well they are suitable for cultivation as large plants. Orchids, as usual, constituted an important feature in the Hall, but the great bulk of the exhibits generally were from the outside garden. More fruit was staged than has been the case lately, and several first-class Melons were distinguished by awards. Strawberries were largely exhibited, H.M. The QUEEN staging a large number of varieties. Previous to the delivery of the lecture by Professor Henslow, the Veitchian Medals were presented by Sir Trevor Lawrence to the candidates selected by the Veitch Memorial Trustees (see p. 734).

**Floral Committee.**

Present: W. Marshall, Esq. (Chairman), and Messrs. Chas. T. Drury, H. B. May, H. Herbst, R. Dean, Robt. Owen, Geo. Stevens, C. J. Salter, R. B. Lowe, Thos. Feed, Geo. Nicholson, J. D. Pawie, J. T. Bennett-Poë, C. E. Shea, A. Selve Leonard,

Geo. Gordon, Edwin Beckett, James Walker, Harry Turner, H. H. D'Oonbrain, Ed. Mawley, R. M. Hogg, James Hudson, John Jennings, and J. Fraser.

J. T. BENNETT-POE, Esq., Holmeswood, Cheshunt, who frequently exhibits very successfully cultivated specimens of rare or handsome plants, on this occasion staged a magnificent plant in a tub of *Carpenteria californica*. The plant stood about 6 feet high from the ground, and was more than 3 feet through. The specimen was covered with the large white fragrant flowers, which have some resemblance to a glorified Mock Orange (Cultural Commendation).

Mr. POE also exhibited a plant of *Linaria macedonica* in bloom, and two hybrid *Cinerarias*, *C. Heritieri* × a garden *Cineraria*. A small plant of *Carpenteria californica* twelve months old, and carrying several blossoms, was likewise included.

MESSRS. GEO. COOLING & SONS, Bath, made an exhibit of sprays of garden Roses in numerous varieties. A few Moss varieties were noticed amongst them, but they are

doona and *Delicatum* were very noticeable. One of the early-flowering *Tritomas*, *T. caulescens*, was shown, a variety with Yucca-like foliage and straw-coloured flowers when fully expanded, but scarlet until open. Three spikes of the pale pink-flowered *Erenurus robustus*, about 7 feet high, were very conspicuous in the group (First Class certificate). The miscellaneous flowers included *Iris* in some variety, *Heuchera sanguinea*, the large-flowered *Pentstemon* (*Cobea*, *Antuericum*, and others). The group was faced with sprays of *Tropaeolum polyphyllum*.

A neat little group of *Cannas* in flower was also exhibited by Messrs. VEITCH & SONS. There were numerous varieties represented, of which the following appeared to us the most beautiful: Alphonse Bouvier, Paul Brunt, Kaiser Wilhelm II., all dark, self-coloured flowers; Comte de Bouchard, Progression, and L. E. Bailey, spotted varieties; and Cheshunt Yellow and Konigin Charlotte, edged varieties. *Caena Austria* was the largest-flowered variety exhibited; the dorsal and basal petals were 1½ inch wide, and more than 2 inches long. The side petals were wider but not so long, and were faintly spotted with pale red (Award of Merit). The groups were awarded a Silver-gilt Flora Medal.

From G. YELD, Esq., Clifton Cottage, York, came flowers of *Hemerocallis* varieties and *Iris*es. *Hemerocallis Apricot* is a hybrid between *H. flava* (seed-parent) and *Middendorffii*. The flowers of this one are large and of capital colour, but it has been previously exhibited. Other seedling varieties were shown, and also many seedling *Iris*es.

Mr. J. FRASER, Southwood, Essex, exhibited many seedling varieties of *Clematis*es, from deep lilac to pure white.

MESSRS. R. WALLACE & CO., Colechester, in an exhibit of very choice hardy flowers, included a number of *Brodiaea*s of very differing habit. Large spikes of the twining *B. volubilis* (pink), and *B. coccinea* (dull crimson), were shown, with *Brodiaea laya*, a blue-flowered species, with flowers a little like a miniature *Agapanthus*, though different in shade of colour. B. Howelli *lilacina* was awarded a First-class Certificate. The exterior of the tube is pale lilac blue, the apex of petals which form the corolla of the flower being silver coloured; about seven flowers are borne upon each umbel. *B. ixioidea erecta* (Award of Merit) has erect, star-shaped blooms, of denser habit, more compact, and brighter coloured flowers than the type. *Brodiaea capitata alba* has stiff, small, white flowers in a dense umbel, and *B. longata* is a similar habited one with purple blue flowers. Several varieties of herbaceous *Peonies* were shown, including some from Japan, in which the disc is supposed to resemble certain types of *Chrysanthemums*. Awards of Merit were granted to Mikado and Margaret Attwood, both of this type, the former rosy-crimson, the latter pure white, with yellow disc. The rest of the exhibit was composed of *Liliums* and *Calochortus* in many varieties, &c. (Silver Banksian Medal).

Mr. E. BECKETT, gardener, Aldenham House Gardens, Elstree, exhibited upwards of two dozen plants of the new strain of *Streptocarpus* hybrids. Most of the plants, which were two and three years old, were in 8 to 10-inch pots, with abundant foliage, and remarkable profusion of flowers (Silver Flora Medal).

Mr. ANTHONY WATERER, Knap Hill Nurseries, near Woking, exhibited about two dozen sprays of hardy *Rhododendrons* from seedling varieties, and as is usual from this establishment, the varieties and trusses were both very satisfactory (Silver Banksian Medal).

By C. F. THOMPSON, Esq., Mlandaff (gr., Mr. Mann), were exhibited cut flowers of *Pentstemon speciosus*, *P. secundiflorus*, *P. Wrightii*, *P. Menziesii*, *P. Barratye*, and *Antirrhinum*s, &c.

G. W. EWEN, Esq., The Lodge, Farnborough, Hants, exhibited blooms of a pink Rose, thought to be a sport from Henry Bennett, but apparently it is merely the old climbing variety, Blair No. 2.

MESSRS. PAUL & SON, Cheshunt, exhibited a group of hardy flowers, among which were numerous herbaceous *Peonies*, single and double. Mixed varieties of Spanish *Iris*es, *Pyrethrums*, single and double, *Lupinus arboreus* (yellow-flowered), *Potentillas*, *Gaillardias*, &c. *Cannas* were shown, including the pretty Cheshunt Yellow, the well-known Souvenir d'Antoine Crozy, and others. Czar Alexandra III., and Geo. Paul (Award of Merit), J. G. Baker are all self-coloured varieties of exceptional merit. A large display was also made by Messrs. PAUL of garden varieties of *Roses*, and of these there were Royal Scarlet, *Rosa macrophylla* (pink), and Paul's Carmine Pillar, all single-flowered effective sorts. The hybrid *Rugosa*, Mungo Park, a double crimson flower, was largely exhibited, and *Rosa rugosa fimbriata* is uncommon by reason of the fimbriated margin of the petals. This received an Award of Merit, as did also *Rosa rugosa* var. *Rose-apple*. There was also a collection of Sweet Briars (*Silver-gilt Flora Medal*).

A large display of hardy flowers was made by Mr. M. Pritchard, nurseryman, Christchurch. Spanish *Iris*es were well shown, and *Peonies* again formed a portion of the group. The rest of the exhibits represented many choice hardy flowers, now in bloom (*Silver Banksian Medal*).

*Caladiums* were shown by Messrs. J. PERD & SONS, Roupell Park Nurseries, Norwood Road, S.E., who had a group of small sized plants interspersed with *Ferns*, *Crotons*, and a few *Sonerilas* (*Silver Flora Medal*).

Mr. J. F. McLeod, gr. to J. P. Morgan, Esq., Dover House Gardens, Southampton, showed a plant of each of the choice self-coloured varieties of *Caladiums* known as Michael Buchner, Roma, and Ivalig.

More than two-thirds of one of the large tables was occupied by a magnificent display from Messrs. KELWAY & SONS,



FIG. 128.—ANEMONE SYLVESTRIS, FLORE-PLENO: WHITE. (Natural size.)

generally much less common in such collections than they used to be. Little Gem, Old Moss, Beranger, White Bath, Crested Moss, are the names of some of them. Sprays of Cooling's Single Crimson Bedder were shown with vigorous foliage, and very large single bright coloured flowers (*Silver Flora Medal*).

Mr. GEO. PRINCE, Oxford, made an exhibit of about three dozen blooms of the *Rose Comtesse de Nadailae*, the quality of them being very remarkable. Numerous specimens of *Murchal Niel* were exhibited, and miscellaneous varieties (*Silver Flora Medal*).

*Roses* were again exhibited by Mr. GEO. MOUNT, Exotic Nurseries, Canterbury. There were about six dozen blooms in the collection, and most of them were of capital quality, while others showed slight injury from the late rains (*Silver Banksian Medal*).

MESSRS. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, made a considerable display with a number of cut flowers of herbaceous *Peonies*, *Dolphins*, and miscellaneous species of hardy flowers. The group of *Dolphins* included a large number of varieties in very good condition, amongst which the sky-blue flowered varieties, Bella-



Langport Nurseries, Somerset. In this were included double and single Peonies, Gaillardias, Irises, Delphiniums, and some miscellaneous flowers. Awards of Merit were obtained by the two following varieties of Delphiniums: Geneva, a semi-double variety of a pale-blue colour, the inner petals faint pink; and Albert Edward, a very bold and effective plant, with single purple flowers. Amongst other things in this exhibit was noticed a white variety of *Scabiosa caucasica*, and a number of blooms of *Iris ochroleuca*, a species producing attractive flowers of pale cream and yellow (Silver-gilt Flora Medal).

In a group of flowering shrubs, &c., Messrs. JAMES VEITCH & SONS exhibited *Benthamia japonica*, the pretty, small, and numerously flowered *Abelia triflora*, a pure white variety of *Indigofera decora*, *Hedysarum multijugum*, *Cesalpinia japonica*, *Syringa japonica*, and *Syrax japonica*, an excellent white flowering shrub for decorative purposes.

THE GULFOFORD HARDY PLANT CO. made an exhibit of alpine and other plants growing on rockwork, in a manner imitative of Nature; and the firm obtained an Award of Merit for an Iris with foliage variegated with yellow, probably a variety of *I. pallida* (Silver Flora Medal).

MESSRS. H. CANNELL & SONS, Swanley, obtained an Award of Merit for a variety of *Regal Pelargonium* named *Persimmon*, described as a sport from G. Perkins. The plants shown were very profusely covered with rosy-crimson flowers, borne in large handsome trusses.

A table filled with grand examples of *Streptocarpus* was shown by Mr. BECKETT, Aldcumb House Gardens, Elstree. The plants were of varied and clear tints, and densely flowered, and were of an average height of 1½ foot. Twenty-eight plants were shown, and the award made was a Silver Flora Medal.

Some beautiful brilliant flowered varieties of *Canna indica*, many of them new and unnamed, were exhibited by Messrs. H. CANNELL & SONS, The Home of Flowers, Swanley. Besides the now well-known Queen Charlotte, Souvenir d'Antoine Crozy, Alphonse Bouvier, and Madame Crozy, there were the following named novelties:—Paul Meylan, in colour a deep orange, inclining to red, with some yellow colour in the centre; Beauté Poitevin, the entire bloom of a deep crimson colour; Golden Queen, rich yellow, regularly spotted all over with red; M. H. De-bouise, somewhat similar to the last named, but the spotting less; Amiral Avilar, not unlike the last named, but with rounder and broader floral segments, making it a bloom of great regularity of form; Sénateur Montehoré, orange-red with yellow spots near the edge; Pierson & Co., a deep crimson-coloured, well formed bloom; and President Canot, scarlet of a deep tint—a large flower. The plants had been grown in flower-pots in a greenhouse. A Silver Flora Medal was awarded.

MESSRS. CANNELL & SONS showed a good strain of white Intermediate Stock named *Camellia Camelliflora*, a pure white, with fully developed flowers of 2 inches in diameter.

MESSRS. DORRIS & CO., Rothsay, N.B., and Orpington, Kent, showed a miscellaneous lot of herbaceous perennials as cut blooms, including numerous species and varieties of Iris and *Pyrethrum roseum*. The rare *Draecophyllum Raysehanum* was remarked in the collection, a plant with unusually dark blue flowers. Other plants were *Apulegiaerulea* in variety, *Delphinium nudicaule*, *Dianthus Marie Pèrè*, with white blossoms; the new Sweet Pea, Extra Early Miss B. Ferry, which has been proved to be fourteen days earlier than the variety Miss B. Ferry. It has a pinkish standard and cerise-coloured wings. Of *Pyrethrums* there were noted *Gustave Herz*, *Gloire d'Italie*, *Queen Sophia*, *Virgo*, *Gaiety*, *nyctem plumum*, *Rev. J. Dix*, two good old varieties; *Leonard Kelway*, *Milton*, *Princess Metternich*, and *torbundum plumum*. A good collection of *Vicarias* in all sorts of tints, and fancy *Pansies* formed a considerable part of the exhibit, but for these the heat and drought in the south, whence presumably the plants had been grown, have been too much for them, for the blooms were rather small (Silver Banksian Medal).

MESSRS. BARR & SONS, florists and seedsmen, 12 and 13, King Street, Covent Garden, put up a large collection of hardy herbaceous perennials as cut blooms. The exhibit contained numerous species of Iris, of which plants the exhibitors possess a very fine collection; *Hemerocallis flava*, the showy *Dietamnus Fraxinolia*, *Ixia*, *Babianas* in great variety, *Delphiniums*, a nice lot of *Persian Ranunculus* under name, flowers like those of many other plants, undersized on account of the drought; a pretty plant in *Ornithogalum pyramidalis*, having white flowers placed on long flower spikes; double-flowered Chinese Peony *Gloria Mundi*, white, with a faint bluish tint; P. *Madame Vilmorin*, rather finer, with a more decided pink tint, and a very numerous petals; P. *Mons. André*, white, with a purplish-rose tint. There were other fine varieties of Peonies, by their names apparently of French origin; and this portion of Messrs. BARR'S exhibit made a very creditable display. An Award of a Silver Flora Medal was made.

A good sized group came from Messrs. J. LAING & SONS, Stanstead Park Nurseries, Forest Hill, S.E., which consisted chiefly of inmates of the warm houses, and various double flowered tuberous rooted Begonias. Of foliage plants, there were remarked *Microstylis metallica*, *Abutilon Souvenir de Bonn*, white and green leaf; numerous varieties of *Croton*, of which *Alexander III.* was a desirable form, with broad entire leaf, having rich orange and yellow ground colouring, and a green marbling. Several *Draecenas* and the pretty *Burtonia Van Houttei* were remarked. The group was lightened by the presence of plants of *Mitonia vexillaria*, *Odontoglossum crispum*, *O. estrosum*, *Cattleya Mossie*, other Orchids, *Glorias*, &c. An award of a Silver Flora Medal was made.

An Award of Merit was made to Messrs. CUTBUSH & SON, Highgate Nurseries, N., for a small-flowered bedding *Begonia* of a bright scarlet colour, named *Phosphorescens*. It seemed to be a variety of the sempiternus type, particularly free to flower, and the flowers were thrown well up above the leaves in a tuft, not scattered and drooping, as in many varieties of *Begonia*. An Award of Merit was also made to *Heuchera micrantha*, from Messrs. CUTBUSH. This is a small-flowered species, colour white, produced on a large branching spike.

MESSRS. HUGH LOW & CO. of Bush Hill Park, Enfield and Clapton, London, exhibited a group of *Cannas* in bloom, differing in name from Messrs. CANNELL'S, but very like them in colouring, and dwarf habit. The finest were M. *Ritton*, bright fawn and salmon; *Francis Wood*, of a yellow shade; *Florence Vaughan*, rich yellow, spotted red; *Pierre Dupont*, brilliant red; *Souvenir de F. Guélain*, amber-yellow, red spots; *Ernest Renan*, terra-cotta and rose; *President Chandon*, golden yellow; *Lavin Rosels*, reddish-orange; *Alphonse Bouvier*, brilliant crimson; and L. E. *Balley*, canary-orange, spotted crimson (Silver Banksian Medal).

#### CARNATIONS.

The Carnation, being always with us, it is not to be wondered at that both the tree and the border types, in both cases brought into bloom under glass, were in evidence at this meeting. It was to be regretted that Mr. TURNER'S group of very fine varieties had to be placed in an out-of-the-way place, and where they were hidden from view during a good part of the afternoon.

Mr. TURNER had finely-grown pot-plants of *Ness*, a bright scarlet large-sized flower, as large as a *Malmaison*, very full and symmetrical, and fine in colour (Award of Merit); *Virgo*, a large yellow ground, of the character of *Mrs. R. Sydenham*, but gigantic in size, full, symmetrical, and pleasing (Award of Merit); *Delos*, also with large, full, *Malmaison*-like flowers of a pale dull scarlet (Award of Merit); *Miss Ellen Terry*, white; *Duchess*, a large pale rose-coloured variety, but a little rough; *Persimmon*, pale terra-cotta, of a pleasing shade, but the flowers lacked refinement; *Primrose League*, yellow ground, striped with bright reddish rose; *The Gift*, a very fine yellow ground, large, full and symmetrical; *Corinna*, a large yellow self; *Water Witch*, bluish, fine shell-like petals, &c. (Silver Flora Medal).

From Mr. NEVE, Hampton Court House, Hampton, came a white self Carnation, a good grower, well shaped petals; but as shown the flowers were with one or two exceptions thin and rough.

MESSRS. H. CANNELL & SONS, nurserymen, Swanley, had large bold bunches of a good sized rose coloured self, paling to delicate pink on the petal edges, and although to all appearance very free, too rough as shown for present day requirements.

From Mr. C. Blick, gr. to MARTIN SMITH, Esq., Hayes Common, Kent, came two very fine varieties, viz., *Nabob*, a bright buff self colour, the petal edges tinted with reddish-salmon, very fine in petal and bloom, an excellent grower and decidedly free; and *Her Grace*, the flowers opening with a bluish tint, changing to almost pure white when fully expanded, and which had all the high qualities of the preceding. In both cases an Award of Merit was made.

Mr. Williams, gr. to His Grace the Duke of MARLBOROUGH, Blenheim Palace, Woodstock, had a basket of plants of *Admiral*, a large deep yellow *Malmaison* type, full, of good shape, and an excellent grower, the plants to all appearance severely disabused (Award of Merit).

In marked contrast to this was a winter-flowering variety, shown by Messrs. W. BULCHIN & SON, Ilascocks Nursery, Sussex, and named *Mrs. Kate Bulchin*, ten plants of which were shown, having between them something like 100 expanded blossoms, of good petals and shape, sweetly-scented, a non-burster, the colour pale reddish-scarlet; a more free-blooming variety could scarcely be imagined, but as it had not been disabused, it stood but poor chance for recognition against the larger flowers now so much prized. It well deserved an Award of Merit.

A large and attractive group of *Malmaison* and other Carnations was staged by Messrs. W. CUTBUSH & SONS, The Nurseries, Highgate, N.; it consisted of a number of plants of light coloured *Malmaisons*, with patches of the yellow *Germania* in fine condition; *La Villette*, yellow ground, heavily flushed with pink, deepening to carmine; *Jersey Maid*, white; *Harrow Weald Beauty*, pink; *Cowslip*, pure white, the flowers having fine shell-shaped petals, very free, but with a tendency to droop in the flower-stems, the whole set off with *Palms* and *Ferns* in a very tasteful manner. Mr. Pentney, gr. to A. J. HOWARD, Esq., Worton Hall, Isleworth, also had a group of *Malmaison* and other Carnations, including *Uriah Pike*, in fine bloom; *Pride of Penshurst*, and others (Silver Banksian Medal). Lastly, Mr. G. Wythes, gr. to Earl Percy, Syon House, Brentford, had a group of white and rose coloured *Malmaisons*, in fine condition; and this, like the foregoing, was tastefully backed, fronted, and mingled with foliaged plants (Silver Banksian Medal).

#### Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (hon. sec.), Baron Schroder, T. B. Haywood, F. Courtland, W. Cobb, De B. Crawshaw, H. M. Pollett, J. Gabriel, T. W. Bond, W. H. White, H. J. Chapman, A. H. Snee, J. Douglas, E. Hill, and E. Mason.

There was a most extraordinary show of Orchids, which, though smaller, taken as a whole, surpassed the display made at the Temple Show.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), staged a neat group of beautiful species grown to perfection, especially noteworthy being *Laelio-Cattleya eximia*, with a grand four-flowered inflorescence of very rich colouring; two varieties of the handsome L.-C. *Canhamiana*, with massive flowers, the lip being a blending of rose, crimson, and purple tints; half-a-dozen noble varieties of *Odontoglossum crispum*, a *Mitonia vexillaria gigantea*, which was a mass of large bright rose-pink coloured flowers; and *M. v. radiata*, with handsome black-tinted blooms, the base of the lip having some effective rays of a claret colour; a fine specimen of *Laela majalis*, another of *Sobralia xantholena*, and the large *S. macrantha Kienastiana*, with snow-white flowers; *Cypripedium Stonei platycenium*, &c. The group was awarded a Silver Flora Medal.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. W. H. White), staged a charming group, in which were several brilliant-coloured *Masdevallia Harryana*, one of which, in a rather small pot, bore thirty flowers; the new rich purple and yellow M. *Rolfeana*; the pretty little M. *triumphista*, M. *simula*, and M. *guttulata*; M. *torta*, M. *Stella*, M. *Reichenbachiana*, and other *Masdevallias*; the pretty *Pleurothallis Groleylei*, *Saccolabium miniatum* (Botanical Certificate), and *Epidendrum fragrans* (Botanical Certificate), one of the earliest introduced of epiphytal Orchids; *Bulbophyllum Lobbiai*, a splendid variety of *Epidendrum prismatocarpum*, and the allied E. *Brassavola*; *Thunia Brymeriana* and the ure-white T. *candidissima*; *Dendrobium aduncum*, D. *bracteosum*, *Luisia Amesiana*, *Laelio-Cattleya x Arnoldiana*, L. *tenebrosa*, &c. (Silver Banksian Medal).

The Hon. Walter Rothschild, Tring Park, Tring, sent a splendidly flowered specimen of *Catasetum x splendens leucanthum*, with large creamy-white flowers, being of emerald-green in the spur and at the base of the sepals. In form and colour it most nearly approaches C. *Bungerothii*, like which, and C. *macrocarpum*, it is a natural hybrid. The present variety was charming, and secured an Award of Merit. Mr. ROTHSCHILD also showed fine examples of the yellow-flowered *Spathoglottis Lobbiai*, and S. *Kimballiana*, and a very singular little *Batemania* (?) from Costa Rica, a leafy, bulbless plant, with cream-white flowers, the curled reflexed sepals of which give the flower the appearance of having three spurs (Botanical Certificate).

MESSRS. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, were awarded a Silver Flora Medal for a splendid group, in the centre of which was a grand specimen of the best form of *Dendrobium thyrsiferum*, known as *Walkerianum*, surrounded by good forms of *Cattleya Mossie*, *Laela purpurata*, L. *tenebrosa*, and other *Cattleyas* and *Lelias*. On one side was a pair of the elegant *Disa x Langleyensis*, and on the other a similar one of *Disa x Kewensis*. Interspersed and effectively arranged were *Laelio-Cattleya x Hippolyta*, L.-C. *x Canhamiana*, the pretty pale-yellow L.-C. *Zephyra*, *Epidendrum aromaticum*, E. *vitellinum majus*, *Dendrobium Dearei* and other *Dendrobiums*, *Cypripedium x Clouinii*, C. *bellatulum*, C. *Curtisii*, *Odontoglossum*, *Cattleya citra*, &c.

Sir Frederick Wigan, Clare Lawn, East Sheen, showed the finest *Mitonia vexillaria* ever brought out in M. v. "Memoria G. D. Owen." The flowers were of the M. v. splendens class, but the mark at the base of the lip resembled the dark red expanded wings of a butterfly (First-class Certificate). Sir FREDERICK WIGAN also showed *Cattleya Mossie* "E. Ashworth," which may be described as a "Reineckiana" with a slate-coloured marbling on the front of the lip; and C. M. "Mrs. Egerton Grey," one of the largest and best of light-coloured *Mossies*.

H. T. Pitt, Esq., Rosslyn, Stoke Newington (gr., Mr. Aldous), was awarded a Silver Flora Medal for one of the best groups staged, and in which representatives of the showy things of the season were seen in excellent examples. The varieties of *Cattleya Mossie* were numerous and good, the best of all being C. M. *Pittiana*, a very large and well-formed flower, with a lip of a very beautiful rosy crimson colour, and crimped at the edges. Among other good subjects were some *Laela purpurata*, *Phaius x Owenianus*, *Celoglyne pandurata*, *Vanda Denisoniana*, *Angulata Clowesii*, *Oncidium phymatocilium*, *Odontoglossum*, *Cypripedium*, &c.

MESSRS. F. SANDER & CO., St. Albans, staged a large group, in which were *Batemania Wallisii*, *Phaius x Owenianus*, *Laelio-Cattleya x Arnoldiana*, *Sobralia x Ameske*, S. *x Veitchii*, *Dendrobium crystallinum*, D. *x suavissimum*, *Disa x Premier*, *Physochloa Loddigesii*, *Cirrhopetalum picturatum*, *Odontoglossum Harryana*, and other species of *Odontoglossum*; *Peristeria aspera* (Botanical Certificate), *Maxillaria nervosa*, *Pleurothallis tribuloides* (Botanical Certificate), *Aerides Houlettianum* and *Laelio-Cattleya x Mardelli* (C. *labata Lueddemanniana* (speciosissima) *x L. Mardelli*) a charming hybrid with much the same tints as L.-C. *x elegans* Turneri, and first raised by Messrs. Veitch, and flowered in 1879. It now received an Award of Merit, and the group a Silver Flora Medal.

WELLBORE S. ELLIS, Esq., Hazelebourne, Dorking (gr., Mr. Masterton), received a Silver Banksian Medal for a group of the favourite *Odontoglossum crispum* which he cultivates so well. The best were O. c. *Lord Sherborne*, a grand form of the O. c. *guttatum* class, fine in shape and clear in colour (Award of Merit), and O. c. *Mrs. Wellbore Ellis*, fine white bloom, with small purple blotches.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), sent *Laelio-Cattleya x Pytho* (L. c. *elegans* Turneri *x* C. *Loddigesii*), a pretty hybrid, with much of the form and rose colour of L.-C. *elegans*, but with broad, light purple undulated front lobes to the lip (Award of Merit); L.-C. *x Regalis* (f. *purpurata* ♀, C. *Mendelii* ♂), and L.-C.

regalis nigra, both of which resembled forms of L.C. × Canhamiana, though the differences accountable to different parentage on the one side were evident; and L.C. × Electra (C. Percivaliana × L. purpurata), but leaning to C. Percivaliana, but with a more ample lip, and lighter in colour. All of these were small plants, and will doubtless greatly improve.

Messrs. HUGH LOW & Co., Clifton, secured a Silver Flora Medal for an excellent group, in which the varieties of Cattleya Mossiae were fine. Specially noteworthy were C. M. E. Ashworth, a C. M. Reineckiana, with lip marbled slate-blue; Cattleya intricata maculata, like C. amethystoglossa, with a C. intermedia lip; C. Mossiae Reineckiana, Lelio-Cattleya × Schilleriana, L. tenelrosa, Epidendrum Godseffianum, and other Epidendrums; Bulbophyllum Dearingi, Cypripedium Curtisii, and the pale green C. Curtisii viride, C. bellatulum, &c.

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., had a nice group, in which the varieties of Vanda tricolor, Aerides odoratum, and other Orchids of the class which used to furnish the chief exhibition subjects, were well represented. With them were some good Odontoglossums, Cattleya labiata Warneri, Oncidium Marshallianum, the fragrant Vanda concolor, Anguloa Olowesii, Dendrobium polyphelebium, and other Dendrobiums, Cattleyas, Cypripediums, &c. (Silver Banksian Medal).

Messrs. W. L. LEWIS & Co. staged an effective group, in which Cypripedium × Gertrude Hollington superbum represented that magnificent hybrid at its best. Also in the group were a fine selection of Cattleya Mossiae, C. Mendeli, C. citrina, Oncidiums, Odontoglossums, &c.; also Cypripedium × Hobsoni (philippinense × callosum), and a remarkably pretty little Pogonia?, with one fleshy leaf, and erect spikes of pretty violet-lipped flowers, and green and brown marbling (Botanical Certificate, Bronze Banksian Medal).

ALFRED WARBURTON, Esq., Vine House, Haslingde, near Manchester, sent Lelia tenelrosa Victor Warburton, a very charming and distinct form, with the clear citron-yellow sepals and petals, as in L. f. Walton Grange var., but with a white lip delicately tinged, and lined in the centre with a peculiar reddish-rose colour.

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), sent Odontoglossum crispum Princess Mary of Teck, one of the best of large white O. crispums, and O. c. Miss Alice Adeline Gibson, also remarkably fine.

SIR CHAS. STRICKLAND, Bart., Hildonley, Malton, Yorkshire, (gr., Mr. W. Smith) showed flowers of his hybrid Cypripedium × (bellatulum × concolor Regnerii) very pretty and variable in marking; and a similar cross was sent by Mr. J. KEELING, Mount View Gardens, Glossop Road, Sheffield.

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent Masdevallia fragrans.

T. W. SWINBURNE, Esq., Corndean Hall, Winchcombe, showed a fine selection of Cypripedium bellatulum, &c.

WALTER COBE, Esq., Dulcote, Tunbridge Wells (gr., Mr. J. Howe), showed Cattleya Mossiae Wagnerii, Cobb's var., a noble white form with rich orange centre to the lip and a slight trace of rose at its apex.

HOLBROOK GASKELL, Esq., Woolton Wood, Liverpool, sent Cypripedium × Ledouxii; and Capt. THOS. A. JULIAN, Plymouth, sent a fine Cattleya Mossiae.

Fruit and Vegetable Committee.

Present: Philip Crowley, Esq., chairman; and Messrs. Malcolm Dunn, Jos. Cheal, G. W. Cummins, A. F. Barron, A. H. Pearson, T. Francis Rivers, J. Wright, Alex. Dean, Jno. A. Laing, Geo. Wythes, F. Q. Lane, G. H. Sage, H. Balderson, Robt. Fife, and Robert Hoag.

H. M. THE QUEEN (gr., Mr. O. Thomas) exhibited a large collection of Strawberries, including many varieties that are now but little cultivated as well as some of the latest rais. d. The entire collection exhibited first class cultivation. The varieties were Auguste Niceise, Black Prince, Grove End Scarlet, Keen's Seedling, King of the Earlies, Laxton's No. 1, Stevens' Wonder, James Veitch, Empress of India, Competition, La Grosse Sucrée, Sharpless, President, Sir J. Paxton Scarlet Queen, Guntton Park, La France, Vicomtesse Hélicart du Thury, Jno. Ruskin, Royal Sovereign, Laxton's Leader, Laxton's Monarch, Sensation, and Laxton's Noble (Silver Banksian Medal). A white fleshed Melon, with yellow exterior and named Frogmore Orange, was also from Her Majesty's Garden. The fruit was of medium size, juicy, and of good flavour (Award of Merit).

Mr. James Hudson, gr. to the Messrs. DE ROTHSCHILD, Gurnersbury Park, exhibited four Nectarine trees in pots, of the varieties Early Rivers and Lord Napier. The trees were well fruited, carrying between them forty-three fruits of good quality. Some ripe Bigarreau Cherries were from the same garden; they had been grown on a south wall (Silver Banksian Medal).

Messrs. E. J. SARGENT & Co., Brougham Road, Worthing exhibited twelve excellent fruits of Hero of Lockinge Melon, and a number of fruits of a Melon Stierin de Tours (Vilmorin), a scarlet-fleshed variety, with uncommonly deep cork-like netting, one eighth of an inch deep. Several Capsicums were also shown, including Doux d'Espagne (Vilmorin), Tromp de Elephant (Vilmorin), both producing long red pods; and Jeanne d'Or (Vilmorin), a yellow-fruited variety (Silver Banksian Medal).

Mr. Geo. Wythes, gr. to the Earl Percy, Syon House, Brentford, showed a collection of vegetables from the open ground. This included Potatoes: Veitch's Ashleaf, Early May, Early Bird, Sutton's A1, and Sutton's Ringleader.

Peas: William I., Duke of York, Duke of Albany, and Carter's Springtide. Also some nice heads of Walcheren Cauliflowers.

Mr. WINGFIELD, Amptill House, Amptill (gr., Mr. Empson), exhibited a creditable collection of fruits and vegetables (Silver Banksian Medal). A First class Certificate was awarded to Melon Anthony's Favourite, from the same garden, a scarlet fleshed variety, which obtained an Award of Merit in October last. It has a scarlet flesh, and is the result of a cross between Hero of Lockinge and Sutton's Masterpiece.

A First-class Certificate was awarded to a new Melon shown by Mr. W. MESSENGER, Wolverstone Park, Ipswich. This was a white-fleshed variety, of good size, oval shape, and exquisite flavour.

Messrs. LANTON BROS., Bedford, exhibited a large number of plants bearing fruits of their new Strawberry Leader. Also dishes of fruits of the same, and other varieties (Vote of Thanks).

Mr. J. CORBETT, Musgrave Castle Gardens, near Whitby, exhibited some fine fruits of a Tomato Royal Sovereign, a solid fruit of the Perfection type, which was referred to Chiswick.

A collection of vegetables from the Royal Horticultural Society's gardens at Chiswick included Potatoes, Peas, Cauliflowers, Turnips, Mushrooms, Radishes, Carrots, Asparagus, Lettuces, Beet, Onions, &c., and a dish of fine fruits of Guntton Park Strawberries. Some capital heads of Colchester Asparagus from beds twenty-five years old were exhibited by Mr. FRANK CHAPMAN.

Lecture by Professor Henslow.

In the afternoon a lecture upon the "Movements of Plants" was delivered by the Rev. Professor HENSLAW, and the subject was fully illustrated by means of a lantern. Commencing with the movements sometimes made by seeds, when the radicle emerges therefrom to strike straight down into the soil, Professor HENSLAW described many of the changes of position of which particular roots are capable. The next class of such phenomena explained was those peculiar to the stem, afterwards the habits of climbing plants, and the movements necessary to their existence as such were remarked upon. Reference to the motions observed in flowers and in fruits brought the interesting proceedings to a close.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS. Above 42° or below 42° the Mean for the week ending June 6.	TEMPERATURE.				RAINFALL. No. of Rainy Days since Dec. 29, 1895. Total Fall since Jan. 1, 1896.	BRIGHT SUN. Percentage of possible duration for the week. Percentage of possible duration since Dec. 29, 1895.	
	ACCUMULATED.						
	Day-deg.	Day-deg.	Day-deg.	10ths Inch.			
0 1 -	50	0	+ 169	- 314	4 +	111 24.6	14 25
10 aver	69	0	+ 197	- 241	6 +	79 8.2	25 32
2 4 +	98	0	+ 173	- 222	3 +	66 6.3	37 30
3 5 +	120	0	+ 108	- 229	1 -	74 7.2	61 34
4 5 +	124	0	+ 171	- 247	2 +	69 6.6	50 32
5 4 +	122	0	+ 153	- 240	1 -	63 5.8	64 35
6 1 +	84	0	+ 207	- 228	3 +	87 16.3	37 33
7 4 +	111	0	+ 234	- 261	1 +	77 11.3	39 33
8 3 +	105	0	+ 236	- 206	1 +	67 8.5	49 39
9 3 +	97	0	+ 247	- 233	2 +	88 12.9	37 30
10 2 +	104	0	+ 283	- 210	1 +	75 11.0	52 34
* 3 +	122	0	+ 332	- 109	5 +	74 6.6	54 43

The districts indicated by number in the first column are the following:—  
0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending June 6, is furnished from the Meteorological Office:—

"The weather continued fine and dry generally during the earlier days of the period, but subsequently became very changeable in all districts, with steady rain and some thunder in Scotland, and heavy showers, with occasional thunderstorms, in all other parts of the kingdom.

"The temperature was again above the mean in Ireland, England, and the west of Scotland, but only just equalled the normal in 'Scotland, E.,' and was a little below it in 'Scotland, N.' The highest of the maxima, which were recorded on May 31 in Scotland, on June 2 over England, and on irregular dates in Ireland, ranged from 85° in 'England, S.,' 84° in 'England, E.,' and 81° in the 'Midland Counties,' to 71° in 'Scotland, W.,' and to 61° in 'Scotland, N.' The lowest of the minima occurred during the early part of the week, and varied from 33° in 'England, E.,' 37° in 'Scotland, E. and W.,' and 35° in 'Ireland, N.,' to 42° in 'England, N.W.,' and to 5° in the 'Channel Islands.'

"The rainfall was a little less than the normal in 'England, S. and E.,' but exceeded it in all other districts. The fall over England was rather irregularly distributed, but the largest amounts occurred, as a rule, over the northern counties.

"The bright sunshine was less than the normal in Scotland, but exceeded it in nearly all the English and Irish districts. The percentage of the possible duration ranged from 64 in 'England, S.,' 61 in 'England, E.,' and 55 in the 'Channel Islands,' to 25 in 'Scotland, E.,' and 14 in 'Scotland, N.'"

NEW CARNATIONS.—The new Malmaison Carnations raised by MARTIN R. SMITH, Esq., in his garden at Hayes, Kent, comprising Lady Grimston, Trumpeter, Prime Minister, Lord Rosebery, and the pure white Nell Gwynne, have passed into the hands of Mr. J. DOUGLAS, of Great Bookham, and will probably be distributed in the autumn of the present year.

MARKETS.

COVENT GARDEN, JUNE 11.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. En.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Heliotrope, per doz. 4 0-6 0
Aspidistra, per doz. 12 0-30 0	Hydrangea, various per doz. 9 0-24 0
— specimen, each 5 0-15 0	Ivy Geraniums per dozen 4 0-6 0
Calceolaria, p. doz. 6 0-9 0	Lilium Harrisii, pr. dozen ports 12 0-21 0
Cock's comb, doz. 4 0-6 0	Lobelia, per doz. 4 0-6 0
Coleus, per doz. 3 0-6 0	Marguerites, p. doz. 6 0-10 0
— various, per doz. 1 0-7 6	Mignonette, p. doz. 4 0-8 0
Ericas, various, per doz. 9 0-24 0	Palm, various, ea. 2 0-10 0
Evergreen Shrubs, in variety, doz. 6 0-24 0	— specimens, ea. 10 6-84 0
Ferns, small, doz. 1 0-2 0	Pelargoniums, doz. 8 0-12 0
Ferns, various, doz. 5 0-12 0	— Scarlets, p. doz. 3 0-9 0
Ficus elastica, each 1 0-7 6	Spiraeas, per doz. 8 0-12 0
Foliage plants, doz. 12 0-36 0	

Bedding Plants in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Tasmanian, per bushel case, 9 6-11 0	Nectarines, 1st size per doz. 12 0
— 1st quality, 9 6-11 0	— 2nd do., p. doz. 6 0-8 0
Figs, per doz. 4 0-6 0	Peaches, 1st size per doz. 12 0-18 0
Gooseberries, per half-sieve 4 0-5 0	— 2nd do., doz. 8 0-9 0
Oranges, Alicante, per lb. 2 0 —	— 3rd do., doz. 3 0-4 0
— Hamburg, lb. 1 3-1 9	Pine-apples, St. Michael, each 2 0-5 0
— Muscats, English, per lb. 3 0-4 0	Strawberries, Paxtons, Southampton, per basket of 4 lb. 2 6-3 6
— Muscat, Channel Islands, lb. 2 0-3 0	— Nobles, Southampton, do. 2 0-3 0
Melons, each 1 6-2 0	

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Beans, English, lb. 0 8-0 9	Onions, English, p. cwt. 3 0-4 0
— Channel Is. Linds, per lb. 0 6 —	Peas, per sieve 3 0-4 0
Cucumbers, per dz. 2 0-3 6	Tomatoes, home-grown, smooth, p. doz. lb. 6 0
Mint, per bunch 0 2-	
Mushrooms, per lb. 0 9-1 0	

NEW POTATOES.

SUPPLIES not heavy; market firm, at last quotations. J. B. Thomas.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0-4 0	Orchids:—	
Azalea, 12 sprays...	0 4-0 6	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bn.	0 6-1 0	O d on to glossum	
Carnations, 12 blms.	1 0-2 0	crispum, 12 bn.	3 0-6 0
Eucharis, per dozen	2 0-4 0	Pelargoniums, scar-	
Forget-me-nots, p.		let, per 12 bun.	3 0-6 0
doz. bunches ...	1 6-3 0	— per 12 sprays ..	4 0-8 0
Gardenias, per doz.	2 0-4 0	Polyanthus, 12 bun.	2 0-4 0
Iris, various, per		Poppay, doz. bun.	0 9-1 6
doz. bunches ...	4 0-9 0	Pyrethrus, 12 bu.	2 0-4 0
Lilac, French, per		Roses, Tea, per doz.	0 9-1 6
bunch ...	3 0-5 0	— coloured, p. doz.	1 0-2 0
Libum Harrisii, bu.	2 0-4 0	— yellow (Maré-	
Maidenhair Fern,		chal), per doz.	3 0-6 0
per 12 bunches...	4 0-8 0	— red, per dozen	2 0-4 0
Marguerites, 12 bn.		— red, doz. bun.	4 0-8 0
bunches ...	2 0-4 0	Gloire, doz. bn.	4 0-8 0
Mignonette, 12 bu.	3 0-4 0	— Safrano, p. doz.	1 0-2 0
Narcissus, White,		— Moss, doz. bms.	0 6-1 0
12 bun. ...	2 6-4 0	Spiraea, doz. bun.	2 0-4 0
Paeony, doz. blooms	0 6-1 6	Stephanotis, 12 sps.	1 6-2 0
Pansies, doz. bun.	1 0-2 0	Tuberoses, 12 blms.	0 4-0 9

ORCHID-BLOOM in variety.

SEEDS.

LONDON: June 10. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the recent most welcome rains have naturally caused a slightly increased sowing demand, more particularly for Spring Tares and Swedish seed. For Clover, and especially Profail seeds, there is still a good speculative inquiry, the latter article has, indeed, during the last fortnight, advanced several billings per cwt. Mustard and Rape seed show no change. New Turkish Canary seed, to arrive, is quoted to-day cheaper than ever before known Hemp seed is also dull. The market for Peas and Haricots is steady. The Board of Trade Returns give the imports of Clover and Grass seeds into the United Kingdom for the first five months of this year as cwts. 237,230, value £457,664, as against cwts. 223,838, value £524,637 for the corresponding period of last year.

FRUIT AND VEGETABLES.

BOROUGH: June 9.—Quotations:—Onions, 6s. to 7s. per cwt.; Spring do., 1s. to 1s. 6d. per doz. bunches; Horse-radish, 1s. 9d. to 2s. 3d. per bundle; Cabbages 1s. 6d. to 1s. 8d. per tally.

SPITALFIELDS: June 9.—Quotations:—Cabbages, 2s. to 3s. per tally; bunch Greens, 1s. 3d. to 1s. 6d. per dozen; Spring Onions, 1s. 6d. to 2s. per dozen bunches; Lettuce, 9d. to 1s. per score; Peas, 2s. to 3s. per bushel (whites); do., Longpods, 4s. to 6s. do.; do., Blues, 3s. to 4s. do.; Mint, 2s. to 2s. 6d. per dozen; Parsley, 1s. to 1s. 6d. doz. bunches; Leeks, 1s. to 1s. 6d. do.; Asparagus, 6s. to 12s. per dozen bundles; Rhubarb, 1s. 6d. to 2s. do.; Cucumbers, 2s. to 3s. per dozen; Spinach, 9d. to 1s. per bushel; Beets, 1s. 6d. to 2s. do.

STRATFORD: June 9.—Quotations:—Trade has been rather better for all classes of produce. Demand has been brisker. Mangels are in demand. Cabbages, 1s. to 3s. per tally; Greens, 1s. to 2s. per dozen bunches; Cauliflowers, 1s. to 2s. per dozen; Beetroot, 6d. to 8d. per dozen; Horse-radish, 2s. to 2s. 6d. per bundle; Parsley, 1s. to 1s. 6d. per dozen; Rhubarb, field, 2s. to 2s. 3d. per dozen bunches; Leeks, 1s. 6d. to 2s. do.; Spring Onions, 1s. to 1s. 6d. do.; Salad, 1s. 6d. to 2s. per dozen punnets; frame Cucumbers, 1s. 6d. to 3s. 3d. per dozen; Asparagus, 6d. to 1s. 3d. per 100 heads; Green Peas, 2s. 6d. to 2s. 9d. per bushel; do., 4s. to 5s. 6d. per bag; Tomatos, 5 1/2d. to 6d. per pound; Turnips, 1s. 9d. to 2s. per dozen bunches; Carrots, bunches, 4s. to 6s. do.; Mangels, 10s. to 12s. per ton; Peas, 25s. per quarter; Onions, Egyptian, 90s. to 100s. per ton.

FARRINGTON: June 11.—Quotations:—Cabbages, 3s. per tally; Turnips, 2s. 6d. per dozen bunches; Carrots, 4s. do. (new and old); Leeks, 2s. per dozen; Spring Onions, 2s. per dozen bunches; Horse-radish, 1s. 6d. to 2s. per bundle; Lettuce, 1s. 6d. per score (good); Parsley, 2s. per dozen bunches; Broad Beans, 4s. per bushel; Asparagus, 1s. per bundle; Endive, 2s. per dozen; Cucumbers, 2s. to 3s. 6d. per dozen; Gooseberries, 4s. per bushel; Cherries, 9s. per half-bushel; Tomatos, English, 8s. per dozen pounds; Jersey, do., 6s. do.; Mushrooms, 8s. do.; Strawberries, 2s. to 2s. 6d. per basket of six pounds; French do., 6s. per dozen pounds; Apples, 10s. to 12s. per case.

POTATOS.

BOROUGH: June 9.—Quotations:—Old ranged from 36s. to 90s. per ton; New, 5s. to 11s. per cwt.

SPITALFIELDS: June 9.—Quotations:—New: Jersey Flukes, 9s. 6d. to 10s. 6d.; Kidneys, 9s. to 10s.; St. Malo Kidneys, 8s. 6d. to 9s.; Flukes, 9s. to 10s. per cwt. Old: Highland Bruce, 30s. to 50s.; Blacklands, 27s. to 30s. per ton.

STRATFORD: June 9.—Quotations:—New: Jersey Kidneys, 9s. to 10s.; do. Flukes, 9s. 6d. to 10s. 6d.; Cherbourg, 8s. to 8s. 6d.; St. Malo Flukes, 8s. 6d. to 9s. 6d.; Lisbon, 5s. to 6s.; Canary, 4s. to 10s. per cwt. Old: Dark soil Bruces, 15s. to 20s.; light do., 15s. to 30s.; Reading Giants, 15s. to 40s.; Magnums, 15s. to 40s. per ton.

FARRINGTON: June 11.—Quotations:—Old, 20s. to 30s. per ton. New: Jersey Flukes, 10s. to 11s.; do Kidneys, 8s. to 9s. 6d. per cwt.

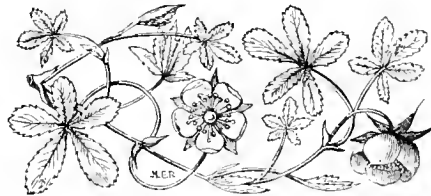
LONDON MARKET AVERAGES: June 10.—Quotations:—New: Jersey, 9s. to 10s.; Guersey, 8s. to 9s.; Cherbourg, 7s. to 8s.; St. Malo, 8s. to 9s.; Lisbon, 5s. to 6s. per cwt. Old: Dunbar Main Crop, 50s. to 70s.; do. Bruce, 50s. to 60s.; Imperators, 30s. to 40s.; Magnums, 20s. to 30s. per ton.

ENQUIRIES.

"He that questioneth much shall learn much."—Bacon.

NEPHELIUM LIT CHI.—A correspondent from Belgum asks where plants of the Lee Che can be obtained in quantities to stock a plantation in the Argentine Republic.

PICEA (OR ABIES) ALBA.—Will some lover of Conifers kindly send by post a spray with cones of this species to "S," care of the editor of this journal. What is generally grown in this country as Abies alba seems really to be A. nigra.



NOTICES TO CORRESPONDENTS.

ANNUALS FOR THE SPRING GARDEN: May. We can only give you the names of a few. Alyssum maritimum, sow in middle of August; Bartonina aurea, at the same time; Calandrinia speciosa and C. umbellata, sow at end of August; Collinsia in variety, beginning and middle of August; Escholtzia, beginning of July; Gypsophila elegans, middle of August; Limnanthes Douglasii, end of August and later; Myosotis in variety, middle of June; Neomphala, end of August; Saponaria calabrica and S. c. alba, middle of August; Silene pendula, end of July; Virginian Stock, end of August; Clarkias in variety, if sown in pots in September, and wintered hardily in cold frames, thinned out to three plants in a pot, and shifted on into 32's in February, make splendid beds if planted out in early April. They are worth all the trouble of this kind of culture. The time of sowing above given may, in the case of the warmer counties, be a fortnight later.

BLOOD MANURE: W. B. S. N. The high-dried blood-manure of commerce contains only 3 to 4 per cent. of nitrogen, and 15 per cent. of ammonia. Partially dried blood contains from 6 to 7 per cent. of ammonia. We cannot tell you, as an amateur, how you can manage the drying.

BOOKS: M. C. We do not know of any book in our language which describes the methods and practices of bouquetistes. These have to be learnt in the usual manner in a florist's shop.—NICHOLSON'S DICTIONARY: H. B. No book could contain all the plants cultivated in gardens. Next week we will endeavour to relieve some of your perplexities.

CARNATIONS DYING OFF: E. L. Stafford. The plant sent is affected with eel worms (Tylenchus), as are doubtless all of the other plants in bad condition. The worms exist in the tissues of the leaves and collar of the plant, where no remedial means can reach them which would not kill the plant. Burn every affected plant, and cultivate your Carnations another year on a piece of land at some distance from the bed of this year. See *Gardener's Chronicle*, December 3, 1881, p. 721, for article and figure.

CERASTIUM TOMENTOSUM: G. B. Slips put in, in a shady place in August, soon make roots.

CUCUMBER SHOOTS UNHEALTHY: A. B. Due probably to errors in cultivation. Keep a night temperature of 65°, and one by day of 85° maximum; supply the roots with plenty of water. Stop the shoots regularly and thin them out rather severely at short intervals of time.

ERGOT: *Phyllostachys*. Not Ergot. We will examine and report.

FERN: A. R. We detect nothing on the fronds except the sori of the fructification. These have apparently been mistaken for parasites.

GREEN BRICK FLOOR: J. B. Scalding water in which plenty of washing soda is dissolved; white vitriol, and weed-killer may be tried for ridding the bricks of the path of the greenness that over-spreads them.

HEUCHERA: L. C. The plant of Heuchera looks in a sorry condition, but we can find no disease which we can name. There is no fungus growth in the tissues, and no affection of the roots. In fact, from the plant itself we can see no efficient cause, and think it must be something in the surroundings which causes the mischief. M. C. C.

HYGROMETER: *Margarct*. The difference between the readings of the two thermometers will be greatest when the air is driest, and zero when it is completely saturated with moisture. The height of the mercury in each of the thermometers being found, the elastic force of vapour at the dew point is calculated by Dr. Apjohn's Formula (Proceedings of Royal Irish Academy, 1840):—

$$(1) F = f - \frac{d}{88} \cdot \frac{h}{30}$$

$$(2) F = f - \frac{d}{96} \cdot \frac{h}{30}$$

The first formula to be used when the wet thermometer is above, and the second when it is below, the freezing-point. *F*, is the elastic force of vapour at the dew point; *d*, the hygrometric depression or depression of the dew point; *h*, the height of the barometer. After *F* has been determined, the quantity of moisture in a cubic foot of air can be found according to the following formula—weight

of moisture in grains =  $\frac{5656 \cdot 2}{448 \times t} \times p$  where *t* is the temperature of the air at the time of observation, *p* is found from tables.

MELON DISEASED: G. H. Badly affected with eel-worms, often described and figured in these columns. Burn the plants, and get fresh soil.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—R. C. W. Thunia alba.—F. Y. 1, *Cratogeomys pyræantha*; 2, *Jasminum fruticosum*—*Ambrosia*. *Asphodelus luteus*.—Mrs. H. *Cynoglossum officinale*.—V. C. 1, *Listera ovata*; 2, *Lotus corniculatus*; 3, *Veronica Chamædrys*; 4, *Anthriscus vulgaris*; 5, *Tanacetum vulgare*; 6, *Sium latifolium*; 7, *Geranium pratense*.—J. W. 1, *Campanula persicifolia* var.; 2, *Agrostema coronaria*; 3, *Stenactis speciosa*; 4, perhaps a *Rudbeckia*; 5, *Campanula glomerata*; 6, *Pyrethrum uliginosum*.—W. C. 1, *Poa pratensis*; 2, *Holcus lanatus*; 3, *Avena flavescens*; 4, *Lolium perenne*; 5, *Bromus mollis*; 6, *Dactylis glomerata*; 7, *Alopecurus agrestis*.—H. E. D. 1, The Common Snowberry. *Symphoricarpos racemosus*; 2, *Symphytum tuberosum*; 3, *Lychnis diurna*; 4, *Hypericum calycinum*; 5, not recognised; 6, *Corydalis lutea*. Very likely we made a mistake—we do not pretend to infallibility.—W. H. M. Quite withered when received. It looks like *Exochorda* (or *Spiraea grandiflora*).—D. P. *Silene noctiflora*.—E. C. C. D. *Lonicera japonica*.—J. B. *Cypripedium Godefroye leucocolum*.—W. S. T. 1, *Cornus sanguinea*, Wild Dog-wood; 2, *Acer eriocarpon*; 3, A. *Ginnala*.—H. H. H. *Muscari comosum*.—W. T. 1, *Cratogeomys coccinea*; 2, *Verbascum phonicum*.—W. S. L. *Lonicera* next week.—A. J. S. *Schizanthus pinnatus*.—W. T. J. 1, *Rhododendron blandfordiaeflorum*; 2, *Zenobia speciosa*; 3, *Empiphoria cyparissias*; 4, *Raphiophylla ovata*; 5, *Indigofera decora*; 6, *Azara microphylla*.—F. E. 1, *Lychnis viscaria*, double-fl.; 2, *Veronica gentianoides*; 3, *Lupinus polyphyllus*; 4, *Genista tinctoria*; 5, *Xeranthemum*; 6, *Spiraea bullata*.—J. L. C. *Campanula glomerata*.—D. T. F. 1 and 2, *Pinus*, not recognised; please send better specimen; 3, *Abies bracteata*; 4, *Cupressus obtusa* var. *filicoides*; 5, *Torreya Myristica*; 6, *Sequoia sempervirens*; 7, *Juniper virginiana*; 8, *Picea nigra* (probably); 9, *Sequoia sempervirens*; 10, *Abies grandis*; 11, *A. pungens glauca*.—H. B. *Gomezia planifolia* is correct, and not a misprint. Nicholson's Dictionary does not contain all garden-plants. How could any book do so?

PANSIES: F. W., *Dover*. The climatic conditions in Sheffield are doubtless unfavourable to Pansy culture. If you have not grown them in pots under glass for early blooming, you should do so. Kindly send a specimen of a "dwindling" plant for our inspection.

PEACH BLISTER: C. L. Very common; the result of a fungus often figured and described in these

columns. Spraying early in the season with weak Bordeaux Mixture would keep it in check. Burn the affected leaves so far as you can.

**PINKS OF ALL KINDS: Amateur.** Take pipings forthwith, selecting strong wiry grass, cutting them transversely through, just below a joint where the growth has obtained a certain degree of hardness. Never let the cuttings flag, but before making and when made keep them immersed in a vessel of water. In a small way the cuttings can be struck in boxes of 6 inches in depth, furnished with a few holes in the bottom to prevent the water stagnating, but not so numerous as to cause rapid drying of the soil, for Pink cuttings once watered should not receive any more water till rooted. Place some coarse gravel, crocks, &c., at the bottom, then 3 inches of sandy soil, water it heavily, and whilst in a state of mud stick in the cuttings, and as deep as the lower leaves. Cover with a piece of glass, and keep close, putting the box on the north or shady side of a wall. Take off the glass for fifteen minutes once in three or four days to dissipate excess of moisture, and in three weeks every cutting almost will have made roots. The glass is then no longer wanted, and the box should be placed in the sun; and in August the Pinks may be planted in beds or patches of five or six plants, which is the better way for planting in mixed borders, single plants making no show till the second year. Carnations may be similarly increased, but the percentage of losses will be considerable.

**SACHALIN: Succaline.** Your plant is *Alyssum maritimum*. Sachalin is an island north of Yezo belonging to Russia.

**SMALL GRAPE BERRIES: A Constant Reader.** The result of imperfect setting, which might have been averted by your using pollen of other varieties.

**STRAWBERRIES: Strawberry.** There must be something the matter with the variety *Héricart du Thury*, which does badly, whilst others do well—eel worm, weevil grub, or fungus. Kindly send a plant or two of the variety for examination. Yes, the plant requires potash.

**TOMATO MOULD: Anxious One** has sent us specimens of a very bad condition of this pest, which is extremely common this year. It is caused by *Cladosporium fulvum*, which was first described in this journal, October 20, 1887, and has continued since to increase and spread. We have been assured by one or two cultivators on a large scale, that it may be kept in check by limiting the supply of water, lowering the temperature, and admitting fresh air. One tells us that he has never suffered since he adopted this method. It is as common in the United States as with us, and it is recommended there to keep the temperature as nearly even as possible. It is stated that "the fungus is more likely to attack plants under glass which have been subjected to sudden changes of temperature, such as may be caused in winter by the fires becoming low or too much ventilation during cold, and especially windy weather." Even there, where fungicides are freely applied, we learn that spraying is of no service after the fungus has made its appearance. It has been proved that healthy plants may be inoculated with the spores from diseased individuals. — A. C. The old trouble; the plants infested with the common Tomato mould, *Cladosporium fulvum*. Gone too far for remedy. Try an equable lower temperature, and more ventilation. M. C. C.

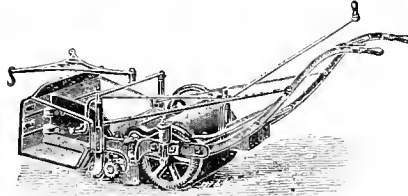
**TOMATOS AND A DRY ATMOSPHERE: J. B.** Most of the fungous diseases of Tomatos are set up by heat and moisture combined, and your experiment in stopping the spread of the disease by keeping up a high temperature with dryness, is of much interest to cultivators. We will publish your note in our next issue.

**VINE AND TOMATO LEAVES: Derby.** The spots on Tomato leaves are the common brown mould, *Cladosporium fulvum*—which depends very much upon temperature and ventilation. The discoloured spots on the Vine leaves are no evidence of disease. It is difficult to affirm what caused them, but probably some surroundings which may be corrected. Otherwise the leaves are healthy and vigorous enough. M. C. C.

COMMUNICATIONS RECEIVED.—W. G. S.—A. O. W.—J. B.—W. J. B.—J. W.—J. B. T.—C. F. D.—W. T. T.—D.—J. B.—Thos. Honey, Athens.—J. P.—T. J. L.—E. Pragnell.—D. T. P.—A. H.—G. G.—R. A. R.—A. D. W.—J. McIntyre.—A. M. M.—R. Maher.

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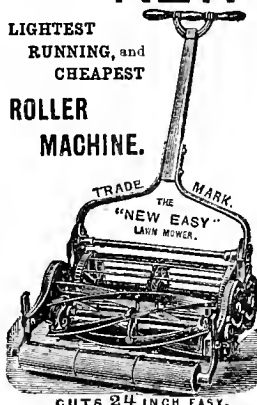
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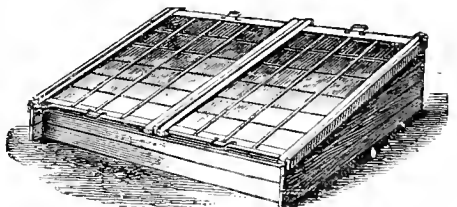
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11 " ..	0 6 6	22 " ..	0 12 0
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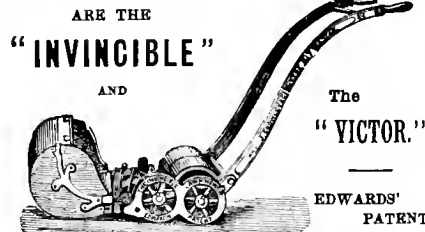


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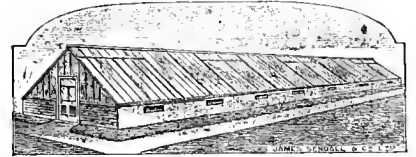
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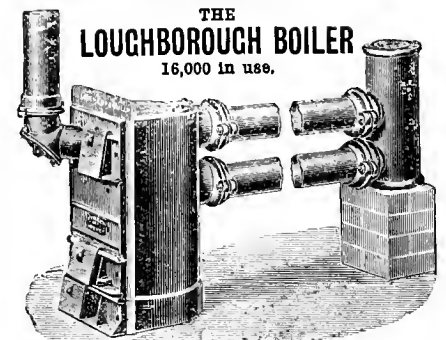


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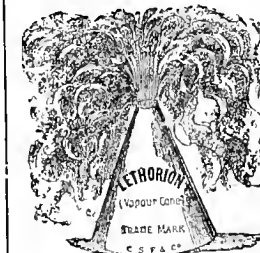
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SPORTING and the FIELD, in which is incorporated BELL'S LIFE in SYDNEY.  
RECORD of RAOES and NOTES on the TURF.  
CRICKET and AQUATICS.  
THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)  
NATURAL HISTORY. (Original Articles.)  
AGRICULTURE, PASTORAL, HORTICULTURE.  
GOLD FIELDS and MINING generally.  
STOCK and SHARE REPORTS.  
ORIGINAL and SCIENTIFIC ARTICLES.  
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.  
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INDOOR AMUSEMENTS.  
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**TO GARDENERS.—D. HILL, Underhill** Park, Sandgate, Kent, will be pleased to recommend a young Man, age 26, single, in a good Garden, Inside and Out.

**TO GARDENERS.—Wanted, by active young** Man, age 22, situation in the Kitchen Garden, or Kitchen Garden and Pleasure Grounds. Good experience; good references.—L. D., 4, Crown Lane, Chislehurst, Kent.

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**TO NURSERYMEN.—Situation wanted in** Nursery; twelve years' good experience in Budding, Grafting, Training, and growing of Roses, Fruits, &c. Age 29, married.—H. CAUSON, Nessfield, near Ilkley, Yorks.

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**TO NURSERYMEN.—Situation wanted, by** a young man, age 25, who has been used to Growing Cucumbers, Tomatoes, and Outdoor Stuff for Market. Four months' good character, and five and a half and twelve months' previous.—F. C., Fabdean, Youngsbury, near Ware.

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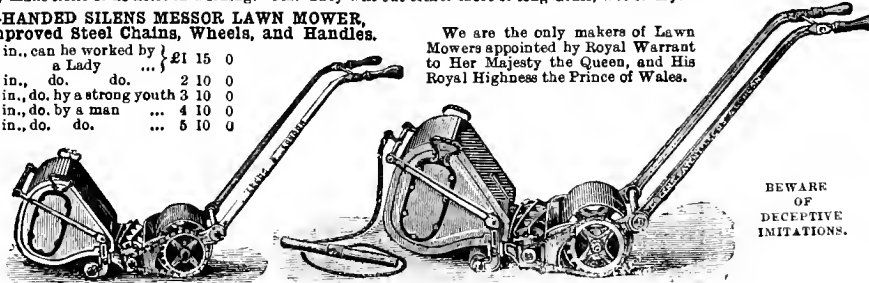
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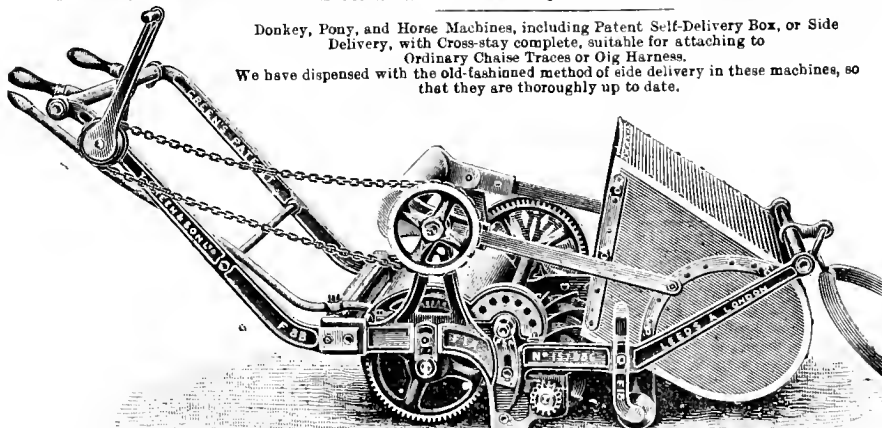
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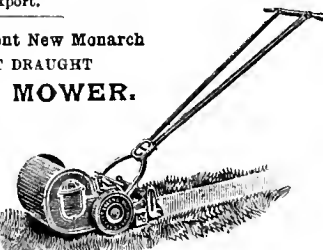
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The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day they are received.

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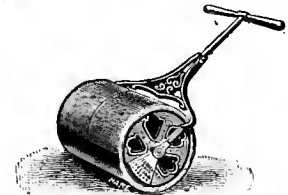
N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

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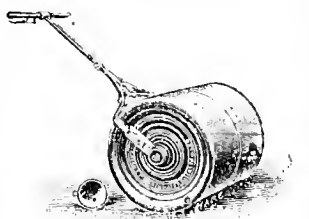


PRICES OF	cwt. qr. lb.	Diam.	Length.	Reduced Prices
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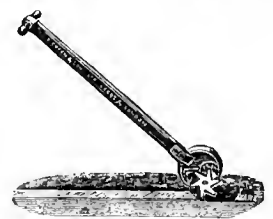
PRICES, INCLUDING WATER FUNNEL.	cwt. qr. lb.	Diam.	Length.	Reduced Prices
ING WATER FUNNEL.	2 1 14	18 in.	by 17 in.	£3 0 0
	3 1 0	20 in.	22 in.	4 0 0
	5 2 0	24 in.	26 in.	5 5 0
	6 2 0	28 in.	30 in.	7 0 0
	8 2 0	32 in.	33 in.	9 5 0

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# The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2895.

No. 495.—VOL. XIX. { THIRD SERIES. }

SATURDAY, JUNE 20, 1896.

{ REGD. AS A NEWSPAPER. } PRICE 3d. POST-FREE, 3½d.

## CONTENTS.

Adiantum Farleyense, rapid growth of ...	700	Plant portraits ...	766
Ardaraoch Orchids, sale of the ...	765	Plants, new or noteworthy—	
Asparagus-fly, the ...	765	<i>Lælia purpurata</i> var. Mrs De B. Crawshaw	754
Berlin Industrial Exhibition, horticulture at	759	<i>Oncidium Godsealium</i> ...	754
Books, notices of—		<i>Poetry, the, of gardening</i> ...	753
<i>Cocoa</i> , all about it ...	766	<i>Polyanthuses</i> ...	768
<i>Journal of the Kew Guild</i> ...	764	<i>Propagation, methods of</i> ...	736
<i>Lloyd's Natural History</i> ...	765	<i>Rain and spray on the form of leaves, influence of</i> ...	766
<i>Rosæ, two new hybrid</i> ...	757	<i>Societies—</i>	
<i>Brodiea Howelli lilacina</i> ...	767	Edinburgh Botanical ...	769
<i>Burrs, a use for</i> ...	764	Royal Horticultural ...	762
<i>Bush fruit-trees</i> ...	760	Cheshunt, Wormley and District Horticultural Debating ...	764
<i>Cabbages botling</i> ...	768	Ghent Royal Agricultural and Botanical ...	764
<i>Children and Natural History</i> ...	766	York Gala ...	769
<i>Ferns, British</i> ...	755	<i>Starch in Potatoes, and sugar in Beet, the quantity of</i> ...	768
<i>Fruit-drying</i> ...	766	<i>Strawberries as annuals</i> ...	755
<i>Gardeners' Company, the Glasgow Botanical Gardens</i> ...	770	<i>Tulipa Batalina</i> ...	759
<i>Grapes, old and new</i> ...	767	<i>Tulipa Maximowiczii</i> ...	757
<i>Group of plants in Derry Ormond Park Gardens</i> ...	762	<i>Varietated honesty</i> ...	768
<i>Magnolia Watsoni</i> ...	765	<i>Vine House, Haslingden</i> ...	758
<i>Mitouia vexillaria</i> "Memoria G. D. Owen" ...	755	<i>Week's work, the—</i>	
<i>Nemesis strumosa</i> ...	768	<i>Flower garden, the</i> ...	760
<i>Orchid notes and gleanings</i> ...	757	<i>Fruits under glass</i> ...	761
<i>Orphan Fund, the Royal Gardeners'</i> ...	762	<i>Hardy fruit garden, the</i> ...	760
<i>Pansies, a contribution to the history of</i> ...	754	<i>Kitchen garden, the</i> ...	761
		<i>Orchid houses, the</i> ...	760
		<i>Plants under glass</i> ...	761

## ILLUSTRATIONS.

Brodiea Howelli lilacina	767
Group of plants in Mr. Inghis' garden, Derry Ormond Park, Cardigan-shire	763
Mitouia vexillaria, "Memoria G. D. Owen"	755
Portrait of the Duke of Bedford	765
Tulipa Batalina	759
Tulipa Maximowiczii	757

## NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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Thursday Next, June 25.

GRAND IMPORTATION OF PERISTERA ELATA (?),  
C. MOSSLE, ETC.

**MR. J. C. STEVENS** will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, W.C., on **THURSDAY NEXT**, June 25, at half-past 12 o'clock precisely, by order of Messrs. Lewis & Co., Southgate, an **IMPORTATION OF ORCHIDS**, comprising *L. Præstans* (true), *L. anceps* Barkeri, *C. Warneri*, *C. Harrisonæ*, *viola*, *Odontoglossum Londeseboroughianum*, *O. madrense*, *O. Forbesii*, *O. sacrodes*, *C. niveum* in flower, fine variety. Also an importation of **EAST INDIAN** and **MEXICAN ORCHIDS**, by order of Mr. J. W. Moore, of Eldon Place Nursery, Bradford, a small collection of rare, curious, and remarkable ORCHIDS, an importation of *C. LINDERMANNIANA* and *C. MOSSLE*, among which the white variety may be expected. Also a grand importation of **PERISTERA ELATA**? from Columbia in magnificent condition, without reserve. Also **STOVE** and **GREENHOUSE PLANTS**, **PALM SEEDS**, &c. On view morning of Sale, and Catalogues had.

Friday Next, June 26.

By order of Mr. P. McARTHUR.

A grand importation of **UROPEDIUM LINDENI**, in splendid condition; this distinctly beautiful plant is extremely rare. Together with—

**CATTLEYA MOSSLE SPLENDENS.**  
**ANGULIA CLOWESII.**  
**ODONTOGLOSSUM STELLMICANS.**  
**ONCIDIUM PAFILIO MAJUS.**

And a Complete Edition of Messrs. F. Sander & Co.'s *Reichenbachia*, unbound, in good condition. (Another property.)

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**MESSRS. PROTHEROE AND MORRIS** will **SELL** the above by **AUCTION**, at their Central Sale Rooms, 87 and 88, Cheapside, London, E.C., on **FRIDAY NEXT**, June 26, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, June 26.

**CATTLEYA MENDELI.**

In fine condition and with good dormant and starting eyes, of which the sender says:—"They are of a grand type and come from a new district where hardly ever plants have been collected before. The flowers which I saw were very fine, mostly with pure white sepals and petals, the broad lip rich purple-crimson. My collector tells me that he saw two or three plants with wholly pure white flowers. Unfortunately he has not marked them, and I would not allow him to attempt to select them, so all must go together."

These are, in spite of the long and difficult journey which admitted of only a small lot being brought, in capital condition, and every piece which came is included in the sale.

**MESSRS. PROTHEROE AND MORRIS** will include the above in their **ORCHID SALE** on **FRIDAY NEXT**, June 26.

On view morning of Sale, and Catalogues had.

Harefield Grove, Rickmansworth, Herts.

About 2 miles from the town, with Stations on the L. & N. W. and Metropolitan Railways, and 6 miles from Watford, with Station on the L. & N. W. Railway.

IMPORTANT SALE OF VALUABLE GREENHOUSE PLANTS, &amp;c.

**MESSRS. SEDGWICK, SON AND WEALL** will **SELL** by **AUCTION**, upon the Premises, on **MONDAY**, June 29, 1896, at 11 o'clock precisely, the whole of the valuable **GREENHOUSE PLANTS**, consisting of many finely-grown **PALMS**, including *Chamerops*, *Kentia*, *Latania*, *Phoenix*, *Scaevola*, &c.; **ORCHIDS**, comprising *Cologlyne*, *Cattleya*, *Dendrobium*, *Lælia*, *Odontoglossum*, &c. About 200 *Calla æthiopica*, 175 *Eucharis amazonica*, 400 *Amryllis* (various), *Maidenhair* and other Ferns, and numerous other plants, being the contents of about twenty houses, about 24,000 flower-pots, the furniture in both, garden tools, and numerous outdoor effects.

Catalogues may be had at the usual hotels and inns in the neighbourhood; of Messrs. **CHATTERS, NICHOLS, AND CO.**, 1, Queen Victoria Street, E.C.; and of Messrs. **SEDGWICK, SON, AND WEALL**, Land and Timber Surveyors, Estate Agents and Auctioneers, 38, High Street, Watford, Herts.

Longfield Lane, Cheshunt, Herts.

By order of the owners.

TO NURSERYMEN AND GROWERS.

**MESSRS. CRAWTER** are instructed to **SELL** by **AUCTION**, at the Four Swans Hotel, Waltham Cross, on **THURSDAY**, July 2, 1896, at 6 for 7 o'clock precisely, a **VALUABLE FREEHOLD NURSERY**, situated in Longfield Lane, Cheshunt, comprising about 6 acres of Land, a well-built House with eight large and lofty rooms, and about 1,200 feet run of Glasshouses, all in thorough repair, and heated by rows of hot-water pipes.

The Nursery, which is situated about 2 miles from Cheshunt Railway Station, has been worked by the owners themselves for several years past, thus offering an opportunity to an enterprising man of securing a first-class property in working order.

May be viewed at any time, and particulars and conditions of sale obtained of A. C. LEE, Esq., Solicitor, Waltham Abbey and Cheshunt; Messrs. **AVERY & CO.**, Solicitors, 34, Finsbury Pavement, E.C.; at the place of sale; of Mr. J. **CRAWTER**, 41, Bedford Row, W.C.; or of Messrs. **CRAWTER**, Land Agents and Auctioneers, 9, Cheshunt, Herts.

**To Manufacturers, Building Societies, Nurserymen AND OTHERS.**—BLAKE AVENUE ESTATE, situated about 2-mile from Angel Road Station, G.E.R., and the Lea Navigation. It contains an area of about 21½ acres, with important frontage of 550 feet to the main road, from Angel Road to Waltham Cross; with possession.

**MESSRS. WOOTTON AND GREEN** will offer the above for **SALE** by **AUCTION**, at the Mart, E.C., on **FRIDAY**, July 3 (in one lot).

Particulars of Messrs. **TAYLOR, HOARE AND PILCHER**, Solicitors, Amberley House, Norfolk Street, Strand, and of the Auctioneers, 38, Gracechurch Street, E.C.

**WANTED TO RENT, or PURCHASE,**

within 30 miles of London, near a station, about 800 feet run of **MODERN GLASS**, well heated, with 2 or 3 acres of good **LAND**.—G. M. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

**SHOP**, close to Covent Garden, with large Light and Dry Basement. Lease, 7 years, or shorter, at £4 per annum. Inspection invited on application to **HOTSEKREEPE**, Bassett Chambers, 11 and 12, New Street, Covent Garden, W.C.

Also a **SUITE OF CHAMBERS** TO LET, same building, at moderate rental.

**TO BE DISPOSED OF Cheap, FLORAL NURSERY.**—Two Greenhouses, 90 feet; and one 35 feet long, fitted with boilers and pipes. Good Stock of Plants, &c. Six-roomed House on the Ground to be Let. Present owner retiring.—G. PEARCE, Floral Nursery, Harley Street, Bow, E.

Stoke Newington.

**FOR DISPOSAL, the LEASE and GOODWILL** of an OLD-ESTABLISHED NURSERY BUSINESS and STABLE CONNECTION. Lease, 18 years unexpired. Low Rent. Price for Goodwill, Stock, and Fixture, £350.—Apply by letter only to—

F. S., 1, Statham Grove, Clissold Park, N.

**HADLEIGH, SUFFOLK.**—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1½ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to **WILLIAM BADMAN**, Cemetery Nursery, Gravesend.

Nursery for Sale.

**TO BE SOLD, as a Going Concern, a compact MARKET NURSERY**, all glass, consisting of 11 Houses: 8 Houses, 45 feet by 12 feet; 1 House, 45 feet by 25 feet; 2 Houses, 65 feet by 25 feet; well-heated with 4-inch pipes, worked by two powerful Rochford Boilers. Nineteen years' unexpired lease. Ground-rent, £15 a year. Seven miles from Covent Garden.—For further particulars, apply to **W. A. CULL**, Northumberland Park Nurseries, Tottenham, London.

**To Nurserymen and Florists commencing Business.**

**HAMPTON-ON-THAMES**, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. **FREEHOLD LAND** for **SALE** on easy system of Purchase, or to be **LET** on Lease. For full particulars, apply to **MR. FREDK. G. HUGHES** (Surveyor), the Estate Office, Hampton-on-Thames.

Owing to Death of the Proprietor.

**FOR SALE**, a compact and well-established NURSERY, comprising 2 acres of Freehold Land, 13 Greenhouses, large Dwelling-house, Cottage, Stabling, and Sheds. Room for building 12 more Greenhouses. Situated 12 miles from London, and being within 7 minutes' walk from Main Line, G. N. Railway Station. Let to good Tenant, on lease, at £100 per annum. Apply to **WHEELER AND MONRO**, 4, Cullum Street, Finchurch Street, E.C.

**To Nurserymen, Fruit Growers, & Market Gardeners**

**TO LET, or SELL, extensive FREEHOLD MARKET NURSERY** (Middlesex). Large number of modern Greenhouses, in full working order, and necessary Out-buildings, with about 30 acres of Market Garden Ground. Immediate possession. Principals only.—**NURSERY, Gardeners' Chronicle** Office, 41, Wellington Street, Strand, W.C.

**TO BE LET ON LEASE**, within 15 miles of London, a NURSERY and **FRUIT-GROWING BUSINESS**. Price, Stock, &c., about £250.—Address for full particulars, "NECTARINE," *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

**FOR SALE**, Eight BOOKS, Dictionary of Gardening, and an Encyclopedia of Horticulture. Quite new. Cost £3 8s., will take £3. K. ELSEY, Chapel Road, Westcott, Dorking.

**PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS**, 87 and 88, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

**FOR ORCHIDS and GARDENERS** to Grow them, apply to **SANDER'S**, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

To Gentlemen's Gardeners.

**FRUIT.**—Can any Gardener undertake to **SUPPLY A PRIVATE FAMILY**, now resident in London, with a steady supply of **FIRST-CLASS FRUIT**. Please send List of Fruit and Prices, to M. L., care of Sharp & Hall, 4, Berkeley Square, London, W.

**PELAGONIUMS.**—**GARAWAY & Co.** offer good plants, in 5-inch pots, of the best market and decorative varieties, at 15s. per dozen. **GARAWAY AND CO.**, Clifton, Bristol.

## EXHIBITIONS.

## NATIONAL ROSE SOCIETY.

(Southern Section.)

Show at Reading, June 24, 1896. Entries close June 22.  
**WM. L. WALKER**, Donville, Bulmershe Road, Reading.

## GRAND ROSE and BEGONIA SHOW.

BATH, THURSDAY, July 2.

1st Prize, Nurserymen, 21 varieties	£9 0 0
1st " " " " " "	4 0 0
1st " Amateurs " " " "	4 0 0
1st " " " " " "	2 10 0
1st " " " " " "	8 0 0

Other Classes for Roses, Bouquets, Strawberries, Out Blooms, Plants, and Tuberos Begonias. Entries close Friday, June 26. For Prize Schedules, &c., apply—  
**PEARSON AND JEFFERY**, Secs.  
2, Northumberland Buildings, Bath.

## THE GREAT

## ANNUAL FLORAL FÊTE

HELD IN

THE PUBLIC PARK, WOLVERHAMPTON,  
July 7, 8, and 9, 1896.

## INCREASED MONEY PRIZES.

**GOLD, SILVER, and BRONZE MEDALS**, and **CERTIFICATES** awarded also.

**HANDSOME SILVER CHALLENGE CUP**, value £20, to which special attention is called to Nurserymen & Florists.

Entries close: } Plant Classes, June 30;  
} Cut Flowers, Fruit, and Vegetables, July 4.

Entry Forms and particulars apply to—

Mr. W. A. GREEN, Horticultural Secretary.

To Nurserymen and Florists.

**WOOD GREEN HORTICULTURAL SOCIETY.**—ELEVENTH ANNUAL EXHIBITION, **SATURDAY**, July 11, 1896.

The Society's Silver Medal will be awarded to Exhibits of sufficient merit.

Applications for space to be addressed to the Hon. Secretary,  
**E. J. WICKENDEW, F.R.H.S.,**  
Heathfield, Bounds Green Road, New Southgate, N.

## NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW.

Delapark Park, Northampton, August 3 and 4, 1896.

£250 IN PRIZES.

For Best Twelve Plants, £15, £10, £5, £3 10s.; Central Group, for Conservatory Decoration, £20, £2, £1, £3; Collection of Fruit, eight varieties, £4, £4, £4, £2; Twenty-four Roses, £2, £1 10s., £1; Collection of Vegetables, twelve varieties, selected, £3, £2, £1; Table Decoration, £1, £4, £1.

Entries close July 24. Schedules and full particulars from—  
Northampton, June 13, 1896. **W. B. TROUP**, Sec.

## CHESTER HORTICULTURAL SHOW and FÊTE.

AUGUST 5 and 6, 1896.

Over £400 in **HORTICULTURAL PRIZES**. For Schedules apply to the Hon. Secretary—  
**Mr. J. WYNNE FFOULKES**,  
Crypt Chambers, Eastgate Row, Chester.

## SHREWSBURY GREAT FLORAL FÊTE,

August 19 and 20, 1896.

Schedules are now ready. The cash prizes offered in the Schedule amount to over £500.  
**H. W. ADNITT** } Hon. Secs.  
**W. W. NAUNTON** }

**FOR IMMEDIATE SALE.**—Good **PALMS**, 10 feet high, Ferns, *Chrysanthemums*, *Arum* Lilies, *Aloes*, and other plants.—Apply **W. CHISLETT**, The Gardens, Chew Court, near Bristol.

**PELAGONIUMS.**—Special cheap offer, to clear.—Best market sorts, clean, healthy plants, in Flower and Bud, in 5 and 5½-inch pots, 6s. 6d. per dozen, 50s. per 100, package free, and f.o.r. for cash with order. Also a few returns from market, grand for stock, named, without pots, 4s. 6d. doz.—**A. SIMPSON & SON**, Heworth Nurseries, York.

**FERNS and DECORATIVE PLANTS**—(TRADE)—Ferns, in 2½-inch pots, *Stove* and *Greenhouse*, 30 best selling sorts, 12s. 10d.; ditto, large, in 4½s. 10 best selling sorts, 8s. doz.; strong seedlings, 6s. 10d. 50s. 100d.; *Adiantum cuneatum*, in 4½s. for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 10d.; *Cyperus*, *Aralias*, *Greivilleas*, *Spiræas*, *Rhodantes*, & *Geraniums*, in 4½s. 8s. doz.; *Marguerites*, *Heliotropes*, *Mignonettes*, *Fuchsias*, *Ivy* *Geraniums*, in bloom, in 4½s. 8s. doz.; *Ficus*, *Palms*, *Dracænas*, *Crassulas*, *Pelargoniums*, & *Hydrangeas*, in bloom, in 4½s. 12s. doz.; *Liatris* free. Packed free. Cash with order.—**J. SMITH**, London Fern Nurseries, Loughborough Junction, London, S.W.

## CHRYSANTHEMUM GUIDE

AND  
CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2s., or separately. The Guide, 8 stamps, the Album, 16 stamps.

Both are invaluable to Chrysanthemum Growers.

**H. J. JONES**, Byecroft Nursery, Lewisham.

**CARNATIONS, Souvenir de Malmaison.**—Strong plants, showing flower, in 5-inch pots, 12s. per dozen.

GARAWAY AND CO., Chilton, Bristol.

Important to Mushroom Growers.

**CUTHBERT'S SPECIALITE MUSHROOM SPAWN.** Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.  
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

**CHOICE TREE or PERPETUAL-FLOWERING CARNATIONS.**—Scarlets: Madame Waroque, Duke of York, Portia, C. Calcraft. Pinks: Reginald Godfrey, Day-break, Lady O'Newall, B. Leopold de Rothschild. Whites: Lizzie McGowan, La Neige, The Countess. Yellow: Germania. Twenty other leading varieties. The above are good, strong, healthy plants, ready for 4s. 6d. per dozen; 40s. per 100. Packing free. Cash with order.  
FREDERICK PERKINS, Regent Street, Leamington.

**PAUL'S ROSES.**

**WM. PAUL AND SON** invite inspection of their **ROSES NOW COMING INTO BLOOM.** These may be seen at these Nurseries all the most desirable old and new Roses, including many sorts of their own raising, which are not yet to be seen elsewhere. The flowering will continue throughout the summer and autumn. The Hardy Pictorial Trees and Shrubs, Climbing and Herbaceous Plants, Fruit Trees, &c., in great variety, are now in fine condition.  
Paul's Nurseries, Waltham Cross, south entrance, four minutes' walk from Waltham Cross Station, G.E.R.  
West entrance, three minutes' walk from Theobald's Grove Station, G.E.R.

**T U F A ! — T U F A ! ! — T U F A ! ! !**

For this, the unequalled natural petrified production of Matlock Bath, used so extensively in Artistic Gardening, apply to Mr. AXE, Manor Farm, Bonessil, Matlock Bath.

**GREEN'S PATENT "SILENS MESSOR" LAWN MOWERS & GARDEN ROLLERS**

They are the only Mowers which have secured the Royal Warrant, and are the **FIRST, FOREMOST, AND BEST IN THE WORLD.**

Garden Rollers Cast-Iron Ordinary and Water Ballast Pattern. Illustrated Price Lists Free. **'SILENS MESSOR' MOWER.**

**THOS. GREEN & SON, LIMITED, LEEDS & LONDON.**

They can be had of all respectable Ironmongers and Seedsmen in the United Kingdom. Beware of Deceptive Imitations.

**The BEST LAWN MOWERS**

ARE THE **"INVINCIBLE"**



Winner of the Gold Medal at the National Lawn Mower Contest.

A Customer writes:—"Dear Sirs,—I am pleased to say that the 24 inch works as well as ever it did. As you know, it was bought in 1874—that's a long time for a machine. I am open to back it now against any machine in the county, long or short, wet or dry, against any other machine of different makers."

Send for List Free from Sole Makers—**JOHN CROWLEY & CO., Limited, SHEFFIELD.**

**NICOTINE SOAP**

Insecticide for Washing, Dipping, or Syringing Plants.

(Introduced 1870.)

MANUFACTURED IN BOND, FREE OF DUTY. GREATLY IMPROVED IN MAKE AND STRENGTH. Prices Largely Reduced.

Nothing can equal it for the eradication of all insect pests that affect plants, and it is a boon to fruit-growers. It thoroughly cleanses without the slightest injury to foliage or young fruit.

In stone bottles, the original size, 1s., 2s. 6d., 5s. In drums, 12lb., 13s. 6d.; 28 lb., 25s.; 56 lb., 50s.

To be had of all Seedsmen and Nurserymen.

MANUFACTURERS—

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**GARDEN NETTING, Tanned, Rotless, and Weather-proof.**

Protect your Gardens from the Ravages of Birds  
100 yards by 1 yard wide, 3s. 120 yards by 2 yards wide, 12s.  
200 " 1 " " 5s. 100 " 3 " " 3s.  
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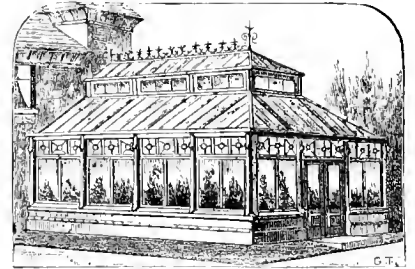
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For Trouserings, Suitings, Ladies' Jackets, Melton and Tweed Dress Cloths. Patterns sent post free.  
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ROYAL SHOW EXHIBITION HOUSE.



**£100** Conservatory, 21ft. long, by 6ft. wide, 8ft. high to the eaves; pair of entrance doors, ornamental lights, with side and centre staging. Best materials and workmanship; painted, and glazed best 21-oz. English glass (brickwork only to be provided).

Boiler and piping complete, erected by our men in any part, Carriage Paid, for the sum of ... .. £100 0 0



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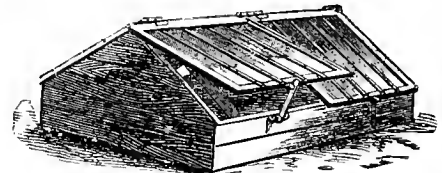
12x10 14x12 18x12 16x14 20x14 20x16 24x16 22x18  
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21-oz. Foreign, of above sizes, in 200 feet boxes, 3rds and 4ths qualities.

English Glass, out to buyer's sizes at lowest prices, delivered free and sound in the country in quantity.

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Stock Lists and Prices on application. Please quote Gard. Chron.

**GREAT REDUCTION IN FRAMES**  
OUR WELL-KNOWN MAKE.



**PORTABLE PLANT FRAMES.**

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH PRICES, CARRIAGE PAID.	2	0	0
6 feet " 4 feet "		2	5	0
12 feet " 4 feet "		4	0	0
6 feet " 5 feet "		2	15	0
12 feet " 5 feet "		4	15	0
12 feet " 6 feet "		5	12	6

Larger sizes at proportionate prices.

**R. HALLIDAY & CO.,**  
ROYAL HORTICULTURAL WORKS,  
**MIDDLETON, MANCHESTER.**  
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**EPPS'S A1 PEAT**

(SELECTED specially for ORCHIDS),  
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).  
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PRAT sent to all parts of the world at Special Through Rates. Large or small quantities.  
**EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.**

The Success achieved by Exhibitors at past Chrysanthemum and other Shows has clearly demonstrated, by examples staged, that

**THE XL ALL MANURES**

are of the greatest importance to those who wish to have fine blooms and superior fruit.

**XL ALL LIQUID MANURE.**

1 pint, 1s.; 1 quart, 1s. 6d.; 1 gallon, 3s. 9d.; 4 gallons, 12s. Cheaper in bulk. To be used one part to fifty of water, making the cheapest Plant Food in the market. Read the remarks below of a Champion Grower.

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For Top-dressing and Dissolving in Water. In 1s., 2s. 6d., 5s., and 10s. tins.

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For Mixing with the Soil when Re-potting, or Making up New, or Renovating Old Borders. In 1s., 2s. 6d., and 5s. tins. In bags, ½ owt., 10s. 6d.; 1 cwt. 21s. In bulk at Special Rates.

Mr. W. H. LEES, The Gardens, Trent Park, New Barnet, the most successful exhibitor of Chrysanthemum Blooms during the season of 1894 and 1895. This celebrated grower writes:—"I have used your new Liquid Manure on many things this season with highly satisfactory results—especially on Chrysanthemums."

The above and all other XL ALL SPECIALITIES can be obtained from all Nurserymen and Seedsmen, or direct from the Proprietor—

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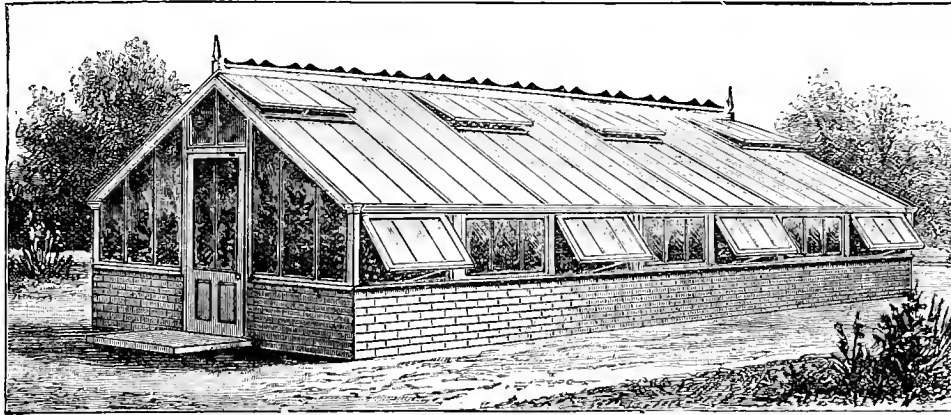


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## HORTICULTURAL BUILDER AND HOT-WATER ENGINEER,

EVERY DESCRIPTION of CONSERVATORIES, GREENHOUSES, GARDEN LIGHTS, &c.  
BUILDER TO THE PRINCIPAL GROWERS IN THE UNITED KINGDOM.

ORCHID  
HOUSES,  
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CUCUMBER  
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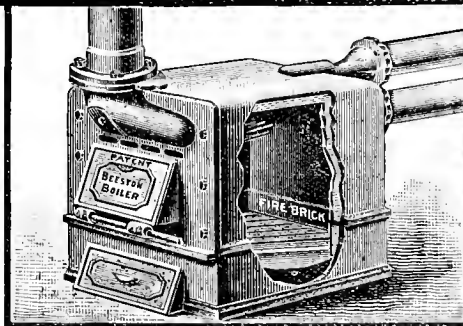
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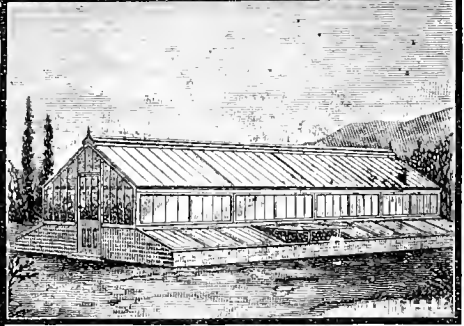


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ESTABLISHED 1841 24 FIRST PRIZES

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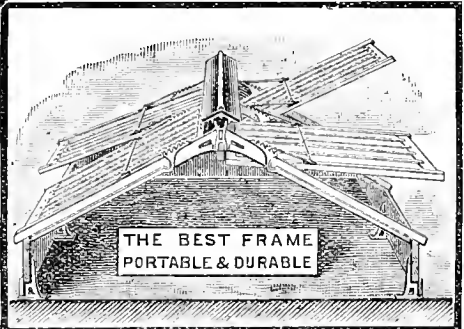
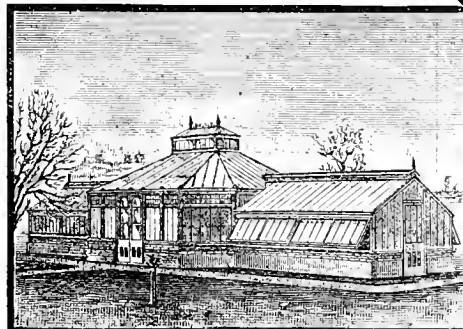
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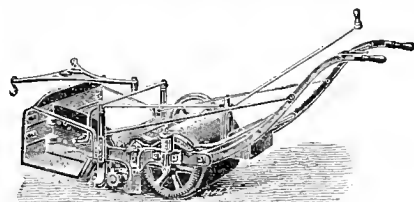
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# SHANKS'S LAWN MOWERS.

FITTED with PATENT AXLE SIRINGS.  
A GREAT BOON TO GARDENERS AND ALL USERS.  
The Best Work Combined with Ease in Working.  
NO SHAKING, EVEN ON ROUGH GROUND.



MOWERS with Springs, for Horse, Pony, and Donkey Use.

HAND MACHINES, driven by Chain or Gear, and Fitted with Springs.

LORD'S CRICKET GROUND, LONDON,  
June 15, 1894.

I have used your Lawn Mowers for over twenty years, and have no fault to find with them. I consider them the best in the market, and they are the only Machines we use here. The addition of the springs to our 48-in. Mower is a great improvement, and the machine works with great ease and smoothness. I consider you have made a good hit.—Yours truly, (Signed) PERCY PEARCE, Ground Superintendent.

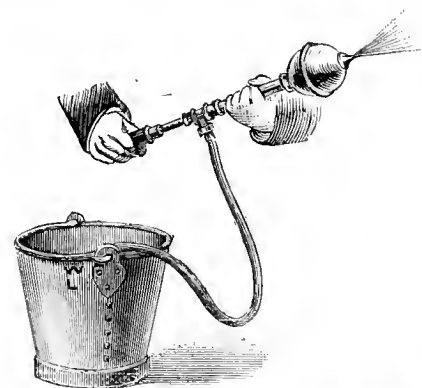
FOR FULL PARTICULARS, see FUTURE ADVERTISEMENTS. Also ILLUSTRATED CATALOGUES, which can now be had of—  
ALL IRONMONGERS, OR OF THE MAKERS,

**ALEX. SHANKS & SON, LTD.,**  
ARBROATH; AND  
110, CANNON ST., LONDON, E.C.  
REPAIRS DONE, BOTH AT ARBROATH AND LONDON.

## RICHARDS' NOTED PEAT.

(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.  
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood, Hamworthy, and Wareham. Address all letters to London Wharf.



## THE CHELTENHAM GARDEN SYRINGE (PATENT).

The Handiest, Most Convenient, and Effective Syringe ever produced.

It gives a CONTINUOUS Stream of over 30 feet with use of jet, or will cover a large area with a splendid fine spray, with the rose attachment. It is fitted with 5 feet of suction hose, thus preventing any stooping by the user, and it has received the highest praise from horticulturists.

Price, complete, in strong box, carriage paid, 20s.

**R. & W. WILSON & SONS (Limd.),**  
90, Wardour St., London, W.  
Or may be obtained of any respectable Ironmonger in the United Kingdom.

**MUNGO CHAPMAN**, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Book-work.

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May 19, 1896.

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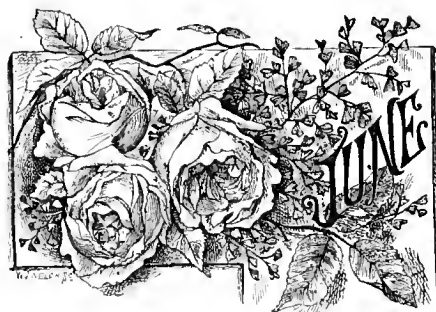
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THE

# Gardeners' Chronicle.

SATURDAY, JUNE 20, 1896.

## THE POETRY OF GARDENING.

HORTICULTURE is practical, but it is also poetic, for it is Nature glorified by the efforts of earnest Art; and Nature, with all the moral and elevating influences her impressiveness can impart, has always been the poet's predominating theme. And thus Homer, who drew his majestic imagery from the scenery by which he was so grandly environed, and though blind could perceive the vast harmonies of Nature, sang of the Narcissus (not Poeticus, but Tazetta); while "burning Sappho," the great Grecian poetess, described in passionate strains the glories of the Rose.

In the "Edipus at Colonus" of the immortal Sophocles, whose thoughts have found expression in many of our most intensely classical poets, such as Thomas Grey, Tennyson, and Matthew Arnold, we find the following memorable tributes to the Narcissus and the Crocus:—"Stranger in this land of goodly steeds, thou hast come to earth's fairest home, even to our white Colonus, where the Nightingale, an abiding guest, trills her clear note in the fair recesses of the verdant glades, dwelling amid the Ivy, dark as wine, of the gods' immaculate bowers. And, bed of heavenly dew, the Narcissus blooms morn by morn with fairest clustering flowers, crown of the great goddesses from of yore; and the Crocus shines with golden ray." Virgil and Propertius, two of the most highly gifted of the Roman singers, eulogised the beautiful and stately Madonna Lily, which still adorns our gardens, even as it did the sweet valleys of Italy, on the bright confines of July; blooming contemporaneously with the first efflorescence of the Rose. A greater Spirit than these has said of such flowers as those of Liliun candidum and the Scarlet Martagon: "Even Solomon in all his glory was not arrayed like one of these."

William Shakespeare, that "myriad-minded" man, who sang of the Daffodil that it comes before the swallows dare, and takes the winds of March with beauty, has a passage peculiarly touching in its gentle inspiration, in which music is etherealised by a most subtle and delicately-conceived association with the fragrance of flowers—

"That strain again! it had a dying fall;  
O, it came o'er my ear like the sweet South,  
That breathes upon a bank of Violets,  
Stealing and giving odour."

Sublimity and simplicity were combined in Milton, whose wings seldom faltered in his loftiest flights. But it is not in his mighty *Paradise Lost* that we find his grandest delineations of the fairest forms of Nature. It is in

his profoundly impressive *Lycidas*, written like Arnold's long-subsequent *Thyrsis*, to the memory of a friend, that what is perhaps the finest floral passage in our literature is found. Lest it should be unfamiliar to any of my readers, I quote it here:—

"Bring the rathe Primrose, that forsaken dies;  
The tufted Crow-toe, and pale Jessamine;  
The white Pink, and the Pansy freaked with jet,  
The glowing Violet,  
The Musk-rose, and the well-attired Woodbine,  
And Cowslips wan, that hang the peevish head,  
And every flower that sad embroidery wears;  
Bid Amaranthus all his beauty shed,  
And Daffodillies fill their cups with tears,  
To strew the laureate hearse where Lycid lies."

Cowley, who was greatly devoted to Horticulture, has recorded in his *Plants* in most expressive language, at once its inspiring and tranquillizing power. Keats, Shelley, Burns, and Byron were intense lovers of Nature, and therefore also of her floral creations in the gardens, the shadowy woodlands, and the open sun-illuminated fields, where the most idolised of Scottish bards beheld the perfect beauty of the Daisy, and made it immortal by one imperishable strain; but practical gardening was the antidote most intensely demanded by their fiery natures to hush them by its benignant influence into rest. Tennyson perceived the divinity enfolded in a flower; Wordsworth communed alone with Nature, and therefore could teach us in his *Ode to Immortality*, the sublimity realisable in the smallest things of earth.

I have already written of Matthew Arnold in the *Gardeners' Chronicle* as a follower of Wordsworth, and a lover of flowers; and, indeed, his beautiful, deeply-classical poetry, and that of his great master, the "High Priest of Nature," were nearly akin. What poet has sung more touchingly than Arnold of such familiar beauties (to an English reader) as the white and purple Fritillarias of the Oxfordshire fields; of

"Sweet William, with his homely cottage-smell;"  
of—

"Roses that down the alleys shine afar;"  
and of—

"Dark Blue-bells drenched with dews of summer  
eves?"

The "Poet of Culture" became absorbed in the worshipper of Nature, when he wrote such inspirations as his *Thyrsis* and the *Scholar Gipsy*, which I hope the world will not willingly let die. They have in addition to their tender, pastoral beauty, which has never been surpassed, this higher and infinitely more distinctive value; that therein the great poet feels the pulse of modern life. He deeply sorrowed over what he called so impressively "its palsied heart." He did much by his utterances to mitigate its fever, for his poems are most powerful to chasten and subdue. *David R. Williamson*.

## NEW OR NOTEWORTHY PLANTS.

### ONCIDIUM (PENTAPETALA, MICROPETALA) GODSEFFIANUM, *Krzel, n. sp.*

At first sight the plant resembles *Oncidium pubes*, but even with the naked eye the first difference—viz., the divided sepals—is readily observed, and closer

\* *Oncidium* (*Pentapetala*, *Micropetala*) *Godseffianum*, *Krzel*, n. sp.—Bulbis elongatis cylindricis teretibus ad 12 cm. longis, v. imo longioribus 1 cm. crassis siccis rugosis (non angulatis) foliis 2 linearilanceolatis acutis; panicula longe pedicellata nutante; ramulis distichis densifloris; bracteis minutissimis triangulis; sepalis dorsali cucullato cuneato obovato, sepalis lateralibus ad quartam partem coarctatis ceterum liberis, parte libera oblonga acuta; petalis obovatis

examination reveals other discrepancies of no less importance. The middle lobe of the lip is rather broader than it is long, cordate, with a slight tendency to become bilobulate at the apex; the callus of the lip is covered with numerous small waxy warts, and a smaller callus, going out into three lines of little warty excrescences, is observable at the base of the middle-lobe. The side-lobes are not very large, but far larger than in *Oncidium pubes*, Lindl., and they are bent backwards. The arms of the column are narrow, and, like the border of the anther-bed, pubescent. Finally, the flowers are scarcely half the size of good specimens of *Oncidium pubes*. The bulbs are loog, cylindrical, 5 inches or more, and even when dried, not angular. In spite of much resemblance, the plant does not agree in its habit and size, nor in the botanical characters with the two plates in the *Botanical Magazine*, 3109 and 3926, and the descriptions, till to-day.

It is, of course, with some hesitation that I resolve to add another species of *Oncidium* to the crowd of more or less well-described shadow-like plants of uncertain affinities, the descriptions of which fill the pages of our botanical works. I have made the diagnosis as accurate as fresh flowers allow it to be done. It is curious that two *Oncidia* so similar at first sight in shape and size should belong to two quite different tribes. *Oncidium pubes*, Lindl., has the lateral sepals united to the top into one two-toothed leaf, and belongs to the Tetrapetala, whereas *O. Godseffianum* must be placed under the Pentapetala, Micropetala. In conclusion, I would remark that the three plates of *O. pubes*, Lindl., should be examined to ascertain if they represent in fact the same species. The plates in *Bot. Mag.* 3109 (*Oncid. bicornutum*, Lindl.) and 3926 (*Oncid. pubes* var. *flavescentis*), represent, according to my opinion, not the same species, as Dr. Hooker declared afterwards. The third (or, chronologically, the first) in *Bot. Reg.*, t. 1007, is very bad, but the description of *Oncidium pubes* is the best and most accurate that we have in our literature. Even there the coalescence of the two lateral sepals is pointed out: "Sepala . . . inferius dependens . . . apice bilobum." The plant flowered at St. Albans, in the collection of Messrs. F. Sander & Co., in May of the present year. *F. Kränchin*.

### LÆLIA PURPURATA MRS. DE B. CRAWSHAY, *nov. var.*

There are several distinct sections of *Lælia purpurata*, the more distinct of which are the old dark form with purple veining on the sepals and petals, and maroon-purple lip; the nearly white-petalled form of the same large type; and the lighter-coloured rose-tinted class, of which *L. p. Russelliana* may be taken as type, and which are thinner in texture than those. The new form, *L. p. Mrs. De B. Crawshay*, differs in several particulars, and especially in the base of the lip being clear white, the fine lines usually springing from it starting half-way up the tube; in the roundly-expanded front portion of the lip, which is closely crimped at the edge, a very distinct and attractive feature, and the whole flower presents several other fine distinct points which the eye of the expert will readily appreciate but can hardly describe. The sepals and petals are of a soft French-white, the surface glistening in a bright light. The lip is large, of a pure silvery-white, the middle area being coloured purple and of a velvety texture, changing to rose-pink as it approaches the distinct, clear white apex. The colour is obscurely traversed by fine purple lines, which spring from the middle and not from the base of the lip. This new form seems representative of a section of which others may appear out of the same importation. *J. O'B.*

unguiculatis obtusis; labelli brevi-unguiculati lobis lateralibus retrorsis falcatis minutis, intermedio lato cordato apice subbilobo, callo plurituberculato (tuberculis minutis) nitido in ungue et inter lobos laterales, callo altero lato in lineas 3 tuberculosas excurrentes in disco lobii intermedii; gynostemii albis linearibus antice obscure denticulatis margine androclinii fovea stigmatica latissima; antheris pubescentibus, anthera margine non bilobulo reflexo. Flores inter minores generis 2 cm. latis (pat. expansis) vix 1½ cm. altis, luteis purpureo-vittatis. *F. Kränchin*.

## A CONTRIBUTION TO THE HISTORY OF PANSIES.

(Continued from p. 728.)

SUMMARY.—As the chief result of our investigations, we see that the Pansies of the present day form an aggregate of very different forms of plants produced by hybridisation between various species of the genus *Viola* (sect. *Melanium*). Their original stock was *V. tricolor*, L., but several other kindred species of *Viola* have been crossed thereon, and one among them, *Viola lutea*, Huds., to such a degree that it has probably had a larger share in the production of the Pansies of the present day than *V. tricolor*. Thus in their entirety they cannot exactly be compared to what in systematic botany is termed species or variety. They certainly should not be called by a name formed according to the rules of binary nomenclature. If a general Latin name seems desirable, I should propose *Viola × hortensae grandiflora*, when "×" signifies the hybrid nature of the forms belonging hereto; the word "hortensae" that they are garden plants; and the word "grandiflora," that they are large-flowering; this to distinguish them from the small-flowering garden *Violas* of the type of *Viola odorata*, L.

On comparing the Pansies of the present day with their wild ancestors, we shall find that as regards form, the most conspicuous characteristic of the Pansy flower is that its cross diameter is almost the same as its long diameter, or that it is nearly circular, while in the parent species the flower is constantly much longer than it is broad. The large cross diameter of the Pansy flower is a consequence of an excessive development, more especially of the middle petals. It not unfrequently happens that these petals are the largest, which is never the case in the parent species.

As regards the spur, the Pansies generally follow the short-spurred parent species, *Viola tricolor*, L., *V. lutea*, Huds., and *V. altaica*, Ker. Only a very few Pansies are long spurred,\* these showing their descent from some of the long-spurred *V. coronata*, L., *V. calcarata*, L. (or *V. stricta*, *Dicksons & Co.*).

In respect to colouring, Pansies show a far greater variety and wealth than all the parent species, whatever variety of colour a couple of these may present. There is scarcely any colour or shade—with the exception of green, which is so unusual a colour in flowers—that it is not represented in one variety of Pansy or the other. Selves are white, yellow, red, violet, blue, brown, and black. The colours most difficult of production for the Pansy-raisers are pure blue and pure red. There are now, however, blue Pansies of several kinds. Clear reds in fiery-red and blood-red are still a desideratum.† Many-coloured Pansies, as is well known, exist of almost innumerable kinds. That which is common to nearly all of them—but is not found in the parent species of the Pansy—is the large dark blotch at the base of the three lower petals. These blotches are evidently derived from the dark rays of the wild ancestors of the Pansy.

Whatever variety of colour the Pansy may show, one part of the flower is always of the same colour, viz., the so-called eye, or that part of the lowest petal, which is immediately in front of the entrance to the spur. This eye, called by botanists the honey-guide, is always bright yellow, and is the same in all Pansies, even in selves. This yellow spot, which is the guiding star to insects when visiting the flowers—which is of such great importance for the fertilisation—seems to have reached such a degree of resistance to all the changes of outer life that it will not give way to anything.

The same seems to be the case as regards the colour of the spur, as in all Pansies which I have had the opportunity of examining—even the pure white, pure yellow, &c.—the spur, at any rate towards the tip, is coloured with violet of a lighter or darker shade.‡ Why the violet colour so perseveringly

\* E.g., *Coronata Perfection* and *Ariel*.

† A couple of the very latest kinds, viz., *Cardinal*, in fiery-red, and *Victoria*, in blood-red, are very near the mark.

‡ Both as regards the colour of the eye and the spur, the Pansies thus agree with *Viola tricolor*, L.

remains through all circumstances on this limited spot, is not easy to explain. It is probable that it serves as a kind of protection for the honey contained in the upper part of the spur.

Finally, let us see what problems are still to be solved by the Pansy-raisers in the immediate future.

Foremost amongst these we must place the question of making the Pansies perennial instead of annual or biennial. A remarkable step in this direction has already been taken by the English and Scotch Pansy-raisers, who, with very good results, have used the perennial *V. cornuta*, L., for crossing with garden Pansies. Much, however, still remains to be done. Those species of *Viola* most suitable for Pansy hybridisation are undoubtedly *V. calcarata*, L., and *V. altaica*, Ker, as both have a very powerfully developed perennial stem, have large and beautiful flowers, and can both of them without any difficulty be cultivated in our gardens. Another species that deserves recognition is *Viola latispala*, Wettstein, lately introduced into our gardens from the Balkan peninsula, a perennial species which, on being cultivated here, has evidently thriven remarkably well.

Next to obtaining perennial Pansies, we must place the aim of producing good varieties that come true from seed. In many places these attempts have been crowned with tolerable success, more especially in respect to the self; but very much still remains to be done.

No pains have been spared of late by the Pansy cultivators of Great Britain to increase the charm of the Pansy by obtaining perfume as well as beauty; but by a more extensive use of the odoriferous alpine species, *Viola cornuta*, L., and *V. lutea*, Huds., var. *grandiflora* (L.) Vill., for hybridisation, doubtless much may still be done in this direction.

Probably in direct opposition to most Pansy-raisers, I consider it most desirable to obtain more variety as regards the form of the corolla of the Pansy. For sixty years the Pansy cultivators have almost unanimously endeavoured to make the corolla of the flower as circular as possible; and it is undeniable that the corolla type obtained by these means, and now reigning almost supreme, is beautiful—ay, very beautiful; but this fact does not prevent other forms of the corolla from being as attractive to the eye that has learnt to admire those products which Nature herself offers us.

As in a wild state *Viola tricolor*, L., produces pelorians both with and devoid of spurs, the raising of Pansies of a similar structure should not present insurmountable difficulties. A similar form has long been under cultivation from *V. odorata*, L. If, in addition to this, we remember the existing forms of the double Pansies which, by suitable cultivation, may doubtless be greatly improved, it seems to me that it is very probable that our gardens will be in time adorned with Pansies which give the impression of wealth and variety, not only as regards colour, but also in respect to form.

At all events, it may in truth be said that—even if only remembering what has already been done—the garden Pansies plainly prove what human intelligence, coupled with skilful perseverance, can perform in a department where it is a question of giving pleasure to millions by caring for, improving, and multiplying plastic forms of those lovely plants which Nature, even in the North, so generously offers us. *Professor V. B. Wittrock, Stockholm.*

### STRAWBERRIES AS ANNUALS.

I HAVE had abundant proof of late of the exceptionally free-blooming and fruiting of last year's runners this year. This, as might be expected, is most conspicuous among such early varieties as *Vicomtesse*, *Noble*, *Earliest of All*, *Royal Sovereign*, &c. It will probably be found that the earlier any variety, the more successfully it will lend itself to annual treatment. In the days of the old *Black Prince*, and when *Keen's Seedling* was the premier fruit (and it is still one of the best), it was

found that runners rooted during the process of forcing fruited the first year. For many years, too, the practice of fruiting maiden plants, and growing the finest Strawberries from such, has been practised by Mr. Wm. Allan of Gunton, and other successful growers.

The secret of success in the treatment of Strawberries as annuals lies in securing early runners. In the olden times we obtained these at various periods from forced plants. To dispense with these, and rely on profitable crops obtained from open-air runners, is a rather different (perhaps more difficult) matter. Earlier varieties, warmer soils, the more express rooting, and liberal growth and early maturity of runners, are probably the main conditions to not only invite but command success. As to varieties, the finest from last year's runners seen this year were from *Noble*, *Earliest of All*, *Royal Sovereign*, and *Sir Joseph Paxton*. Light soils are doubtless the most suitable for the growth of Strawberries as annuals. All the finest examples I have yet seen have been on warm, perhaps shallow, rather poor soils. No

more Strawberry plants a second year. The crop assuredly confirmed the wisdom of his resolution in that particular case; but within distances of from about 20 miles other illustrations could be found pointing in other directions. While last year's runners have few or no fruit, there is no special reason why the annual plants should suddenly supersede those of older growth; there is room enough in most gardens for both.

By all means grow Strawberries that seem best adapted for treating as annuals on this method; and also try those that have not been found wanting on the old lines of culture in the past a second or even a third season. For years the second crop has been reckoned the biggest and the best. It may save time and money should we generally succeed in placing the first or maiden crop in that proud and profitable position. *D. T. F.*

### MILTONIA VEXILLARIA "MEMORIA G. D. OWEN."

OUR illustration (fig. 129) represents a flower of the beautiful *Miltonia vexillaria* "Memoria G. D. Owen," which was exhibited by Sir Frederick Wigan, Clare Lawn, East Sheen, Richmond (gr., Mr. W. H. Young), at the Royal Horticultural Society on June 9, when it received a First-class Certificate. Of the section first made known to gardens in the handsome *M. vexillaria superba*, which first flowered in Sir Trevor Lawrence's collection, and which was followed by *M. vexillaria Leopoldi*, which still more closely approaches the variety under notice, the *M. vexillaria* "Memoria G. D. Owen" is certainly the most beautiful and richly-coloured of any form of the variable species, its superiority to others of its class consisting not only in the finer colour, but in the larger size of its flowers. The latter are of a clear rose-pink colour, with dark reddish-purple markings in the centre, which may be not inaptly likened to some gorgeously-tinted butterfly.

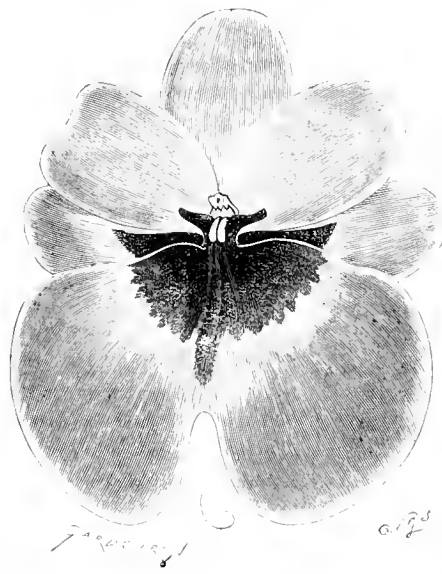


FIG. 129.—MILTONIA VEXILLARIA "MEMORIA G. D. OWEN."

### BRITISH FERNS.

THE monthly meeting of the National Amateur Gardeners' Society was held at the Memorial Hall, Farringdon Street, City, on Tuesday evening, June 2, when Mr. George Gordon, one of the vice-presidents, gave a lecture on British Ferns, with special reference to their cultivation in gardens of limited dimensions. Mr. T. W. Sanders, president, occupied the chair, and there was a large attendance of members, and an extensive exhibition of British Ferns, Mr. Vokes of Southampton, Mr. Leonard Brown, Mr. Sinclair, and Mr. Harrison, staging collections of splendidly-developed specimens.

Mr. Gordon, in his opening remarks, said he did not intend in the comparatively short space of time at his disposal, to speak of the life-history of Ferns or discuss the marvellous processes by which their multiplication is effected, and new and beautiful forms created. He should, in compliance with the request that had been made to him, confine himself to their cultivation, in which he was pleased to learn the members were much interested. He was glad of this, because it justified the hope that the Ferns indigenous to the United Kingdom would at no distant date receive the attention from the general body of amateurs they so well merited, and that some, at least, of the many beautiful forms of the principal species would be represented in all gardens where beauty of form, as well as attractive colours, were appreciated. He should not attempt to exalt the native Ferns at the expense of those from other parts of the world, or indeed at that of other classes of plants; but he would claim for them that they would afford unbounded pleasure to those who gave them the attention necessary to the full development of their manifold charms. Upon this point he could speak from experience. It was now many years since he turned his attention to British Ferns, and, although he had not made a list of them to the exclusion of other plants, he had from the first grown a representative collection, and

grower needs to be reminded of the supreme importance of the early and special culture and perfect maturity of the runners if they are to yield a profitable crop as plants a year old. As, in fact, all the crowns, in size, strength, maturity, in the autumn of the one year, so will and must be the crop the next June.

Now, in several examples seen quite recently, two points were specially noted. The first was, the complete success resulting from the treatment of the plants as annuals; and the second was, the very indifferent condition of some of the same varieties growing and fruiting side by side for the second crop this year. In some cases the object-lesson was far too glaring to prove convincing. No doubt a good deal of this disparity arose from the long-continued drought this season. The younger plants, with their new stores of energy, bore up against and mastered the drought much better than the older ones, though the latter were only two years old. The difference in favour of the annual plants from crops grown side by side was remarkable, not only in large quantity, but superior quality.

Many may question the wisdom of what was said recently by a market grower, viz., that he would fruit



had annually obtained from it many useful object-lessons in plant life, and an immense amount of pleasure. The enjoyment he had derived from the culture of British Ferns was within the reach of the humblest amateur, for the possession of a large collection, or rare forms, was not essential.

The cultivation of British Ferns had not during the past thirty years extended so rapidly as could have been desired, and for this there could hardly be any doubt the Fern specialists were in the main responsible. From thirty to forty years ago there was almost, if not quite, a mania for British Ferns, and a brisk demand sprang up for the forms of the principal species. To satisfy this demand plants were raised in large numbers from spores, and seedlings showing a slight difference in the size and form of the frond, no matter whether the difference contributed to or detracted from the beauty of the plant, were distributed under long, cumbersome, and unpronounceable names. In time cultivators grew tired of adding varieties showing trifling variations to their collection, and also of the frightful names inflicted upon them. He had no sympathy with those who objected to scientific names of all kinds, but in the case of varietal forms of British Ferns, as of other plants, the names should be simple and appropriate. Happily, there had of late years been a change for the better; raisers had recognised the importance of new varieties possessing both distinctness and beauty, and that cumbersome names are not desirable.

There were, it was pointed out, several ways of commencing the cultivation of British Ferns. If the cultivator is satisfied with the specific forms, and has access to woodlands and hedge-rows where Ferns are abundant, he can make a beginning by transferring the requisite number of plants from their native haunts to his garden; if he has no such access, it will be open to him to purchase the plants from a nursery or the coster's barrow. But no one should, except in one or two instances, be satisfied with the species, with such a wealth of beautiful forms. The Male Fern, the Lady Fern, and Broad Buckler Fern and the Hart's-tongue, when growing luxuriantly in great masses, as they may be seen in Devonshire Somerset, Cumberland, Yorkshire, and some other counties that were mentioned, were singularly beautiful; but their places are the woodland, the hedge-row, and the shady lane, and not the garden. Especially was it desirable that those who had but little space in which to indulge their taste for plant culture should take advantage of the most beautiful forms Nature had provided for the embellishment of their gardens. The practice which obtains of purchasing Ferns that have been dug up after they have commenced to make new growth, and hawked about the streets, was very strongly condemned. In the first place, plants that had been so dealt with seldom survived, even with the greatest care; and in the second place, those who bought the plants assisted and encouraged those who were engaged in stripping some of the most beautiful parts of the country of one of their greatest charms. Few, said Mr. Gordon, had an adequate idea of the rate at which the country is being despoiled of its beauty for the purpose of supplying the demand for Fern roots during the spring months, and he earnestly hoped that all who were in any way interested in the rural aspects of the country would do their best to discourage this vandalism. Some objection to the practice would be removed if the plants were utilised in beautifying town gardens, but of the thousands that were annually sold, not more than 5 per cent. survived.

The proper, and indeed the only course that should be taken in beginning Fern culture, was to purchase nicely-established plants from a nursery in which a representative collection is grown. The varieties of the several species were stated to be so numerous, and to evince so great a diversity in character, as to afford a wide range for selection. To show the wonderful variation of the British Ferns, it was mentioned that Mr. E. J. Lowe described, in his small work entitled *British Ferns*, 1,859 varieties, of which 34 were forms of *Adiantum capillus veneris*, 16 of *Asplenium Adiantum nigrum*, 313 of *Athyrium filix-femina*, 75 of *Polypodium vulgare*, 394 of

*Polystichum angulare*, 34 of *A. aculeatum*, and 450 of *Scolopendrium vulgare*. The diversity of character afforded by the varieties was shown by specimens of about fifty of the finest forms brought by the lecturer to illustrate his remarks. It was, of course, not necessary the cultivator should commence with any considerable proportion of the immense number of varieties. So far from this being the case, he advised the beginner to be satisfied with a few only at the first, and to increase his collection as opportunities offered. He suggested the following as comprising the best for forming the nucleus of a collection: *Applebyanum*, *corymbiferum*, *cruciatum*, *curtum multifidum*, *Elwerthi*, *Frizellie cristatum*, *glomeratum*, *plumosum*, *plumosum multifidum*, *plumosum elegans*, *ramo-cristatum*, *setigerum*, *Vernonie* and *Victoria*, of the varieties of the Lady Fern (*Athyrium filix-femina*); *crispato-cristata*, *foliosa-digitata*, and *grandiceps*, of the Broad Buckler Fern (*Lastrea dilatata*); *Bollandiae*, *digitato-Jonesi*, *fluctosa*, and *grandiceps* of the forms of the Male Fern (*Lastrea filix-mas*), *cristata* and *grandiceps* of the forms of *L. propinqua*, and *cristata angustata*, *cristatum* and *ramo-cristata* of the forms of *L. pseudo-mas*; *bifido-cristatum*, *cambricum*, *trichomanoides*, *cristatum*, *grandiceps*, *pulcherrimum*, and *semi-laceratum* of the varieties of the common *Polypody* (*Polypodium vulgare*); *Baylis*, *cristato-Jonesi*, *divisilobatum plumosum*, *folioso-multifidum*, *grandiceps*, *remoto-decurrens*, and *tripinnatum elegans* of the forms of the Prickly Shield Fern (*Polystichum angulare*); and *conglomeratum*, *crispum*, *crispum majus*, *crispum Stableri*, *cristatum*, *cristulatum*, *digitatum majus*, *grandiceps*, *laceratum*, and *ramo-marginatum* of the forms of the Hart's-tongue (*Scolopendrium vulgare*). The cultivator who had made considerable progress with British Ferns would not be satisfied with the varieties of the species he had mentioned, but would include in his collection the various *Spleenworts*, the *Hard Ferns* or *Blechnums*, and the *Bladder Ferns* or *Cystopteris*, of which there were many beautiful forms; and the *Oak*, the *Beech* and *Royal Ferns*, the last-named being especially useful for planting in moist positions.

Proceeding to speak of the cultural requirements of British Ferns, it was pointed out that the *Athyria*, *Lastreas*, *Polystichums* and *Scolopendriums* thrive in any good garden soil, and that the *Polypodiums* make the most satisfactory growth in peat. When the soil is close in texture, a liberal addition of grit, decayed vegetable refuse, and charred rubbish would be advantageous; but maiden loam, so frequently recommended for Ferns to be grown in the open, was an expensive luxury that could well be dispensed with. An ideal position for Ferns in the open was said to be a border on the north side of a wall, fence, or hedge, where the Ferns would be screened from the direct rays of the sun, and not be exposed to sharp currents of air. It was strongly advised that when Ferns are planted above the level, the mound or bank should be of sufficient depth to contain a good body of soil, so that it may not get dry so quickly as to expose the plants to the risk of injury from a few days' hot, dry weather. With reference to the formation of rockeries on which to plant Ferns, it was suggested that the best results would be obtained by forming an irregular bank of soil of the desired length and depth, and then with burrs, pieces of tufa, sandstone, or other available material, arrange a series of ledges, and plant the Ferns in amongst them. When this is done, it was pointed out that the soil, plants, and rockwork sink together. It would, after a little practice, be found a simple matter to so arrange the material used for facing the bank as to give it much the aspect of a natural rockery, and prevent the water running away down the slope instead of soaking into the ground. One of the most important points in the cultivation of British Ferns in the open was to keep them well supplied with water during periods of dry weather early in the season. Speaking generally, overhead sprinklings were described as of but little value as compared with copious root waterings. It was advised that while the soil must not be maintained in a saturated state, sufficient water should be applied

to thoroughly moisten it to the depth to which the roots have extended.

The cultivation of British Ferns in pots was lightly touched upon, and it was suggested that by the aid of a good selection many greenhouses and conservatories occupying shaded positions in town gardens, and now bare and desolate, might be converted into veritable Fern paradises. The essential conditions of success were said to be well-drained pots, a substantial compost, careful watering, and shade during bright weather. With reference to the compost, one consisting of turfy-peat, liberal proportions of leaf-mould and sand, was recommended for the *Polypodiums* and *Spleenworts*; and for the *Athyrias*, *Lastreas*, *Polystichums*, and *Scolopendriums*, a compost consisting of turfy-loam, leaf-mould, powdery cow-manure, and coarse silver-sand, was advised. The importance of moistening the whole of the soil at each watering was insisted upon, and it was pointed out that when the plants are at rest the soil should be maintained in a moderately moist state, for when, as so frequently happens, the soil is allowed to become dust-dry, and remain so for any considerable period, the plants are greatly injured, if not killed. Repotting in spring was advised, but it was pointed out that annual repottings were not necessary, as the plants could be maintained in the most vigorous condition for several years without disturbance at the roots, by assisting them with weak liquid-manure—that prepared by steeping cow-manure in water and used in a highly-diluted state, being recommended as the best.

At the close of the lecture, hearty votes of thanks were accorded the chairman and Mr. Gordon.

## METHODS OF PROPAGATION.

(Continued from p. 698.)

**LAYERING.**—This is an operation almost universally resorted to in the best home nurseries, but more seldom used on the Continent. As noted in my first article, *Camellias*, *Azaleas*, *Rhododendrons*, and many other subjects now grafted, were increased by this method less than half a century back, and now most planters prefer "own-rooted" plants to those grafted, there then being no danger of the stock "spawning-up," i.e., throwing up "suckers," and so in time over-growing and killing the graft or bud. I have often seen beds of varieties of *Rhododendrons* reduced to more than half *R. ponticum* by neglecting to cut away the growths from the stock as they show themselves.

Layering presents the same relation to cuttings that inching does to grafting. In both cases the young plant, *in posse*, is still attached to its parent, and not till it can run alone must the connection be severed. Preparatory to the operation of layering in the nursery, "stools" are formed; for instance, a variety or species of *Rhododendron* is planted in suitable soil, generally in a sheltered position, if possible by thick hedges of *Beech* and *Privet* intermixed.

This *Rhododendron*-plant is cut hard back in the early spring after it has become well established; and the young shoots, which spring up in profusion from adventitious buds all round the parent-plant, form the stool. If the adjacent soil be moderately rich, no addition to it will be needed, but a small coat of well-decayed dung may be dug in, one good spit deep, early in the year, if it be poor soil.

Now prepare a supply of *Hazel* or *Hornbeam* pegs, from 9 to 12 inches long, and a barrowful of mixed sandy soil, and begin to work; though if there be much to do, a kneeling-pad is a very desirable thing to have, besides a narrow, flat trowel, called a layering-spud, about 10 inches in the blade.

First make a deep cut into the prepared bed the full depth of the spud, and put into the cleft a little of the mixed compost. Now select one shoot opposite to the cleft, and bending it gently, fit it into the hole made, noting the point where it touches the bottom. Next take the bent shoot in your left hand, and cut a so-called tongue, beginning the incision just below a bud, and terminating at such a distance up the shoot, and twist the cut portion, bringing the base of the cut below the shoot. This is a delicate

operation, and care must be taken lest the elasticity of the bent-down shoot does not sever the tongued layer from its parent shoot. This being avoided, take a peg in your right hand and placing the hoop over bend in the layer, press it into the ground firmly, and then fill up the cleft or pit with prepared soil, ramming up carefully with the spud-handle as the work proceeds, continuing the operations till the whole of the stool is layered, then afford the whole a good watering, but not so much as to make a puddle of the soil, or the recoil of some of the strong shoots may draw the pegs and lift the layer from its bed.

Niel Rose, &c. Bignonias and Clematis may be laid down for the entire length of their flexible shoots, burying a few nodes, and leaving a few above the surface, each portion will then root and eventually make growth from the eyes left above ground, and the following February and March, may be cut free, lifted, and potted. All will not be rooted, but the rest will be "callused," and by keeping them in a close warm pit for a few days, and shading from direct sun, they will soon make serviceable plants.

*Experience.*

(To be continued.)

range from pure white to rich crimson in colour. Not the least noteworthy of these is one called Mrs. Anthony Waterer, which was raised a few years ago in the Knapp Hill Nursery by crossing *R. rugosa* with the H. P. General Jacqueminot. In the strength and sweetness of its perfume, and in its great wealth of blossom, it is scarcely inferior to any Rose in cultivation. The flowers, which are semi-double, measure from 3 to 4 inches across, and we have had open at one time as many as eighty flowers on a single shoot. The leaves, usually consisting of five leaflets, have the same firmness of texture as those of *R. rugosa*, but are neither so wrinkled nor so glossy. Whilst the foliage follows more closely that parent than the other, the habit is much more free and graceful. The wood is thickly set with short decurved spines much stouter than those of *R. rugosa*. Perhaps the best of the white *R. rugosa* forms is Coubert's Double White; it has large double flowers, the petals of which are of a singularly pure, papery white. It was awarded a First-class certificate by the Royal Horticultural Society's Committee last year when shown by Messrs. Paul & Son, Cheshunt.

THE DAWSON ROSE.

This is a new Rose which originated in the Arnold Arboretum, Mass., U.S.A., having been raised by Mr. Jackson Dawson, a member of the staff of that famous establishment, and after whom it is named. He crossed *Rosa multiflora* (*R. polyantha*) with General Jacqueminot, and the result has been to add to our gardens a new Rose of singular beauty and quite distinct from any other. In its mode of flowering it bears much resemblance to Crimson Rambler, but for cultivating as a bush out-of-doors its habit is much superior. It sends out in every direction long, arching, fountain-like sprays, which, at this season of early June, are loaded with semi-double flowers of a soft shade of pale rose. The flower has much the same size and character as that of Crimson Rambler. The leaves are of a shining, dark green, and the stipules have, to some extent, the fringed edges which constitute so well-marked a character in *R. multiflora*. A group of about half-a-dozen plants has been a feature in the collection of Roses at Kew for two or three weeks past. W. J. B.



FIG. 130.—TULIPA MAXIMOWICZII (REGEL): FLOWERS BRIGHT CRIMSON.

All subjects do not need tonguing, some root equally well with merely a sharp twist at the buried point. There is no hard-and-fast rule for this, but generally, all plants of a climbing habit root freely from their nodes (joints), assisted by a slight twist above the point covered with soil, but even with these tonguing (as it is called), tends to a rapid formation of roots. Climbing plants—as Virginian Creepers of sorts, Aristolochia, Maréchal

TWO NEW HYBRID ROSES.

ROSE MRS. ANTHONY WATERER.—The hardiness and beauty of *Rosa rugosa*, as well as the vigour and distinctness of its habit and foliage, have led to its being a good deal used in recent years for purposes of hybridisation. There is now at Kew a series of about a score distinct varieties and hybrids, raised on the Continent and elsewhere, whose flowers

TULIPA MAXIMOWICZII, REGEL.\*

THIS crimson Tulip, with linear-erect leaves, and obtuse perianth-segments, ending in a short sharp point, was exhibited at one of the recent meetings of the Royal Horticultural Society by Messrs. Barr & Sons under the name of *T. linifolia*. An inspection of the figures of the two plants will, we think, be sufficient to show that the plant now figured can hardly be referable to *T. linifolia*, Regel, which has undulate recurved leaves spreading on the ground, and obovate-retuse, not pointed perianth-segments. *T. Maximowiczii* (fig. 130) has perianth-segments and stamens glabrous, the sepals marked with a black spot at the base, light purple anthers, a glabrous peduncle, and linear leaves. The outer bulb-scale is villous. The figure in the *Gartenflora* was probably derived from a dried specimen, and hence conveys a poor impression of the plant. Tulips, as we have had occasion to note, vary extremely when submitted to cultivation. M. T. M.

ORCHID NOTES AND GLEANINGS.

MILTONIA FLAVESCENS.

THIS Brazilian species, a somewhat old inhabitant of our gardens, is one of the most attractive of the genus, with its graceful sprays of flowers, having pale yellow sepals and petals, and a white lip spotted with purple. A specimen sent by Gustav Kleinjung, Esq., of Brookhurst, Alderley Edge, Cheshire, exhibits its peculiarities, and the accompanying letter is interesting as showing how these plants grow mixed in

\* *T. Maximowiczii*, Regel, in *Gartenflora*, 1880, t. 1307. *T. linifolia*, Hort. Burr haud Regel, in *Gartenflora*, t. 1235.

their native habitats, and how, with ordinary care, few plants are more tenacious of life under cultivation, in spite of all that has been said to the contrary. Mr. Kleinjung writes:—"It is a very strong plant, with ten spikes, carrying in all from ninety to one hundred flowers. It was imported to Germany by my late father amongst other plants about forty years ago. I cannot remember what flowers it ever had, but pieces of the plant brought here some fifteen years ago occasionally flowered partly as typical *Miltonia spectabilis* and partly as *M. Moreliana*. About six years ago I brought the remains of the plant (some four or five bulbs) here, and performed my first work in the Orchid fancy by placing it in a basket, with the result that the plant, although vigorously growing, never showed any inclination to bloom, until at last this year it came out with such success, and, to my astonishment, with flowers altogether different from those seen before, and from what I expected." A flower of the rare white *Odon toglossum* & *Galeottianum* also came at the same time

### VINE HOUSE, HASLINGDEN.

LANCASHIRE, Yorkshire, and Cheshire have, at least during the century which is fast waning, presented features of great interest to the horticultural community. The love of trees, shrubs, plants, and fruits steadily grows upon one's affections as years roll by. We see it exemplified wherever we go among those thriving hives of manufacturing industry. Beginning in small things, well-to-do people increase their expenditure in the objects of their choice, and from Roses and border flowers, greenhouses are built; and from Camellias, Azaleas, Pelargoniums, Fuchsias, and such-like, many amateurs drift into Orchid culture. Such has been the case with A. Warburton, Esq., Vine House, Haslingden, one of those gentlemen who has got together in a very short time one of the most promising collections of Orchids in the district in which he lives. He has also grown Peaches and Nectarines to great perfection, the trees showing exuberant health, with branches well thinned out, and carrying a fine crop of fruit, which give every appearance of fruiting well. Royal George and Noblesse Peaches, with the Elruge Nectarine, are the staple trees; and in the vinery Black Hamburgh is the principal variety of Grape. Climbing Roses have also a house to themselves planted out, and bearing large crops of fine flowers. Climbing Niphetos is strong and good, and others, such as Gloire de Dijon, crop well.

There are eight houses for Orchid culture of various sizes, the most modern being a *Cattleya* and *Odontoglossum*-house, then a *Cypripedium*-house, two *Dendrobium*-houses, a *Laelia purpurata*-house, in which is the collection of *Lycastes*; a Mexican-house, where promiscuous plants are grown; and an *Odontoglossum Rossi*-house, where other oddities dwell.

The collection of *Cattleyas* is a very choice one, grown in a span-roof house with a passage up the centre, and a 3½-foot table on either side. It measures 35 by 10 feet with sides 4½ to the eaves, and the angle of roof about 35°. It is fitted, like its neighbour, the *Odontoglossum*-house, with lath blinds, kept from the roof, 10 to 12 inches, by T-galvanised iron-rods, and the ridge raised at the extremity, so that when the blinds are rolled up, they are on a level with the ropes and pulleys. Nothing could work easier and better, and the eclipsed sunlight evidently benefits the plants, and makes the atmosphere pleasant for general inspection.

Among the finest of the *Cattleyas* in flower we specially noted one called *C. Mossie bellissima*. The plant had six of its extra-quality flowers, which are of pure white, sepals and petals of unusual formation, the lip being white, slightly flushed at the extremity and the base, under the lobes, and running up to column-base, decorated with orange lines. The lip is a little narrow, but, taking it all in all, it is a superb flower. Another of similar brood is called *M. Caluzac*, a form very like *C. Mossie Lady Wigan*, with white sepals

and petals, the petals a little narrower than in a good typical flower. The lip is expansive, and has deep orange rays on the base under the lobes, running up to column. The central portion has rayed carmine lines, running out and stopping short. of a flesh-white margin. *C. Mossie Vanneriana* is also white, probably whiter than the other two described, but wanting in size of flower, and flushed on the epichilium. These white *Cattleyas* are certainly lovely. A grand plant, showing nine blooms, of *Cattleya Wagneri* will soon expand. It is without doubt when in good form the Queen of the *Mossie* tribe, as Mendeli Blunti is the Queen of all white *Cattleyas*. *C. Mossie aurantiaca* is of splendid formation, and its deep blotched orange base, with its fine lined pinkish lip, tells well against the blush segments. *C. Mossie*, Howick House variety and Stamford House variety, are notable among many excellent coloured ones—all in flower. *C. M. Heineckiana* is a good variety, and growing well here. *C. Warszewiczii delicata* is a charming subject of the Trianaei section, with its grand pale blush segments and finely-formed blush lip. *C. Trianaei Backhouseiana*, *C. Schroderi*, in many varieties, crossed the eye. Some particularly good *C. Mendeli* were doing admirably, notably Miss Little and May Queen. *C. speciosissima Ernesti*, *C. x Canhamiana*, lots of *C. Lawrenceana*. Chief among *Laelias* we must give the palm to *L. elegans* Kathleen, described at p. 580, col. B.; *L. purpurata* Empress is an excellently-formed flower, remarkable for its deep blackish-purple lip, with a whitish mark on centre of the lower portion of lip; *L. purpurata Hardyana* is a very good flower of pure white segments, above the average in form, with a deep-coloured lip like Empress but not generally its equal—in fine flower here. A very notable one with four flowers had also white segments, a little narrow, but as white as paper, and the lip large and also of deep purple, with a white central blotch and a beautiful white-banded margin round its whole. This Mr. Warburton calls *L. p. excellens*. The vigour of the whole was very pronounced, and there were no common sorts in the collection, barring a few of the old *C. labiata* which have not yet flowered.

The *Odontoglossum*-house contains many grand varieties of *O. crispum*, and a whole importation of the best Pacho type, out of which already have sprung some choice varieties. The large, dark bulbs and the colour of the foliage, which rustles to the touch like a piece of silk, betoken uncommon vigour. In such a large lot as this, out of which have sprung some startling forms, expectation runs naturally high as to the lot yet unflowered. One grand variety of *O. Harryanum* we noticed—pity that such a distinct species does not present a better front—not so crumpled to the spectator. *O. Pescatorei* is as quaintly-looking, and is doing well. *O. Wilkeanum* catches the eye, and so does *O. Lucienianum*, a natural hybrid of the *navium* type; *O. Reichenhami* contrasts well in its weird-like colours among those above-named. *Oncidium macranthum* revels here, and so do *Sophrontis grandiflora* and some *Masdevallias*. Plenty of ventilation properly provided ensures a particularly pleasing atmosphere.

Ascending to the high grounds above the arch of the substantially-built stone villa, we first enter the *Cypripedium*-house, in which some other species are accommodated. The most prominent among the Slipper-Orchids were *Laura Kimball*, a very rare plant of the insigne form, said to be a yellow one. It is a good grower, and ranks alongside of insigne *Sanderia*, although the former is a much more valuable plant. *C. Plenum superbum* (*Lawrenceanum*) *Hyeannum*, a fine shade of yellowish-green; *C. x Statterianum*, a little too crumpled in dorsal sepal, but with fine colours; *C. x Lucienianum superbum*, rather under than over rated; *C. bellatulum* and *bellatulum album*, which is really a gem, and a good grower too, so far as we can observe. A very pretty-coloured form of *C. Exul* was in flower, golden-yellow, with the dorsal sepal white, and spotted towards the top, one of the best we have seen; then *C. Leeannum giganteum* in quantity; *C. x Burtoni*, *C. x Gowerianum*, like *Lawrenceanum* in colour and form, but much finer in every way; *C. x Eyanor*,

*C. x Curtisii magnificum*, *C. x grande atratum*, a grand grower, and a stylish flower, with attenuated petals; *C. Ashburtoni elegans*, which has a very prominent dorsal sepal with dark-coloured lip.

*Dendrobiums* are grown in two houses—a portion of the smaller and rarer ones in the *Cypripedium*-house, which is span-roofed, and another portion in a lean-to house, or rather a span-roof cut in the middle by a central glass division, which separates the vinery from the *Dendrobium*-house proper. The collection of *D. Wardianum* here is an excellent one, which was rested too long for a crop of flowers in the back-end, but great vigour is now showing in the various specimens. One particularly fine one—the finest, according to Mr. McFarlane's note, which I read, that this artist has yet painted, has extraordinary brilliant blotches on the segments, going as far down the limbs as in *D. nobile nobilium*, and coloured right through the body of the flowers. It is called *Wardianum nobilium*. It has sprung from one of the recent importations, and is a valuable individual. The best of the race is grown here, comprising the best of the nobile section, which, in its finer varieties, still holds its own, and of which there are about twenty distinct forms, including *nobilium*; then *D. splendidissimum grandiflorum* Stand Hall var., and *D. x s. illustre*; *D. x Juno*, a lovely thing, *par excellence* in form; the white *D. n. Amesiae*, *D. x Rolfeae*, and the founding, which must have been a cross in its native country; *D. Rolfeae roseum*, a charming little flower. *D. x Luna* is one of the most distinct, and one of the most beautiful of the pale-faced section, with very prominent spoon-shaped lip. *D. x Desdemona* is also fine—an improved *Leechianum*; *D. x Cybele nobilium*; *D. Backhouseianum superbum*—the most brilliant of the blotched forms, darker at back of segments than front; and a whole host of others, which we have no space to describe, unless we note excellently-grown plants of *D. x Venus*, and *D. Falconeri x D. F. giganteum*.

The two oldest houses, formerly tenanted with greenhouse plants, and several other miscellaneous things, is still doing duty in that way, with the roofs used for suspending the collection of Mexican *Laelias*. The *L. anceps Williamsii* and *Dawsoni* are among the best of the whites, and among the reds *L. anceps Chamberlainiana* and *L. a. Schroderi* are the most vivid. They are both evidently excellent growers, doing none the worse for the extra moisture evaporating from the wealth of foliage below. *Oncidium Marshallianum* is doing well in this climate, having flowered in some instances with great branching panicles. It is a large lofty house, in which, notwithstanding the heat, *Maréchal Niel Rose* has given off a great crop of blooms.

In the adjoining house is a collection of unspotted *Laelia purpurata*, and several great pieces of *Cattleya gigas*, which grows rampantly, without showing any disposition to flower. There are several *Dendrobies* grown here, *D. Hildebrandtii*, with its twisted segments, being notable, especially the white form. *Lycastes* of the Skinneri order do well in this climate. One of the best Howick House varieties of *S. alba* has grown into wonderful-sized pseudo bulbs, remarkable for their flat, ovate, and oblong outline; this indicates proper treatment, and brings flowers of great size and powers of endurance. The darker forms are well represented in *L. s. imperator*. *Miltonia vexillaria* was flowering in abundance; it looks best in the plant, as when cut the flowers are too fugacious.

The *Odontoglossum Rossi*-house is in juxtaposition, and is a small lean-to where foliage is within comfortable distance of the glass, and the plants repay the grower with abundance of bloom.

### LELIA PURPURATA VAR. ASHWORTHIANA.

This is a variety of great distinction, a complete departure, in point of colour, from all others in cultivation. The sepals are white; the petals are highly-coloured, like the lip itself, and renders the flower most striking. The main colouring is flamed-purple, as brilliant in the back of the petals as the front, standing out in prominent venation lines placed on a blush ground. The lip is crimson-purple, exquisitely illumined, and showing little or none of

the pale blotch on the central extremity. The colouring runs up in radiating lines towards the convex column. In the concavity of the column are four parallel rosy-purple lines stopping short at the lip of the column, being yellowish-white. The only defect in the flower is that the petals nod onwards towards the folded-in lobes of the labellum, somewhat as in some of the forms of *Cattleya Mendeli*. The substance and colouring are altogether without exception. The variety is dedicated to that enter-

TULIPA BATALINI, REGEL.

PROFESSOR BATALIN'S Tulip was originally described and figured by our old friend Dr. Von Regel, in the *Gartenflora*, 1889, t. 1307. It is a native of Eastern Bokhara, and has pale lemon-yellow flowers. The perianth segments and yellow stamens are glabrous at the base, and the outer flower-segments are destitute of a spot at the base. The bulb (scales which we have not seen) are described as woolly on the inner

of all, has an area of about 8000 square metres, whilst the other, arranged by Mr. Goerms, may be about 3000 square metres. The ground plan of each is different. Mr. Goerms has selected a regular form, whilst Mr. Buntzel chose an irregular ground-plan. In both cases the situation decided the shape. Mr. Buntzel has a great many large and small beds distributed about in the turf, through which run curved paths. The beds are planted partly with standard, partly with root-grafted Roses, partly with cuttings of plants. Of each class are many representatives. The total number of the plants is unknown, even to the exhibitor; certainly there are not fewer than 12,000 to 15,000 plants, and I had the opportunity of seeing, when this rosary was planted, van after van bringing the plants, and when they were unpacked it seemed as if there was no end to them. The exhibitor was quite amazed to see how many plants were necessary to fill the beds. When in full flower, this rosary will have a fine effect. But by no means less delightful will be the rosary of Mr. Goerms, who has about 6000 standards of about 600 sorts. This rosary is especially interesting to rosarians. The plants are very strong, prepared for the exhibition during some years, and certainly will flower perpetually. They are planted like those of Mr. Buntzel this spring, but both are now well-established.

Mr. Buntzel's rosary is bounded on one side by a park laid out by Mr. Kranitzki, which has a triangular form. The two other sides of this are broad walks. The boundary to Mr. Buntzel's is formed by Mr. Kranitzki's espaliers of Peaches, Apricots, Apples and Pears. They have not such a regular form as those of Mr. Spaeth, but they have good fruit-stems, and show that it is by no means necessary to prune an espalier precisely as the rules prescribe. This is of importance to all those amateurs who have in their cottage garden some espaliers, and are obliged to prune the plants themselves. Mr. Kranitzki's most interesting exhibits are his Conifers. They are so densely grown, and so faultless; at the same time of such vigour and good shape, that they are among the best Couifers exhibited. Herbaceous plants are now fashionable here, and so it is not to be wondered at that we find them here. But there are no species of especial interest. On the other side of the broad walk which bounds Mr. Buntzel's and Mr. Kranitzki's garden are situated other gardens; Mr. Lorberg's is especially distinguished by delightful Conifers. Mr. Lorberg has also some very well-trained fruit-trees in the form of Palms, cup-shaped trees, pyramids, &c., all of which are well-furnished with bearing branches. The neighbouring garden is that of Mr. Wredow, which has made use of old standard trees.

It is difficult to give an idea of a little cottage garden without a ground-plan. The garden is laid out to form a landscape, and has a good effect, but the little pond is not beautiful. It is, unfortunately, a rule with a good many landscape gardeners, that a garden must have a pond. Such gardeners construct shapes which they never have seen in Nature, or at least only on a much larger scale. Such a pond is this. I can imagine that a tank a thousand times larger than this, with the same features, would give a fine effect. But there is a difference between a little pond of some square metres and a tank of some hectares in area.

On the opening day, there were some good collections of Cyclamen. When I sent in February cut flowers of Cyclamen to the Royal Horticultural Society, I was somewhat astonished to hear that they could not rival the English ones. I have very much to thank Messrs. Sutton & Sons, who were kind enough to send me a collection of their Cyclamens. I showed them to our specialists. Indeed, there were some colours amongst Messrs. Sutton & Sons' Cyclamens which are wanting with us. There are two or three varieties which equal ours, but the fact is that our German varieties are by no means inferior to the English, since of a good many varieties, we have much stronger plants, with much larger flowers. The flower-stalks are twice as strong as those of the English varieties. In one point the English growers



FIG. 131.—TULIPA BATALINI (REGEL): FLOWERS PALE LEMON-YELLOW.

prising amateur in the north of England, Mr. Elijah Ashworth, of Harefield Hall, Wilmslow, who obtained it from one of the importations of Messrs. Cowan & Co., of Garston, Liverpool.

The whole place is in an excellent state of keeping, as Mr. Warburton does not grudge any reasonable expense to have his plants in first-rate order. "That I am determined to have," says he, "and I will have it too." He is excellently fitted with a head gardener in Mr. J. Lofthouse, and many evenings are spent with him and his staff in a room set apart for reading and discussion, in which the genial proprietor cordially joins in those subjects in which their everyday routine is engaged. J. A.

surface, and the leaves are linear-lanceolate. It is an early-flowering, very refined-looking Tulip. Our illustration (fig. 131) was taken from a specimen exhibited at one of the recent meetings of the Royal Horticultural Society by Messrs. Barr & Sons.

FOREIGN CORRESPONDENCE.

HORTICULTURE AT THE BERLIN INDUSTRIAL EXHIBITION.

In my first report I mentioned Mr. Spaeth's rosary. In addition to this there are also two other rosaries. The one arranged by Mr. Buntzel, and the largest



surpass the German ones—they cultivate more varieties of colour. The German public until now has taken but little interest in the different varieties of colour. They like those plants which form a large bush of well-spotted leaves, and from which rise a good many large flowers on straggling stalks, about 4 inches above the leaves. A plant of 16 to 20 inches in diameter, the leaves all of the same height, not more than 4 inches above the pot, a cluster of about fifty flowers open at the same time, all the same height; such are our good market plants, which are priced at 8s. to 10s. the piece in the flower-shops. Whether the colour of the flowers is a little more or less red, or purplish, &c., makes no difference. Other objects of interest were cut Carnations, ranging from pure white to dark brown, ten of which says the grower, Mr. Studier, Gross Lichterfelde, are new varieties grown by himself. I was much pleased with them when I saw them.

When I said above that our public took but little interest in the colours of Cyclamen, I must confess that it is not so with *Azalea indica*, of which there was a very fine exhibition from the well-known *Azalea*-grower, Mr. Bluth, Steylitz. *Azaleas* are an instructive example of the theory that the public taste is guided by the middlemen. Mr. Bluth had exhibited some specimens of *Apollou*. The public was enthusiastic, as it never before saw such a colour in an *Azalea*. Curiously enough, said Mr. Bluth, the middlemen do not buy this sort; they say the public does not like it.

To-day only one other object of interest can be mentioned. Apples, already a year and a half old (part of the 1894 crop), and still as fresh as if gathered yesterday from the tree. It is a good medium-sized yellow sort, without a name—a seedling, the exhibitor says. *U. D.*

#### RAPID GROWTH IN ADIANTUM FARLEYENSE.

Enclosed I send a photograph of a plant of *Adiantum Farleyense*, which perhaps may be of interest, illustrating, as it does, the rapid growth of *A. Farleyense* here in Greece. In October, 1894, the plant shown in the photograph was a small plant, consisting of a single crown, bearing two small fronds, and was in a 3-inch pot; and when the photograph was taken the latter end of March this year, the plant was in a basket 18 inches square, was 2 feet 8 inches high, and 3 feet 3 inches in diameter. It has been grown suspended from the roof of a stove, where the thermometer often rises to 95° during the summer with all the ventilators open. The house is shaded from the sun during the hottest part of the day by means of blinds. Of course, a good supply of atmospheric moisture is maintained. The compost I use for *A. Farleyense* consists of two parts Heath-soil, as it is called here, one part leaf-mould, with a good sprinkling of sand. The *Erica* soil is collected by the shepherds on the mountains, and consists chiefly of the decayed leaves and flowers of the wild *Erica*. The leaf-mould I get from the Oak woods in the south of Greece, and it has to be brought all the way by sea. This compost seems to suit *A. Farleyense*, which grows like a weed in it, plants divided up in March or April growing to a large size by the following October. I find it is not advisable to disturb the plants after the month of April, or they are liable to remain stationary during the great heat of the summer. If not done in April, I have found it best to leave them till September, when division of the plants may be undertaken, and good plants obtained the following May. *Thos. Honey, Gardener to M. A. J. Vouros, Rav. Kifissia, Athens.*

## CULTURAL MEMORANDA.

THERE are many cultivators who do nothing to their Gooseberry and Currant bushes and espaliers the whole year round beyond affording them a winter's pruning. This is mistaken practice, as it also is with the Rose; and far finer fruit, and more of it, is obtainable if from the beginning of June to the middle of July the suckers from the roots are cut away by

degrees, so that they shall not choke up the plants with unfruitful wood, hindering the ripening of the future bearing shoots, besides rendering the gathering of the berries very unpleasant work. In July these shoots should be topped. At the same time all the one-year shoots, as may be required, should be served in the same manner from time to time; and where they are crowded, light and air should be let into the crown by removing some of them, so that the buds may properly develop. These are points in the cultivation of cordons which cannot be neglected without loss of crop and other obvious evils.

## THE WEEK'S WORK.

### THE ORCHID HOUSES.

By W. H. WAITE, Orchid Grower, Burford, Dorset.

#### HINTS ON PRESENT NEEDS OF THE PLANTS.—

Up to the present time the weather has been very favourable to the welfare of most Orchids, especially those of the tropics, which occupy our warmest houses. *Dendrobium*, *Cyrtopodium*, *Catasetum*, *Cycnoches*, deciduous *Calanthes*, *Schomburgkias*, *Renana*, *Lissochilus*, &c.; all seem to delight in this unwonted amount of sunheat. While the shade-loving plants, such as *Cypripedium*, *Phaleopsis*, *Platyclinis*, *Phaius*, *Cirrhopetalum*, *Bulbophyllum*, *Angreum*, &c., show by their vigorous growth that they appreciate the warmth and the moisture afforded them. Plenty of water is essential to all of these plants that require a stove heat, particularly *Dendrobiums*, because, if these are allowed to become in the least dry at the root, the young shoots get a check that may end in their finishing up prematurely for the season with the evil of a commencement of growth that would be sure to bloom unsatisfactorily. *Dendrobium Bensone*, *D. B. xanthina*, and *D. B. album*, now going out of flower, and with the young breaks when only a few inches high, pushing roots, should be forthwith repotted. In the performance of the repotting much care must be bestowed so that no roots get injured, as the welfare of the next flowering bulb depends, in a very great measure, upon these roots. Use small shallow pans for suspending, filling them rather more than three-quarters of their depth with drainage materials, and over these place a thin layer of peat and moss. For cultural directions see *D. Phaleopsis*, p. 677. From the present time until growth is completed this plant must be carefully and frequently inspected for any signs of red-spider or of mealy-bug, both of which are capable of causing much injury to the plant, and which must be kept in check by brush and sponge. The autumn-flowering *D. formosum* should be grown under similar conditions to *D. Bensone*.

**AÉRIDES.**—Many of the *Aérides*, viz., *A. virens*, *A. suavisimum*, *A. Larpentei*, *A. Lobbiani*, *A. crispum*, *A. expansum*, *A. Fieldingii*, *Saccolabium guttatum*, *S. giganteum*, *S. Blumei*, *S. curvifolium*, *S. anpulaceum*, *S. minutum*, and *S. retusum* now going out of flower, should be encouraged to make quick growth, removing the top-dressing if it be discoloured, and putting fresh sphagnum-moss in its place. Other warm-growing plants which have recently been in bloom, as *Epidendrum bicoloratum*, *E. atropurpureum* *Randii*, *E. Mooreanum*, *Cattleya Schilleriana*, &c., should be rested in a sunny house, with a somewhat lower temperature than that they have hitherto occupied, returning the plants to their growing quarters immediately growth re-commences.

**HABENARIA MILITARIS.**—*H. carnea* and its variety *nivosa* now freely growing, will require much water at the root until such time as the flower-buds open, when the quantity should be gradually reduced. These plants should be kept quite free from insects that damage their beautiful foliage in a very short space of time.

**CATLEYA ELBORADO.**—Where grown sufficiently strong, this plant will now push up its flower sheaths, and, till the flowers open, the humid East Indian-house will suit them, provided water be afforded whenever the compost gets quite dry; but for the present keep the plants shaded from strong sunshine. The new pseudo-bulbs may be ripened after the flowers have faded. Another species which luxuriates under similar conditions to *C. Eldorado* is the tall-growing *Cattleya bicolor*. It is of consequence that an equable temperature be maintained in this division during the period the plants are growing. Although the nights may become warmer, heat ought not to be dispensed with alto-

gether, as by its use stagnant air is got rid of. Coolness, with moisture during the night, will often cause spotting of the foliage of *Phaleopsis*, *Dendrobiums*, and *Calanthes*. A small amount of ventilation at the apex of the roof afforded the last thing at night will assist circulation of the air, and thus get rid of much of the moisture that accumulates after the house is closed. Let fire-heat be used to maintain a temperature of 75°, and when finishing up at night, manipulate the damper so that the thermometer will stand at about 70° in the early morning.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

**SUMMER PRUNING.**—From the middle of June to the middle of July is considered the best time for what is termed the summer pruning of most kinds of fruit trees, and if this be carried out judiciously, very little pruning will be required in the winter. The fact should be remembered that as winter pruning encourages wood growths, summer pruning conduces to the formation of fruit-spurs and bloom-buds. Before commencing to prune, the gardener should clearly understand the varied nature of the growths, which spring from the main branches of a tree or bush. These are generally of three kinds, and usually understood, as first "shoot spurs" about 1 inch long, having a prominent bud in the centre, and surrounded by a whorl of five or six leaves; second, "long spurs" very similar to the first, but averaging from 3 to 6 inches long. These are fruit spurs, and should not be pruned. The third kind of shoots, are those which are termed wood growths, having a pointed bud in the centre, and varying from 9 to 15 inches in length, and these should be cut back to about the sixth leaf from their base. One or more young growths will soon push out from the terminal buds of such shoots, which should be allowed to extend themselves till early in the month of September, at which time they should be pinched back to one leaf. By following out this method intelligently, light and air will be able to reach the two or three buds left at the base of the original shoot, and assist their development as fruit buds. The leading or extending shoots will not require such close pruning, but should be left from 1 foot to 15 inches in length, according to the area to be covered. Those trees which are the most forward in growth, should be the first to receive attention in the matter of pruning. There are a few varieties of Apples which produce their fruit at the ends of the preceding season's growth, as *Early Margaret*, *Irish Peach*, *Golden Noble*, *Ashmead's Kernel*, *Yorkshire Beauty*, *Cornish Gilliflower*, and some others, and such shoots should not be pruned or stopped, but if the growths are in the least degree crowded together, a few of the worst placed ones should be removed.

**STRAWBERRIES.**—The preparation of the ground for new plantations should now be undertaken. It will be well to afford it a heavy dressing of rich farmyard manure; and trench it two spits in depth, if it is land that will bear deep digging without deterioration. To obtain crops of fine fruits the following year, it is necessary to set out strong plants, which can be obtained by layering stout runners in small pots as soon as they are obtainable, so as to have them ready for planting out early in the month of August. If the soil of the garden is not the best for Strawberries, it is good practice to make new beds every two or three years, and do away with the old ones. Where this is done the runners may be planted closer together than usual; where the beds last in a good condition for a longer period of time, 15 inches between the plants, and 18 inches between the rows being sufficient space. I append a list of twelve varieties that do well in this neighbourhood, early: *Royal Sovereign*, *Noble*, *Vicomtesse Hélicart du Thury*, *John Ruskin*; mid-season: *Sir Joseph Paxton*, *President*, *James Veitch*, *Sir Charles Napier*; late: *Loxford Hall Seedling*, *Latest of All*, *Hélène Glade*, and *Waterloo*. But as some varieties do better in different localities than others, no list can be given that will suit every garden. A gardener should try several of the well-known trusty varieties, and select those that thrive best in the soil of his garden.

### THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

**PLANTS FOR SPRING BEDDING.**—Now that the pressure of the work in bedding-out has slackened in most gardens, attention must be turned to the propagation of the plants needed for the display next spring. Seeds should be sown without delay of

Myosotis in variety, Wallflowers, Daisies, Pansies, Aubrietias, Alyssum maritimum, Canterbury Bells, Lunaria biennis, Honesty, &c. Plants which may be increased by division, and some of those above-named are amongst such, may now be divided, planting the bits in a partially-shaded piece of ground in lines about 1 foot apart, and from 6 to 9 inches from plant to plant. The ground should be in good heart, but not over-rich, and a dressing of new loam will be beneficial to the plants. Thoroughly water in the plants, and continue to afford water as needed till they become established. Cuttings of Wallflowers, &c., should be struck in sandy soil under a hand-glass or cold frame, and be kept close till signs of growth are noted.

**ANNUALS.**—Sowings may still be made for late display, but especial care will be needed in watering, thinning, &c. Earlier sowings should be thinned before the seedlings get in the least degree crowded together, or their season of flowering will be brief.

**Summer Bedding.**—Most of the kind of plants which remain may be advantageously made use of in filling up vacant spots at the margins of shrubberies and in the flower borders, also for purposes of propagation in late summer. This applies to the ordinary half-tender plants still commonly used for filling the summer beds. Verbenas, Ivy-leaved Pelargoniums, Petunias, and plants which are usually of the like growth, pegged down when the beds are of small size, should now receive attention, the soil being previously mulched with cocoa-nut-fibre refuse to give them a finished appearance and retain moisture, thus promoting healthy and rapid growth, and abundant blooming.

**CLIMBERS.**—These plants will now call for weekly attention, if tidiness and neatness are looked for, although this side of their culture may be overdone. The species and varieties of Clematis especially call for close attention in this respect. Climbing Roses should have the long shoots loosely secured, and afterwards be syringed with soapsuds, and finally with clear water. Plants which grow near to buildings where the rain does not reach the roots should be copiously watered at the root, and overhead occasionally. Sweet Peas, single and double-flowered Convolvulus, and Tropaeolum aduncum, will need to be supported with light spray before the growths become entangled. These last-named plants should be employed in the rockery and wild garden, where they look the best if allowed to grow unrestrained.

**ROSA RUGOSA** is a species which has a handsome appearance on a lawn, or at salient corners. There is at the present time a splendid specimen of this Rose on the lawn at Drayton Rectory, the residence of the late Rev. Harpur Crewe, which is about 1 mile from Aston Clinton, which was planted by him. Rosa rugosa being a perfectly hardy species, thriving in almost any kind of soil and position, should find a place in every garden of any pretensions.

**VIOLETS.**—Plants in beds which have been made up for flowering next season should have all runners removed as soon as observed, the soil kept free from weeds, copiously watered in dry weather, affording the beds an occasional stirring with the Dutch-hoe.

**CARNATIONS.**—Preparations for layering Carnations should now be made. As materials in which to layer may be named finely-sifted garden refuse, which has undergone charring, old mortar, road-grit, and sharp sand, which should be mixed with some light earth and potting-bench refuse mould. Throw these into a heap and well incorporate by turning the heap several times before using, it will be in much better condition for layering than if mixed when it is made use of. In view of the prevalent hot dry weather, this heap should be once watered—at, say, the first turning.

**FRUITS UNDER GLASS.**

By W. FORD, Gardener, Highclere Castle, Newbery.

**MELONS.**—The plants for furnishing fruit late in the month of August and later should now be planted. Afford them a firm rich soil, and shade them slightly for a day or two, in case the weather should be bright, maintaining humidity in the frame or pit by an occasional sprinkling, and closing the lights by 3 P.M. Where later Melons have to be grown on dung-beds, seeds should be sown forthwith; and in the case of water-heated houses and pits, sowing should not be long delayed. Sow three seeds in a 4-inch pot, and select the strongest plant when they are in the first rough leaf. One plant will suffice for a light of ordinary size,

planting it in the middle, the growing point being pinched out as soon as two of the true leaves have developed, which will cause several laterals to sprout, which should be reduced to four, two being trained forwards and two backwards. The after-formed laterals should be reduced in number, so as not to have any crowding in the frame, but good stout foliage. Endeavour to have a crop of fruits set at about one time. As soon as the flowers begin to open, the frame should be kept dryer, and less moisture should be afforded at the root, but no flagging should take place. Leave air on at night at this stage, the better to secure good fertilisation of the blooms. As a late variety, none is better than Monarch, a green-fleshed Melon, of desirable size, which can be kept longer in good condition after being cut than any variety I am acquainted with. Pay close attention to the tying, stopping, &c., of the earlier Melon-plants, and afford ripening fruit a free circulation of air always, also abundant sun-light.

**FIGS,** except where a crop of fruits is ripening, may be freely syringed every day at closing time. Afford the plants manure, so that the second crop may swell off satisfactorily. The fruits should be freely thinned, reserving the largest fruits, found usually near the base of the shoots. New mulchings of rotten manure should be placed over the roots, and the growths trained in thinly, so that firm, well-ripened wood be secured. Where fruit is ripening air must be freely admitted, even if fire-heat has to be used in dull weather. Young trees growing in pots that are intended for early forcing should be kept near the glass, where they will make stout, sturdy growth, liquid-manure being afforded two or three times a week, with daily syringings of the foliage. As soon as growth is finished for the season, afford more air; and when the shoots are matured, stand the plant in a warm sunny corner out-of-doors for a few weeks, protecting them from heavy rains. In cool-houses or on glass-covered walls, the growths on Figs should be well thinned, and a mulch of short manure and copious waterings of liquid-manure applied to the roots, if the borders are small. Close such structures early in the afternoon, and syringe the trees once or twice daily.

**PLANTS UNDER GLASS.**

By JNO. McSTYRE, Gardener, Woodside, Darlington.

**HIPPEASTRUMS.**—The latest seedlings will have filled with roots the thumb-pots in which the first potting was made, and they ought now to be shifted into 4-inch ones. A very suitable kind of compost for them at this stage consists of loam two-thirds, well-rotted manure, part of which may be dried cowdung rubbed to a fine state, and sharp sea or pit sand. Let one-third of the bulb remain above the level of the soil, pot firmly, and place the seedlings in a Pine-pit or other warm place. Keep moist but not wet, and as the pots fill with roots increase the amount of root-waterings, and if the drainage be good they will make rapid progress. Flowering bulbs and those of nearly flowering age, if finishing their growth for the year, may be placed in a house or pit with a warmth midway between that of the stove and of the greenhouse, withholding water gradually as signs of ripening foliage indicate the lessened need for root-moisture.

**THE FERNERY** should now be looking its best, and during the warm days moisture in abundance should be afforded all of the plants which are well rooted, damping the stages, wall, rockery, paths, &c., several times a day. I do not approve of heavy overhead syringings, but the air of the house should be kept moist instead. If a quantity of plants from spores exist, those which are still in the store-pots, if potted up singly at this date may be relied upon to make little plants useful for a variety of purposes in the autumn and early winter. A number of small pots of Adiantum cuneatum and A. gracillimum if shifted into pots one size larger than those they are now occupying, and kept growing, will be valuable in the autumn months in furnishing vases, dinner-table decorations, &c. Some gardeners make the mistake of potting Ferns with too great firmness, hindering root and frond development, whereas a middle course should be aimed at. Some kinds of soil if pressed too firmly when moist become as hard as brick, which no roots are able to penetrate. A compost in which most Ferns do well, is sweet, well decayed leaf-mould, light loam, and hard peat, in equal ratio, to which is added a fair quantity of river or other sharp sand. In a soil of this description the Ferns make sturdy fronds, which last longer and have a finer effect.

**GREVILLEA ROBUSTA**—Seedling Grevilleas growing in thumb-pots should have a shift into 4-inch pots, a useful size for many decorative purposes, affording them a light kind of soil, and placing them in an unheated pit or frame on a bed of finely-sifted coal-ashes. Grevilleas do best in the shade.

**PRIMULA SINENSIS FIMBRATA.**—The earlier-raised plants, if sufficiently advanced may now go into their flowering-pots and stood wide apart in a cool frame. In the potting-soil charcoal should always be used, a few pieces of the size of horse-beans being placed round the neck of the plants to prevent their damping-off if afforded water in a careless manner. Shade the plants lightly in sunny weather.

**CINERARIAS.**—The early-raised plants will now be ready for pricking off from the seed-pans. Afford them a compost of leaf-mould a half, loam a quarter, spent Mushroom-bed materials a quarter, and a sprinkling of sharp sand, and grow them under as cool conditions as possible.

**WINTER-FLOWERING CARNATIONS.**—Those cuttings or layers rooted in the early spring, and now growing in 60's, should be re-potted into 48's, in which size the earliest of them may be flowered. Those intended for flowering at a later period may be shifted into 32's, large or small, when they have filled their present shift. Small matters must receive attention; the pots and crocks, for instance, must be quite clean and free from dirt, many failures occurring from the use of dirty pots; the loam should be rather strong and adhesive, and have been in stack for at the least six months. If the loam is of good quality, beyond mixing with it a liberal quantity of Thompson's Vine Manure when potting the plants, nothing else in the way of manure is required. After re-potting the plants, let the pots be sunk to the rims in a bed of some non-conducting materials during the summer months—leaf-soil forms a good bed for them at this season.

**THE KITCHEN GARDEN.**

By C. HERRIN, Gardener, Dropmore, Maidenhead.

**AUTUMNAL BROCCOLI.**—The recent showers have been very acceptable in the kitchen garden, enabling the planting of the early autumn Broccolis to be done with success. Good breadths of these useful varieties should be planted, especially of Veitch's Self-protecting, one which may be trusted to furnish heads about the time the latest Cauliflowers go out of season. If two plots of this variety be planted in succession, a few weeks apart, the supply of heads may be extended into the month of January, providing the frosts be of no great severity. Broccolis do best if an open situation be afforded them, and they should be planted out at from 2 feet to 2½ feet apart each way. A rich soil should not be selected for the beds, as the rank growth this induces tends to susceptibility to frost injuries, and what is required is sturdy, firm growth. The land should be made quite firm by being trodden all over.

**SAVOYS.**—Plants from the earliest sowings are now ready for planting, and this should be done before crowding takes place in the nurse or seed beds. If short-topped Potatoes have been planted at rather wide distances apart, Savoys may be interlined; otherwise the rows of plants should be 18 inches apart, and the plants 15 inches.

**CABBAGES.**—Some of the spring-sown Cabbages, if planted at this date, will come in usefully for early autumn consumption. Seed may be sown of the Rosette Colewort, a most useful kind for use in the early winter time; another sowing being made three weeks later. This is a very hardy Cabbage, and is not hurt by severe frosts. When planted 1 foot apart each way, this affords sufficient space for full development.

**CAULIFLOWERS.**—Batches of Eclipse, Autumn Giant, and Autumn Mammoth Cauliflowers will now be ready for planting on land heavily manured and made very firm. Plant them in shallow drills, 2 feet to 2½ feet apart. Cauliflowers from the autumn and spring sowings are now turning in; the variety selected—Snowball—is of delicate flavour, and the heads of a suitable size for the best table. These were ready from spring sowings ten days before we finished the latest Broccolis, that is, the first week in the present month. The quarters where Cauliflowers are turning in should be looked over daily, and a few of the leaves broken down over the curd as soon as it shows.

## EDITORIAL NOTICES.

## ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

## APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	JUNE 20	{ National Viola Soc.: Conference and Ex. at Regent's Park.
TUESDAY,	JUNE 23	{ Royal Horticultural Society's Committees.
WEDNESDAY,	JUNE 24	{ National Rose Society's Exhibition at Reading. Richmond Horticultural Society's Show.
THURSDAY,	JUNE 25	{ Hereford and West of England Rose & Horticultural Soc. Show. Peoples' Palace Horticultural Show (three days).
FRIDAY,	JUNE 26	{ Royal Botanic Society: Lecture.
SATURDAY,	JUNE 27	{ Windsor Rose and Horticultural Show. Canterbury Rose and Horticultural Show.

## SALE.

FRIDAY, JUNE 26 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—62°.

Of all the means that were taken to celebrate the Jubilee of the QUEEN in 1887, none was more fruitful in good results than the establishment of charitable institutions—none, we may be sure, more grateful to the QUEEN herself. Among these we may, with some complacency, include the Gardeners' Orphan Fund. It was started by gardeners, it has been supported and maintained by gardeners, and it remains one of the most popular of garden institutions. It was carefully designed, and has been prudently and carefully managed. The annual dinner, which is taking place as these lines are passing through the press, is presided over by the Duke of BEDFORD, and we earnestly hope that a most successful celebration will take place. The Presidency of a Duke of BEDFORD is peculiarly appropriate. Within a quarter of a century Covent Garden Market, with which we are all more or less associated, has been nearly doubled in extent. A quarter of a century ago there was no Flower Market, there was no Floral Hall—at least, it was not dedicated to horticultural purposes; Tavistock Street was still Tavistock Street, and not a vegetable market, and there was none of the improvements which have added so much to the convenience of those whose business calls them to Covent Garden Market; and all these improvements we owe to the Dukes of BEDFORD.

During the same period we have seen scores and scores of agricultural experiment stations established in Germany, in France, in the United States—establishments designed with the view to promote the interests of scientific, and therefore, eventually, of commercial agriculture and horticulture. In this country we may count such institutions by units, and when we say that two of those have been in-

augurated within the last few years by the Duke of BEDFORD, it will be seen how large is the percentage due to that noble family. Under the auspices of the present Duke has been created an agricultural station working on the lines of the superlative establishment at Rothamsted; and even more recently a fruit farm has been established at Ridgmont from which we may look for the most important results in the scientific cultivation of fruit trees, and in the promotion of the commercial interests involved in the great industry of fruit culture.

In all these matters the Duke of BEDFORD is following the traditions of his house. Those of us who are familiar with the history of horticulture will recall with a glow of enthusiasm what was done at Woburn some sixty or seventy years ago. The Duke of BEDFORD of that period was an ardent horticulturist, and a most earnest supporter of the craft. What he did in support of DRUMMOND, CUMING, DOUGLAS, and other famous plant collectors, will never be fully known. His friendship with Sir WILLIAM HOOKER, LINDLEY, and BENTHAM, led him to use his potent influence to make Kew what it now is. The work was done quietly and unostentatiously, but how real it was may be gleaned from the writings of the authors we have named. Our library shelves bear witness also to the enlightened support that was given to horticulture. At Woburn there was a collection which is not surpassed in any private establishment even now. FORBES, his gardener, published a catalogue of plants growing at Woburn, which comprised no fewer than 6000 species. Where out of Kew is now such a collection of succulents as was then gathered together? Where is such a collection of Heaths? Unfortunately, these were afterwards dispersed, but the books published under the auspices of the sixth Duke remain, and will remain, standard books. We may allude, among others, to the *Pinetum Woburnense*, published by FORBES, with coloured plates, of which, unfortunately, only a hundred copies were printed; to the *Salicetum Woburnense*, an earlier work, of which even fewer copies were printed, but of which the descriptions and illustrations are so excellent that their value is unimpaired by the lapse of time. The *Hortus Ericaceus Woburnensis* was devoted to the description and illustration of a family now much neglected, but which has so many intrinsic merits that sooner or later it will come into fashion again. Another work published under the Duke's auspices was the famous *Hortus Gramineus Woburnensis*, prepared by SINCLAIR, and which, making allowance for the great strides made by chemical science, is still the most complete work on the subject.

We have said enough to illustrate the peculiar fitness of the present Duke of BEDFORD to occupy the Presidential chair of the Gardeners' Royal Orphan Fund, and we earnestly hope that the horticultural fraternity, mindful of their obligations, and of the bitter need of the orphans, will show their sense of the importance of the occasion, and do what in them lies to welcome their new President, and specially to help those who are debarred from helping themselves.

A GROUP OF PLANTS IN THE GARDENS OF DERRY ORMOND PARK, CARDIGANSHIRE.—Groups of stove and greenhouse plants have been frequently figured in these pages in recent years, the chief reason for their insertion being, in most cases, to show some peculiarity of arrangement, evidence of superior cultivation, and good taste shown in the disposition of the plants. We have no school

of art in gardening where a gardener can acquire a knowledge of the general principles that are applicable to a composition of this kind, as for instance such as are afforded the artists in oils and water-colours, or schools of design such as are open to aspirants in designing textile and ficile goods; but the gardener must follow his own ideas, if he have any, trusting to his innate powers of composition to produce something that will please others, even though it should fall short of his own conception, and fail to please himself. That he so often succeeds, and that, too, with materials often not the most suitable, is a matter for surprise. The group we depict in fig. 132 was set up by Mr. CRAWFORD, head gardener to W. INGLIS JONES, Esq., Derry Ormond Park, Cardiganshire, as an exhibition-object at a local horticultural show, and which took the 1st prize. The plants of which it consists are, as our readers will observe, inmates of the stove, and there are more foliage than flowering species; but as the former were doubtless selected for the brilliancy of their leaf-tints, the group would not be lacking in the desirable quality of colouring. There are many uses in a big mansion for such a group. It might be used to mask an empty fireplace, fill up a corner, close a corridor, block up an undesirable doorway, occupy a retired part of a landing on the chief flight of stairs, and be equally suitable in either.

THE GARDENERS' COMPANY.—The installation banquet of the Gardeners' Company took place on Monday night, 15th inst., at the Royal Institute of Painters in Water Colours, when the chair was occupied by the newly-elected master, Mr. N. N. SHERWOOD. The company included Miss Sherwood, Lord Amberst of Hackney, and the Hon. Alicia Amberst, General Sir William Olpherts, V.C., and Lady Olpherts, Sir Trevor and Lady Lawrence, Lieutenant-General Sir F. Norman and Lady Norman, Mr. Alderman Samuel (assistant), the Master Cutler, Mr. F. L. H. Collins, Mr. J. Hampton Hale and Mrs. Hale, the Rev. H. Curtis and Mrs. Curtis, Lieutenant-Colonel George Lambert (past master), Mr. Leedham Fuller and Mrs. Fuller, Mr. Nutting, Sir William Farmer (renter warden), Mr. E. F. Fitch (upper warden), the Rev. W. Wilks, Professor M'Hardy, Mr. Wotherspoon, and Mr. R. Goston-Salmond (the clerk). In proposing "The Worshipful Company of Gardeners," Lord Amberst of Hackney remarked that the charter of the company was very nearly 300 years old, but the company had been in existence longer than that. Gardening was certainly flourishing in the present day, as might be seen throughout the country. Sir Trevor Lawrence, in acknowledging the toast, stated that since the resuscitation of the company a few years ago they had done all they could to promote horticulture, and they would continue to do so. Other toasts followed, including that of "The Master," who presented the company, in commemoration of his election, with a handsome rose-water dish.

ROYAL HORTICULTURAL SOCIETY.—A meeting of the Fruit and Vegetable Committee was held in the gardens at Chiswick on Monday, June 15. Present: P. CROWLEY, Esq., in the chair; the Rev. W. Wilks, secretary; and Messrs. Balderson, A. H. Pearson, W. Pope, A. F. Barron, J. Wright, W. Bates, J. Smith, A. Dean, R. Fife, T. F. Rivers, and W. C. Cummins. Early Peas were first examined, the full trial requiring another visit later. Of dwarf first-early varieties, suited for pot culture or forcing, Sutton's Excelsior was awarded two marks; and of taller varieties of Marrowfat quality, the best was Fulton's Bountiful, which was awarded three marks. The committee agreed to include in next year's trial of new Peas a few older ones, to furnish standards of excellence. These are to be Chelsea Gem, William the First, early; Sharpe's Queen and Duke of Albany, second early; and Autocrat and No Plus Ultra, late. All varieties in wide cultivation. A trial of Turnips next claimed attention. These included early and late varieties. The best earlies were the white and the purple Extra Early Milan; and the Half-long white pointed variety, of excellent quality. These three were awarded three marks





FIG. 132.—GROUP OF PLANTS IN MR. INGLES JONES' GARDEN DERRY ORMOND PARK, CARDIGANSHIRE. (SEE P. 702.)



The late ones will be seen when ready for use. Strawberries proved to be more interesting material. There is an extensive trial of these fruits from last year's runners, which includes about fifty diversely-named varieties, old and new. Such varieties as Royal Sovereign, Leader, Monarch, and some others having recently been certificated were only briefly tested. First-class Certificateds were awarded to Countess, a great cropper; fruit of good size, loughish, of old pine quality, very rich in flavour, and of robust habit. To Edward Lefort, a very fine fruiter, colour rich, and flavour excellent; a great cropper, and free grower. Also to Augustine Boisselot; fruits long, pointed, rich colour and flavour. Three marks were given to the fine old President, here in such excellent condition; Princess Royal, a variety that showed high quality, and a good cropper; Acquisition, wonderful cropper and having fine handsome fruits, specially recommended for market culture; and Newton Seedling, very robust, later, an immense cropper, with fruits of considerable excellence. Martha Nicaise gave excellent flavour, but there was doubt as to its identity with General Dumorier, and it is to be grown against that variety next year. In spite of the drought, the plants had done well, and carried generally fine crops. On two-year-old plants of older varieties the crops are wonderful, in spite of the drought and absence of watering.

The next Fruit and Floral meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, June 23, from 1 to 5 P.M., when special prizes will be offered for hardy herbaceous flowers. At 3 o'clock a lecture will be delivered by Mr. SAMUEL HEATON, F.R.H.S., on "Gardeners—Past, Present, and Future."

**HORTICULTURAL LECTURER.**—We learn that Mr. J. H. WALKER, who was engaged by the Leicestershire County Council as Lecturer on Horticulture during the past four years, has been appointed to a similar post under the County Councils of Northamptonshire and Rutlandshire. Mr. WALKER leaves Leicestershire with the good wishes of many who have benefited by the instruction he has imparted.

**HORTICULTURAL CLUB.**—The usual monthly dinner and conversation took place on Tuesday evening, June 9, when there was a good attendance of members. Messrs. F. W. BURBIDGE, of Trinity College Botanic Gardens, Dublin, and Mr. MALCOLM DUNN, Dalkeith Gardens, were the special guests of the club on the occasion of their receiving the Veitch Memorial Medal. Mons. HENRI DE VILMORIN, the other recipient of the medal, was unable to attend on account of domestic affliction. This was a great disappointment to him and to the members of the club. The chair was occupied by Mr. HARRY J. VEITCH, and the health of the guests was proposed by the Secretary and the Chairman, and suitably acknowledged by both gentlemen. It was announced that the excursion would take place on July 30. It would be into Buckinghamshire, and Mr. LEOPOLD DE ROTHSCHILD had kindly invited the members to lunch at his beautiful place, Ascott, near Leighton Buzzard, and Mr. ALFRED DE ROTHSCHILD has also invited them to visit his place and have tea and light refreshment there in the evening. Mr. VEITCH has most kindly consented to superintend the arrangements.

**Ghent Royal and Agricultural Society.**—At the last meeting of the *Société Royale d'Agriculture et de Botanique de Gand*, the following awards were made:—Certificates of Merit: To M. L. DE SMET-DUVIVIER, for *Anthurium Scherzerianum* König Albert; to M. JULES HYE, for *Cypripedium Leysonianum*; and for *Miltonia vexillaria* Hycana (*à l'unanimité*), also (*par acclamation*), for *Laelia Cattleya Phœbe*; to Messrs. SANDER & Co. (*à l'unanimité*), for *Calamus Alberti* and for C. Carola; to M. le Marquis DE WAVRIN (*par acclamation*), for *Alocasia Gandavensis*; to M. E. PYNART-VAN GEERT for *Pteris Winssetti*. Also, to M. L. DE SMET-DUVIVIER, for *Cymbidium tigrinum*; to M. JULES HYE, for *Odontoglossum crispum* Meteor, and for *O. hystrix*.

To M. L. DE SMET-DUVIVIER, for *Anthurium Scherzerianum* nobile; to M. JULES HYE, for *Odontoglossum molus odoratum* (*à l'unanimité*), and for *Cattleya Mendeli* Duchess de Montrose; to M. L. DE SMET-DUVIVIER, for *Anthurium Scherzerianum* formosum; for *Laelia grandis tenebrosa*; and to M. JULES HYE, for *Miltonia vexillaria* Regina, and for *Cattleya Mossiae* Reineckiana, and for *Miltonia vexillaria* alba. To M. L. DE SMET-DUVIVIER, for *Laelia grandis tenebrosa* var. *Regina* (*par acclamation*); and to M. CH. VUYLSTEKE, for (two) species of *Oncidium*. Certificateds for Cultivation and Flowering were allotted to M. E. BEDINGHAUS, for *Leptospermum scoparium*; to M. G. DESAEGHER, for *Rhynchospermum jasminoides* (*par acclamation*); and (*par acclamation*), to M. JULES HYE, for *Odontoglossum vexillarium* purpureum. Certificateds for Flowering:—To M. E. BEDINGHAUS, for *Euphorbia splendens*; M. JANSSENS, for *Odontoglossum crispum*; and to M. E. PYNART-VAN GEERT, for *Crinum Powellii* roseum. The following obtained Honourable Mention.—M. OSC. WATTEGAMPS, for a seedling *Anthurium*; M. JULES DE COCK, for *Cattleya intermedia* var.; and M. JULES HYE, for *Odontoglossum vexillarium* virginale; for cultivation: M. E. BEDINGHAUS, for *Eurya japonica latifolia* fol. var.; and, for flowering: M. ALL. DALLIERE, for *Bilbergia macrantha*; and M. E. BEDINGHAUS, for *Rhynchospermum jasminoides*.

**THE JOURNAL OF THE KEW GUILD.**—Whether officially connected with Kew or not, we are all proud of the garden and of its staff, and with good reason. One of the happiest inspirations in connection with Kew was the formation, a few years ago, of the Kew Guild, a society founded for the purpose of cementing good fellowship and patriotism, if we may so use the word, between all those who are, or have been, connected with the work of the garden. "Old Kewites," as they like to call themselves, are distributed over the world, many of them filling responsible positions with such marked ability as to make us look forward in all confidence to splendid results as regards horticulture and botany, to say nothing of economic botany, which has greater powers of taking care of itself. Like all self-respecting societies, the Kew Guild publishes a journal, and we should not be much surprised if it also had an annual dinner. The number of the Journal for May, 1896, now before us, contains a notice of the career of the Assistant-Director, Dr. MORRIS, with an excellent portrait. Some notes follow on work carried out in the gardens during the year, as well as details concerning the appointments of Kew men to various botanic stations. The *Journal of the Kew Guild* will be an excellent medium for publishing the communications of these gentlemen, to whom we look for information on the indigenous plants, and their mode of life as a guide to their successful culture. There is too widely prevalent a feeling that the gardeners and botanists at home do not care to hear what is doing in the colonial gardens and similar establishments. It is really very much the reverse. We need not mention names, but it is a fact that an intimate friend and former correspondent of this journal went out to the colonies some twenty years ago, and from the time he went till the date of his death not a line was received from him, though he was exceptionally well placed for obtaining and forwarding information. May the Kew Guild get firmer grip of its associates! A portrait is given of Mr. GRANGER, who retired in 1893, and whose unvarying courtesy is gratefully remembered by those who had occasion to avail themselves of it. Indeed, the *Journal* is very interesting to all who have known Kew in the past as well as to those conversant with its present condition. Let those who want to know more of its contents than we have space to enumerate make themselves possessors of a copy.

**IV. SCIPION COCHET.**—The *Revue Horticole* announces the death of one of the leading Rosarians of France in the person of M. Scipion Cochet. M. Cochet was in his 63rd year, and had for many years taken a leading part in the publication of the *Journal des Roses*.

**THE LEGION OF HONOUR.**—M. BRUANT, of Poitiers, has been nominated a Chevalier of the Legion of Honour; M. SALLIER, of Neuilly, a Chevalier of the Order of the Mérite Agricole.

**NEW JAPANESE PÆONIES.**—Messrs. WALLACE of Colchester send us flowers of several varieties of great beauty. It is proposed to call them *Chrysanthemum*-flowered Pæonies, because the tufts of entangled ribbon-like stamens in the centre bear some likeness to the florets of some of the Japanese *Chrysanthemums*. Of those before us, "Mikado" is of a clear rich rose-colour; the stamens narrow, ribbon-like, twisted, yellow, with rose-pink stripes; the carpels green. It received an Award of Merit from the Royal Horticultural Society. In an unnamed seedling the colours are lighter pink, the stamens crinkled, cream-coloured, and the carpels deep rose. "Margaret Attwood" has snow-white petals, yellow stamens, and green carpels—a very beautiful flower, which has also received an Award of Merit.

**ROYAL CORNWALL AGRICULTURAL SHOW, PLYMOUTH.**—The chief feature in the large tent set apart for horticultural exhibits was the display made by Messrs. R. VEITCH & SONS, Royal Nurseries, Exeter, the collection being admitted to have been the best of its kind ever seen in the county. Many of the plants, such as the hardier species of Bamboo, viz., *Phyllostachys aurea*, *P. mitis*, *P. nigra*, *P. nitida*, and *P. viridiglaucens*, *Arundinaria nitida*, and *A. Hindsi* and *Thamnocalamus spathiflorus* being of special interest to owners of gardens in the warmer parts. The collection of plants was in other respects remarkable, and included many new and rare plants, besides a rockwork and garden plans.

**CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—The usual fortnightly meeting of the society was held at Turnford on June 4. There was a good attendance of members, and Mr. JOHN GUY contributed an excellent paper on the subject of "Tomato growing for Market." After detailing the general routine of cultivation adopted in market nurseries, he emphasised the importance of regulating the supply, so as to have the largest quantities when prices ruled higher, that is May and June, this being the first crop. During July when prices are lowest, there should not be any to pick, and on the prices rising again, the second crop should be ready. He said that the variety grown by 75 per cent. of the market growers was *Chemin Rouge*, although some growers gave the preference to "Comet," which has proved itself to be freer from disease. At the close, considerable discussion arose as to the relative merits of these two varieties, also on diseases of green-spot, mildew, &c., and special attention was given to pot-culture of the Tomato. A hearty vote of thanks for his instructive paper was accorded Mr. GUY on the motion of Mr. F. S. HUTCHASON, seconded by Mr. W. HARRISON. At the next meeting, to be held on June 18, Mr. F. S. HUTCHASON will deliver a lecture on "The Life History and Metamorphosis of a Root-gall Nematode."

**THE KEW GUIDE.**—The Director of the Royal Gardens, Kew, writes:—"I am particularly anxious to make out a complete set for the Kew library of the various editions of the *Official Guide to the Royal Botanic Gardens and Arboretum*. We have no copy of the following editions:—1, 3, 4, 5, 6, 7, 9, 11, 12, 16, 17, 18, 20. Of those marked with an asterisk no copy is known to exist in any public library. I should be very grateful to any reader of the *Gardeners' Chronicle* who would put me in the way of acquiring any of these editions either by gift or purchase. *W. T. Thistleton-Dyer, Kew.*"

**A USE FOR EURRS: PAPER FLOWERS.**—Where real blossoms are scarce, flowers made of paper are often used as substitutes. The latest variety of these is made of scarlet crinkled paper in the likeness of a Poppy, and attached at the bottom of the petals is a "burr" (apparently a Burdock burr), so that when thrown at any object, such as a coat or dress, the blossom firmly adheres to it. These Poppies are gay and sufficiently like life. For such recreations as battles

of flowers or carnivals they would prove pretty and effective missiles, and if extensively used would save many a beautiful natural blossom from an unworthy fate. It is certainly an excellent idea to attach a burr to each flower, as the little hooks upon it are harmless, yet cling firmly enough to any fabric at which the blooms are flung.

"LLOYD'S NATURAL HISTORY."—The first part of this useful series of volumes has appeared this month, and is devoted to "British Birds," (Part 1), by R. BOWDLER SHARPE, LL.D. &c. The letter press is good and reliable, the information being tabulated in a business-like way, while each part contains (for the price of sixpence!) from ten to twelve coloured plates. *Lloyd's Natural History* is to be issued in weekly parts, three parts forming a volume. Twenty-

**MAGNOLIA WATSONI.**—Messrs. VEITCH send us flowers of this new and distinct Magnolia, figured in our columns, August 18, 1894. The deciduous leaves are obovate, dark green and smooth above, slightly pubescent beneath. The flower-buds are club-shaped or roundish, the outer segments lilac or pink, the inner ones fleshy or almost leathery in texture, rich cream-coloured; the numerous stamens, forming a ring within the petals and half their length, are of carmine colour, contrasting alike with the cream-coloured petals and the green carpels in the centre. The perfume is almost too strong to be agreeable.

**PRIZES FOR LENT LILIES (HELLEBORUS ORIENTALIS), &c.**—The undermentioned prizes for the oriental Hellebore and its varieties are offered to all owners, amateurs, gardeners, or nurserymen. The

past ten years cleared every head that showed on my ten large Asparagus-beds during two months, not allowing the smallest head to remain ungathered; and between June 21 to 28 the beds were weeded by hand, the Asparagus season being then considered over. The plants grow fast and become green, and if the fly shows itself, it is only in much reduced numbers, and not a yellowing stalk is observable. The reason for this is simple: at the breeding time the insect can discover no place in which to lay its eggs, and in July there come only belated insects, which at that time are unable to find tender heads of grass, as the plants develop with great rapidity at that warm season.

**SALE OF THE ARDDARROCH (ORCHIDS.**—On Tuesday and Wednesday last week the hothouse species included in this famous collection of Orchids came to the hammer. As the auctioneers (Messrs. PROTHEROE & MORRIS) remark in their announcement of the sale, no collection ever contained so many grand forms of *Cattleya Mendeli*, only the finest varieties having been retained out of some hundreds that have flowered. A large number of *Cattleya aurea*, many of which have not flowered, were included in the sale. Mr. BROOMAN WHITE intends to continue the cultivation of cool Orchids, but a few of the fine species and varieties of *Odontoglossum* were disposed of at the sale. *Cattleya Mendeli* var. *Empress of India*, with sixty pseudo-bulbs and one lead, fetched 60 guineas; C. M. *Sea Gull*, eight pseudo-bulbs, one lead, 30 guineas; C. M. *Mrs. Brooman White*, eight pseudo-bulbs, three with leaves and two leads, 40 guineas. Another with four small pseudo-bulbs and one lead, 17 guineas; and another with eleven pseudo-bulbs, 50 guineas; C. M. *Argus*, with thirty-eight pseudo-bulbs, six leads, flowers of a dark purple colour, 16 guineas; C. M. *Cock of the North*, 8 guineas. *Cattleya gigas purpurea*, a plant with eleven pseudo-bulbs, bought at the Temple Show in 1893, and described in the *Orchid Review* for September, 1895, fetched 14 guineas; C. *aurea*, with thirteen pseudo-bulbs, 5 guineas; C. *Warneri superba*, with twelve pseudo-bulbs, 5 guineas; C. *Mossia Horsmani*, nine pseudo-bulbs, petals and tube of lip rich rose, and latter heavily crimped, 8 guineas; *Odontoglossum excellens*, a splendid variety, two pseudo-bulbs, 25 guineas; O. *Alexandra*, 10 guineas; another, 21 guineas; and yet another 19 guineas. *Cattleya Trianae albida*, with 200 pseudo-bulbs, sold for 11 guineas, and a plant of C. T. *albens*, with thirty-four pseudo-bulbs, brought in 5 guineas; C. hybrid *Lawra-Mossia*, with six pseudo-bulbs, the plant which received an Award of Merit at the Royal Horticultural Society's meeting in April last, fetched 11 guineas; one of *Laelia grandistenebrosa*, with fourteen pseudo-bulbs, with very fine large blooms, 11 guineas. We notify only a few of the leading species and varieties; and, judging from the sums obtained for the Orchids of lesser estimation and variety, the proceeds of the sale must have been extremely satisfactory to the vendor.



HIS GRACE THE DUKE OF BEDFORD. (SEE P. 762.)

four parts are already arranged for, and will be devoted—six to birds and six to butterflies, and three to cats, marsupials, monkeys, and mammals, respectively. The first issue will be completed in forty-eight parts. Dr. BOWDLER SHARPE is the editor, assisted by Messrs. LYDDEKER, H. O. FORBES, W. F. KIRBY, and W. R. OOLIVIE-GRANT. The publishers are EDWARD LLOYD, Limited, 12, Salisbury Square, Fleet Street.

**ORCHID HYBRIDS.**—Mr. HANSEN, the author of the most complete list of hybrid Orchids yet published, writes that he is now compiling the second supplement to his work, to include hybrids named or described since October, 1895. Mr. HANSEN, whose address is Jackson, California, solicits information as to recent hybrids, and corrections of former records where necessary. The courage and industry of Mr. HANSEN, under unpropitious circumstances, will ensure him a large measure of sympathy and assistance.

plants are to be judged mainly by their fine growth and bloom; they must be grown in the open air, and shown in massed bundles, baskets, pots, or tubs at the first meeting of the Royal Horticultural Society in March, 1897. First prize for a group of twelve plants in not less than six varieties, £7 7s.; 2nd prize, £3 3s. Varieties of *H. niger* and *H. viridis* are excluded. We print the above circular as we received it, but we are not accustomed to see the term Lent Lilies applied to the Hellebore, but rather to the Daffodil, and very often to *N. Telamonius plenus*. Again, the restriction to *Helleborus orientalis* seems peculiar.

**THE ASPARAGUS-FLY.**—We take the following interesting particulars of a method of freeing beds of Asparagus from this destructive insect from the *Illustrated Flora* of June 1, 1896: "M. H.," the writer of the notice in question, remarks, "I cannot resist the temptation to impart the most certain and unfailing remedy against the Asparagus-fly. Following HERRN JOHANN MEDITSCHKA'S advice, I have for

**MESSRS. SUTTON & SONS' ANNUAL EXCURSION.**—This trip, which is always rendered so enjoyable by the forethought and liberality of the firm, took place on Monday, the 8th inst. Portsmouth and Ryde were chosen this year to be visited, and the weather being exceptionally fine, and the arrangements perfect, the outing was a thorough success in every way. The heavy special train left Reading at 7.0 A.M. bearing a party of about 600, and accompanied by Mr. and Mrs. M. J. SUTTON, Mr. and Mrs. H. SUTTON, Mr. and Mrs. A. W. SUTTON, and Mr. L. G. SUTTON, and reached the Harbour Station about 9.0 A.M. Here a special steamer was in readiness to take those on board wishing to go to Ryde and other parts of the Island. Many of the excursionists, however, remained to visit the dockyard and H.M.S. *Inflexible* (facilities for seeing which had been specially arranged by the Commander-in-Chief), Gosport, Southsea, &c. Others availed themselves of the opportunity of a cruise round the Isle of Wight, on board the *Heather Bell*. The return train reached Reading shortly before 10 P.M.

**CLAY CROSS HORTICULTURAL SOCIETY.**—The thirty-ninth annual exhibition of this Society, which is one of the most popular in the Midlands, will take place on August 11 next. Though owing to the inclement weather a loss of something like £140 was incurred last year, the spirited committee yet state in their address, which forms a preface to the schedule of prizes, that "owing to the greater interest that has been taken in gardening of late years, it is more than ever essential that the finest specimens of horticultural skill should be brought together, in order that others may reap advantage from the standard of excellence exhibited." With this in view, the committee are offering prizes equal in value to those of last year; nearly £250 having been taken, the fête is to be made still more attractive.

**SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.**—The monthly meeting of this body was held on the 15th inst. at the Parish Room, Shirley, Southampton, Mr. E. J. WILCOX presiding. Mr. ERNEST LADHAMS of the Shirley Nurseries, gave a well-considered paper on "Rockery Plants," in which he said that in the formation of a rockery very large rocks should be used, and the idea should be to construct a miniature mountain, with passes, valleys, spurs, &c., and to so plant the same that each subject should occupy a place similar to that in which it would be found in nature. A long list of suitable plants was given, and it was recommended that plants with woolly leaves should have a sheet of glass placed over them in winter to prevent them getting too wet and so being destroyed. The paper was admirably illustrated in an unexpected manner, for Mr. LADHAMS had erected on the stage a miniature rockery, planted complete, with a great number of suitable subjects, and which formed a pleasing and effective whole, instructive withal. A hearty vote of thanks was accorded the lecturer, and a certificate of merit for the rockery, which occupied a considerable space. An outing was arranged to Windsor and Chelsea to take place on July 20.

**CHILDREN AND NATURAL HISTORY.**—*Nature Notes* for June contains a report of the annual meeting and *conversazione* of the Selborne Society, and of a speech by Mrs. BRIGHTWEN, advocating the encouragement in children of a taste for natural history. The speaker was particularly urgent in insisting that (animal) life need not be sacrificed by those who would study it, or, rather, that with increasing knowledge the desire of hunting and killing specimens would cease. Concerning vegetable life, Mrs. BRIGHTWEN said that—"It was needful to cultivate a love for plants and flowers while young, and the first thing was to teach children to observe the things of interest, even in the commonest plants, say, for instance, the Dandelion. First in the spring the bright green leaf and its shape, so suggestive of its name, *dent-de-lion*, with its tooth-like notches, then the rising up of the flower-stem straight from the root, and the unfolding of the bright yellow mass of bloom, and how, when fertilised by the bees the stem droops, to rise again a little later with the round ball of fluffy seed on the top to be blown out by the summer breeze and carried away. This may be made very interesting when walking with young people; but yet more is needed. You need to make them retain what they learn, and a good plan to attain this is to carry a natural history note-book, and to get them to gather a few specimens as they walk, and to write down any particulars, and to make a drawing of them afterwards; of course very crude at first, but they will improve as they learn to notice more accurately the various details. A most delightful book could be made in this way by gathering specimen leaves of the various English forest trees, the leaves pressed out on the page, and notes made of the character of the bark, the method of seeding, the uses the timber is applied to, &c., and only consider the many delightful walks it would take to complete such a book as that from day to day, and how it would set their (the children's) busy eyes to work to notice and find out fresh trees from time to time.

From trees the study could easily pass to Ferns and other things, and so would be created a taste for the beautiful in Nature and a desire on the part of each to have the most perfect and complete collection. The drawing of the specimens may be thought to be a difficulty; some may have no taste for drawing, yet it is wonderful what can be done by those who try, and if you can but get them to look carefully at any object before they try, they will find it not so very difficult after all."

**INFLUENCE OF RAIN AND SPRAY ON THE FORM OF LEAVES.**—The interesting work by STAHL (REGENFALL & BLATTOESTALT) has directed attention to the modifications which affect the leaves of plants exposed to heavy rains. The observations were made in the gardens at Buitenzorg, Java, and consequently bear reference to tropical vegetation. They establish the facts that, under the influence of rain, the tips and dentations of the leaves lengthen and become finer, that the leaves frequently assume a position of vertical suspension, that the veins change into small channels by which the water can easily flow away, and, lastly, that the arrangement of down on the leaves and stems contributes to the dispersal of the drops of water. Other observers (LUNDSTRÖM and WILLE for instance) have already mentioned some of these peculiarities, but the work of STAHL offers new aspects of the case, and contains some very instructive details. The necessity of relieving the leaves of their weight of moisture directs the water towards the roots and frees the upper parts of the plants; this frees the leaves from epiphytic algae, fungi, and lichens; rapidly dries the surface of the leaves so as to favour transpiration. These are the reasons according to STAHL which partly explain the morphological peculiarities of plants subjected to heavy rains. The distinctive feature of leaves exposed to rainy seasons is the lengthening of their tips, and this peculiarity is not merely apparent in tropical plants, but also in plants which live in sand and receive salt spray; on plants upon high mountains and high plateaux moistened with heavy dews, and, further, on plants of the temperate zone where the precipitation is considerable. *Traufelspitzen* is the name which characterises plants growing in the spray from waterfalls, and various illustrations show the difference of the shape of leaves in their normal state, and when exposed to spray. Under this latter condition the down habitual upon the leaves disappears; this down tends to hold moisture too long, and on the stems may be noted a certain arrangement of the leaves, favouring the speedy flowing away of water. By covering the surface of a leaf with wax it becomes less easily impregnated. That experimental part of the work is most important wherein it is demonstrated how it is possible, in a greenhouse, to modify the shape of leaves by exposing them to a regular fall of water or to an artificial spray. The characteristic shapes induced by rain and spray can thus be developed in many plants. It is clear that, in all cases, the special shape must not be attributed to any more marked cause than the direct influence of environment. All the experiments cited by JUNONER have a special relation to modern ideas on the phenomena of adaptation, ideas which will be developed as widely and as surely by the study of plant morphology as by that of any other branch of science. *Revue Scientifique*, May 16, 1896.

**FRUIT-DRYING.**—The Council of the Society of Arts at its last meeting awarded the Society's Silver Medal to Mr. EDWARD W. BADGER, F.R.H.S., of Birmingham, for his paper on "Fruit and Vegetable-drying," read before the Society in April last. A meeting of the Worcestershire Chamber of Agriculture, held on Saturday last (13th inst.), was devoted to the discussion of the subject of "Fruit Evaporation," and Mr. BADGER (by special invitation) attended the meeting and explained to the large body of fruit-growers assembled on the occasion the construction of the evaporator and the way to manipulate it. The subject was apparently a new one to most of the audience, as was shown by the questions asked. It is a hopeful sign that the Chamber of Agriculture, in such an im-

portant fruit-growing county, should have brought the subject of fruit-drying before their members. It would be a good thing if the other fruit-growing counties would follow this example.

Mr. D. T. FISH, who is leaving Bury St. Edmunds for Edinburgh, was the recipient, on Thursday evening, 11th inst., of a gratifying testimonial in the shape of a silver salver from the members of the Congregational Church, in which Mr. FISH has served as deacon for thirty-eight years.

## PLANT PORTRAITS.

**AMORÆCUM FOURNIEAE**, André. A small white-flowered species, native of Madagascar, described and figured in the *Revue Horticole*, June 1.

**BENTINARIA NICOBARICA**, *Revue Horticole*, p. 249 (woodcut).  
**BRUGMANSIA CHLORANTHA**, *Garden*, May 23.

**COSTUS SPECIOSUS**, a Scitamineous plant, with flowers in close terminal spikes with crimson bracts; the most conspicuous part of the flower is the large white convolute labellum. *Illustration Horticole*, t. 56.

**CRINUM LEBEMANNI**, a beautiful rose-coloured hybrid, between *Amaryllis longiflora* and *Crinum Makoyanum*, raised in the establishment of Messrs. Lesemann, of Vienna. *Wiener Illustrirte Garten Zeitung*, April.

**CYPRIPEDIUM RIDOLFIANUM** X. A cross between *C. Wallerianum* and *C. insignis Chantini*, raised by Messrs. Sander & Co. *Bulletino della R. Società Toscana di Orticultura*, May.

**DENDROBIUM SPECIOSISSIMUM**, Rolfe, a white-flowered species, introduced from Borneo by Messrs. Hugh Low & Co. *Garten Flora*, May 1, t. 1426.

**LÆLIA ELEGANS TURNERI**, *Garden*, May 23.

**PENTSTEMON COBEA**, *Garden*, May 30.

**SAXIFRAGA RUETIANA**, *Revue Horticole*, June 1, p. 262.

**ZEPHYRANTHES TAUBERTIANA**, Harms, Brazil, *Garten Flora*, June.

## BOOK NOTICE.

**COCOA.**—The popularity of Cocoa (*Theobroma Cacao*) as a beverage, and of chocolate as a confection, has caused the demand for the so-called Cocoa-bean to have increased to an enormous extent during the past few years. It is quite within the memory of many who cannot claim to be more than of middle-age when cocoa and chocolate manufacture was confined to a few firms represented by such old-fashioned and well-known names as Fry and Cadbury. We now have not only increased the number of English firms who prepare these invaluable beverages and confections, but we also import the foreign-made products to a large extent, so much so, that rival chocolates and cocoas are amongst the most prominent objects in the advertising craze. In view of these facts, it stands to reason that the subject of cocoa would offer a prolific field for book-writing, which indeed, has been the case, for we have had cocoa treated from all aspects; the most recent of these contributions is one that has been put forward by Messrs. Sampson Low, Marston & Co., Ltd., being a new edition of *Cocoa: All About It*, by Historicus. It is very well got up and well illustrated, though we object to the blue ink that has been used, both for type and plates. The contents of the book are classified in four chapters, the first treating of the "History and Cultivation of the Cocoa Plant"; the second, the "History of the Use of Cocoa"; the third, "Manufacture;" and the fourth, the "Value of Cocoa as Food and its Adulterations;" and in addition to this a few pages are given at the end of the book on "Vanilla," which, considering that it is only one of the flavouring agents used in the preparation of chocolate—though, of course, an important one—might well have been omitted, especially as no reference whatever is made to the valuable paper on "Vauillas," recently published in the *Kew Bulletin*; and further, the scientific nomenclature has been so carelessly revised, as on p. 96, where *Melia Azadirach* occurs for *M. Azedarach*, *Tecoma Lenocoxylon* for *T. Lenocoxylon*, *Tatropa curcus* for *Jatropha Curcas*, &c.

Returning, however, to the body of the book, we find a good deal of interesting matter in the first two chapters.

The following extracts will show the nature of some of the "curiosities of literature" connected with cocoa and chocolate drinking, which will no

doubt be new to some of those who think they already know all about cocoa. On the question of "fasting from chocolate in Lent," published in Italian by Daniel Concuna, Venice, 1748, he says:—"Among the first probabilist theologians who undertook to write entire treatises, and to collect all the possible reasons as to whether the Indian beverage (chocolate) could agree with European fasting was Father Tommaso Hurtado. He employed the whole of the tenth treatise of the second volume of his *Moral Resolutions*, printed in 1651, and added thereto an appendix of more chapters. Father Diana found reason for acquitting the consciences of those who in time of fasting should drink chocolate. Father Hurtado, more courageous withal, and more benign than Diana, does not speak of this treatise in order to investigate the law; the nature of fasting admits drinking without eating. . . . Therefore, consumers are, without the help of casuists, troubled themselves and afflicted, when in Lent they empty chocolate cups. . . . Excited on the one hand by the pungent cravings of the throat to moisten it, reproved on the other for breaking their fast, they experience great

easily lay low these Chiapa dons, and gain the whole city, which lyeth so open to the fields that the mules and asses come in and graze. . . . The women of that city, it seems, pretend much weakness and squeamishness of stomach, which they say is so great that they are not able to continue in church while the mass is briefly hurried over, much less while a solemn high mass is sung and a sermon preached, unless they drink a cup of hot chocolate and eat a bit of sweetmeats to strengthen their stomachs. For this purpose it was much used by them to make their maids bring them to church, in the middle of mass or sermon, a cup of chocolate, which could not be done to all without a great confusion, and interrupting both mass and sermon. The Bishop perceiving this abuse and having given faire warning for the omitting of it, but all without amendment, thought fit to fix in writing upon the church-doors an excommunication against all such as should presume at the time of service to eat or drinke within the church. This excommunication was taken by all, but especially by the gentlewomen, much to heart, who protested, if they might not eat

that which he had drunk in his house had not agreed with his body, and it became afterwards a proverb in that country, 'Beware of the chocolate of Chiapa.' The gentlewoman that was suspected of the death of the Bishop had often used to send me boxes of chocolate, which I willigly received of her, judging it to be a kind of gratuity for the paines I took in teaching her son Latin; untill one day she sent unto mee a faire plaitin, wrapped up in a handkerchief buried in sweet Jassimines and Roses; and looking further upon it, I found worked upon it with a knife the fashion of a heart, with two blind Cupid's arrows sticking in it, discovering unto my heart the thoughts of the poisoner that sent it. I thought it a good warning to be wary of receiving such presents, or chocolate, from such hands, and so returned unto her again her plaitin with this short rhyme cut out with a knife upon the skinne— 'Fruta tan fria, amor no eria;' as much as to say, 'Fruit so cold, takes no hold.' I remembered the Bishop's chocolate, and so was wary, and stayed not long after in that poisoning and wicked city, which truly deserves no better relation than what I have given of the simple Dons and the Chocolate Confectioning Donnas."

We have given these extracts at length, both on account of their quaint interest, and as showing the prejudice that mostly attaches at first to any new product of food, drink, or medicine.

**BRODIAEA HOWELLI LILACINA.**

At the last meeting of the Royal Horticultural Society, Messrs. Wallace of Colchester showed a fine series of specimens illustrative of the genus *Brodiaea*. It was worthy of a better fate than being crowded in among a number of very beautiful, but much more familiar, and therefore less interesting, things. Messrs. Wallace have kindly sent us specimens of these plants, to which we shall hereafter allude. In the meantime, we give an illustration (fig. 134) of one of the least known, and one of the prettiest species. The flowers are in umbels on the top of long, slender spathes. Each flower is about an inch in length, with a bluish-lilac, funnel-shaped perianth-tube contracted at the throat. The limb is divided into six rounded spreading lobes of a silvery-white colour. The plant obtained a First-class Certificate.

**HOME CORRESPONDENCE.**

**OLD AND NEW GRAPES.**—It will always be a matter of moment with cultivators of the Grape-vine to have fruit as early in the season as it is procurable. This is as it should be, when there are means to bring early Grapes to perfection; but there are many persons who cannot afford to cultivate Grape-vines in pots to supply fruits in the months of April and May, or set a house apart for the purpose; but many can have Grapes at the period indicated by keeping them in the usual way, as cut bunches, in Grape-rooms, cupboards, or ordinary rooms in dwelling-houses, or in fruit-rooms. I have for many years past supplied my employer's table with old Grapes till after Midsummer, new ones, which are ripe in May, going into the same box; and except the more sugary flavour of Lady Downes, cut and bottled at the new year, there is little to choose so far as appearance is concerned. I exhibited old and new Grapes together at a leading show held thirty years ago. The new ones were Hamburg, and took the first prize among thirteen other exhibits. They were written well about, but the fresh, finely-kept old fruit was barely noticed by the press. The expense of growing these Grapes and trouble of keeping them is comparatively small when put against the skill, expense, and attention necessary to grow early fruit. I enclose a sample of those we have been sending of late, and though early Hamburgs are large in berry and of more imposing appearance than the enclosed, the latter are not despised, and are likely to be in fair condition well into July. *M. Temple, Carron, N.B.* [The fruit our correspondent sent was plump and good. Ed.]

**CABBAGES BOLTING.**—Several paragraphs have recently appeared in the *Gardeners' Chronicle* upon the subject of autumn-raised Cabbages bolting during

remorse of conscience, and with consciences agitated and torn with drinking the sweet beverage, they sin. . . . Under the guidance of these skilful theologians, the remorse aroused by natural and Divine light being blunted, Christians drink joyfully." The treatise closes by saying:—"For all agree that he will break his fast who eats any portion of chocolate, which, dissolved and well mixed with warm water, is not prejudicial to keeping a fast. This is a sufficiently marvellous pre-supposition. He who eats 4 oz. of exquisite sturgeon, roasted, breaks his fast; if he has it dissolved and prepared in an extract of thick broth, he does not sin."

This is a sufficiently curious argument, but the following from Gage's *New Survey of the West Indies*, published in London in 1648, is even more curious. Speaking of Chiapa, southward of Mexico, he says:—"Here are two cloisters of nuns, which are talked of far and near, not for their religious practices, but for their skill in making drinks, which are used in those parts, the one called chocolate, another atolle. Chocolate is (also) made up in boxes and sent not only to Mexico, but much of it yearly transported into Spain. The gentlemen of Chiapa are a by-word all about that country, of great birth, pharistic pride, joyed with simplicity, ignorance, and penury. One hundred fighting soldiers would

drinke in the church they could not continue in it, to say what otherwise they were bound unto. But none of these reasons would move the Bishop. The women seeing him so hard to be entreated began to slight him with scornfull and reproachfull words; others slighted his excommunication, drinking in iniquity in the church, as the fish doth water, which caused one day such an uproar in the cathedral that many swordes were drawne against the priests who attempted to take away from the maids the cups of chocolate which they brought unto their mistresses, who, at last seeing that neither faire nor foule means would prevail with the Bishop resolved to forsake the cathedral; and so from that time most of the city betooke themselves to the cloister churches, where by the nuns and fryers they were not troubled. . . . The Bishop fell dangerously sick. . . . Physicians were sent for far and neere, who all with a joynt opinion agreed that the Bishop was poisoned. A gentlewoman with whom I was well acquainted was commonly censured to have prescribed such a cup of chocolate to be ministered by the page, which poisoned him who so rigorously had forbidden chocolate to be drunk in the church. My self heard this gentlewoman say that the women had no reason to grieve for him, and that she judged, he being such an enemy to chocolate in the church,



FIG. 134.—BRODIAEA HOWELLI VAR. LILACINA. FLOWERS LAVENDER BLUE, WITH WHITE SEGMENTS



the last couple of months. If seed of a good strain be sown from the middle to the third week in July in the northern counties, and two weeks later in the south, and the young plants resulting from these sowings be pricked out 6 inches apart in nursery-beds as soon as they have made a couple of perfect leaves, and are finally transplanted in well-prepared ground before they become crowded or stunted in growth, and duly attended to in the matter of affording water till the roots have pushed into the soil, and then earthed up to steady the plants, bolting should not occur the following spring, no matter how mild the winter may have been. In fact, the only difference a mild winter can make to such plants is to cause them to turn-in earlier than would otherwise be the case, thereby enhancing the value of the crop considerably in a commercial point of view. On the contrary, if plants are allowed to become crowded and stunted in the seed and nursery-beds before being finally transplanted in, perhaps, imperfectly-prepared and unsuitable ground—or in good ground for that matter—late in the autumn, "bolting" and poor heads might reasonably be looked for the following spring as the result, not of the weather, but of the treatment to which the plants were subjected in the beginning through pressure of work or other cause. The varieties of the Cabbage that I always put reliance in are Longford Marrow (a variety of my own) and Carter's Heartwell. My autumn-raised Cabbages are always planted in ground from which the spring-sown Onions had been cleared; trenching this a little over 2 feet deep, and incorporating therewith two or three layers of substantial manure in the process of trenching. When the plants are ready for planting (about the third week in September), the ground is trodden over, drills 3 inches deep are drawn at 2 feet apart, and into these the plants, after the roots have been dipped into a "puddle," into which a little soot had been stirred, are planted at 2 feet from plant to plant, and watered; soil being drawn up to the plants on either side as soon as they have made sufficient ground to render this needful operation necessary. *H. W. Ward.*

**THE STARCH CONTENT OF POTATOS, AND SUGAR CONTENT OF SUGAR-BEET.**—I have seldom been more interested in a series of facts than those tabulated by Mr. J. J. Willis in the *Gardeners' Chronicle*, pp. 365 and 366. Several of these seem destined to have an important bearing on our future modes of cultivating the Potato, such, for example, as the tubers that grow deepest in the soil are richest in starch. Potatos grown rather closely in drills were richer in starch than those grown in rows both ways. The higher the starch content, the sooner a Potato cooks, and the more it swells in cooking. The market value of Potatos should be based on the starch content rather than on their bulk. From the Wisconsin experiments it does not appear that the relations of starch content to bulk or weight of tuber was subjected to careful testing. As a very general opinion prevails among Potato-growers and eaters that excess of size is often made at the expense of quality, the relation of the one to the other will have to be more carefully investigated. Especially is this necessary in full view of Mr. Willis' final conclusion of the whole matter, viz., that the ratio of starch in Potatos varies from 8 to 29 per cent., and that there is no good reason why a lot of Potatos that averages 12 per cent. of starch should sell for as much per bushel as another lot that average 20 per cent., for the latter are worth much more for food than the former, while being more desirable in every way. As to the expansion of Potatos in cooking, has Mr. Willis, or any other reader of the *Gardeners' Chronicle*, any statistics on that point? The general public may also be said to universally believe that the flavour of Potatos depends solely or chiefly on their starch content. If not necessarily so, as we are now assured, then upon what does the nutty flavour of the best Potatos depend? In all the experiments it seems the specific gravity—which is, I presume, practically equivalent to the starch content—was highest from the deeper-growing tubers. These facts impress me the more from their striking resemblance to similar ones brought out some twenty years ago in the growth of Sugar-Beet in England. The deeper in reason the Sugar-Beet was grown, the higher the percentage of sugar in the crop, which ranged, if I remember rightly, from 6 per cent. to 18. The smaller roots of Beet also produced the highest percentages of sugar; and this began to be so generally recognised, as to be formulated in simple instructions thus: To grow the heaviest crops of sugar, the average weight of the whole Beet-roots

should not exceed 6 lb. a-piece. The more entirely the whole roots were hilled-up or covered over with earth, the higher also the percentage of sugar. So far, the conditions of starch and sugar-growing seem identical. And now comes a difference. Forked or pronged tubers of Potatos are said to be inferior in their starch content to regular ones. The opposite was found true in Sugar-Beet. Hence, it may be important to test both starch and sugar contents of these two crops in their relation to form and size, as well as depth of root or tubers. In regard to Sugar-Beet, Mr. Willis will remember that the sugar content, crop and profits, of the English-grown Sugar-Beet were perfectly satisfactory, and that this promising industry, which might have done much to benefit British agriculture, was arrested through a fluke. *D. T. F.*

**NEMESIA STRUMOSA.**—This charming annual is worthy of extended cultivation. It has been discarded, I assume, because of its scarcity of foliage. A few days ago I saw two magnificent beds of the plants at the residence of W. Soot, Esq., Ryedale, Weybridge, and was much pleased with it, the rich and varied colours rendering them very attractive, the colours bright, especially the yellow and orange. The gardener, Mr. Baynes, informed me that he sowed the seeds early in the year, pricked out the seedlings into boxes, and thence into the open beds, a treatment that is evidently correct, for the plants are the finest and best flowered that I have met with. If it would bear pegging down it would doubtless make a good bedding-plant, as it continues in flower a long period of time. *J. W.*

**TOMATOS AND DISEASE.**—I have a span-roofed house, 95 feet long, planted with Tomatos. After the first fruits had attained to about the size of full-grown Walnuts, they were attacked with *Sporocybe Lycopersici*, quite half of the plants having some diseased fruits upon them. I kept picking off the affected fruits, but as fast I did so, the disease developed on others. At that time the bed in which were the plants had bottom heat (hot-water pipe); and I felt confident that the disease was not due to imperfect fertilisation, as in three out of four cases the disease began at the sides of the fruits. Neither was it insects, for I never saw any insect upon them; nor was the soil at fault, because they were planted in loam without any additional material whatever. The fact struck me that Potatos begun to get diseased after rain has got through the heated ground, and I thought that perhaps the bottom-heat might have a similar effect on the Tomato plants, so I entirely shut it off from them. Then as an experiment I raised the temperature of the house to 110° for two hours each day for three successive days, and the disease has not attacked one fruit since. At the time I tried these experiments there were several fruits with the disease developed, and I let these hang to see if the disease would continue to spread with these fruits still in the house; but instead of doing this the diseased parts dried up, and the fruits developed to their full size and ripened, the flavour being equal to that of any sound fruit. I have now come to the conclusion that the cause of this species of disease is excess of bottom-heat. *J. E.*

**JUNIPERUS DRUPACEA.**—Referring to recent correspondence about the above tree, I now send a photo showing a specimen in this garden 27 years old and 27 feet high, from which you will see that it is still well furnished down to the base. In clearing dead leaves, &c., from the lower part (which had never been done before), I found the lower branches making fresh buds freely, and have little doubt that had it been better looked after it would have been in still better condition. It has not produced fruit. *Alfred O. Walker, Nant-y-Glyn, Colwyn Bay.*

**THE REFRESHING RAINS.**—At last there have come the sight and sound of refreshing thunder-storms—and perhaps other rains. It has come most welcome for the fruits, flowers, and vegetables. The first have been falling fast for several weeks. It is hoped the rain may arrest the wholesale thinnings of Cherries, Plums, and Pears, before it is too late. Apricots, Peaches, and Nectarines are stoning; and Apples have withstood the drought better than any other fruit. Green Gooseberries are being gathered in enormous quantities; but Currants of all colours needed rain badly, as well as Raspberries, which seldom suffer from any excess of water during the growing season. It has been pitiable to see beds and fields of Strawberries withering their leaves badly in the hard, biting, drying winds and scorching sun. And now we have had several rains in June, rapidly bringing all things

in tune, and most of our garden crops are yet capable of being substantially mended through genial weather before being ended. And among these very emphatically are placed the later crops of Strawberries on heavy soils. The earlier crops on light lands have suffered severely. Those, however, that had the sense to mulch or the power of watering have reaped their reward. At sixteen-pence per pint in the rural districts, as these fruits were selling on Saturday, June 6, they are bound to pay well. The rains will also prove the salvation of Maincrop and late Peas; spoil the small Potatos, as the country people put it, by changing them into large ones, and afford a useful fillip to Onions, and indeed, all other green crops, such as Celery, Broccoli, Cauliflowers, Saladings, &c. While, as for the flowers, they have been waiting for the rain to help them start in growth and blossoming, to perpetuate the flush of beauty which has been with us with hardly a let or hindrance since last January. *D. T. F.*

**GOLD-LACED POLYANTHUSES.**—It has been made very evident that the exclusion of these pretty hardy florists' flowers from the schedule of the National Auricula Society this year provoked much comment and disappointment. Personally, I have much greater love for the fancy or hardy border section; but these, evidently because more easily grown, are retained in the schedule. These, however, are not florists' flowers in the same sense that gold-laced Polyanthuses are—indeed, these latter, when the flowers are perfect, are entitled to rank amongst the most refined and beautiful of such flowers—at least, in the estimation of those who understand and admire them. For the reason, therefore, that gold-laced flowers have points which are recognised, and admit of exact judging, it does seem unfortunate that the National Auricula Society should have ignored them. Admittedly they had been for several years indifferently shown, but all the same, it does seem now as if there were of these old favourites many more growers than was formerly anticipated to be the case. Now, I suggest, as the best way to remedy what seems to be an evil, that "R. D." undertake to both collect subscriptions for the purpose, and also obtain leave from the Council of the Royal Horticultural Society to advertise classes for gold-laced Polyanthuses in the next schedule, to be competed for at the meeting in April, 1897, the subscriptions to supply the prizes. The classes should be for four plants, and two plants, distinct in commerce; and four, and two seedlings. That would be ample for the first competition. Some £4 would furnish the prizes, the Royal Horticultural Society to find judges. I should be pleased to start the little fund needed, if the suggestion be generally accepted. *A. D.*

**VARIEGATED HONESTY** (*Lunaria biennis variegata*).—This variety is very useful in the spring flower-garden, but it does not seem to be grown by, or known amongst gardeners, for I have had many enquiries respecting it. The seeds were obtained from Messrs. Veitch of Chelsea. Some persons do not care for the normal form, and might not therefore think much of the beauty of this form, although it is far prettier than the type, being beautifully marked in leaf and stem with creamy-white and pink; and when the plant is well cultivated, it shows a good habit of growth. A peculiarity of the variegation is, that it does not appear until the plant begins to grow in the spring just previous to flowering. Seeds of Honesty should be sown about the middle of June, and transplanted as soon as it is large enough to handle readily, planting out in the flower-beds in the month of October. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

**INDIAN AZALEAS GRAFTED ON THE RHODODENDRON.**—When visiting the Royal Nursery, Slough, at the time the greenhouse Azaleas were in flower, I was much struck with the wonderful vigour of some small plants received from the Continent some time before, and Mr. Harry Turner informed me they were cleft-grafted on to the stock of some Rhododendrons. The plants were three years from the graft; they had fine heads, 2 feet and more across, the foliage being characterised by a wonderful robustness; and they were in remarkable contrast to some other plants grafted in the usual manner. It appeared obvious that specimens could be grown into size much more quickly by being worked upon this stock than upon that usually employed. How far the longevity of the plants may be affected, I cannot say. In all probability the experiment would not have been continued had any indications of early decay manifested themselves. *R. D.*

## THE NEW DEPARTURE.

In Long Acre, near to Bow Street, and facing Endell Street, there is situate the central *dépôt* for the reception and distribution of fruits, vegetables, and dairy-farm produce—the outcome of Lord Winchelsea's efforts to solve the problem of bringing producer and consumer into near touch, and thus securing for both a larger share of profit than it is contended, can be had under the existing system, and also to encourage growing in greater quantities for market, much—very much—of that now brought to our doors by the foreigner. Long Acre, running parallel to Covent Garden, the site for this *dépôt*, would seem, so far, to be well chosen; and the building itself, which has a face to Hart Street, with a rear entrance, is well capable of accommodating a fairly large business. There is a fine floor space on the ground floor, as also in the sunk basement; over all this are floors which may be used for many purposes. Ere the Parish Council had become an entity, we advised in these pages that, when called into existence, these in agricultural districts should be used to help gather in all sorts of produce from all kinds of growers, as a preliminary to sending forward to London and other large cities. Lord Winchelsea's scheme provides for gathering up for despatch by local agents to the Long Acre *dépôt* what is likely to meet with a ready sale in the metropolis, and if possible, we believe, to delete the middleman from the transaction; but whether this can be done by the present scheme remains to be proved. There must be an intermediary of some sort, call him what you will. There is no doubt of this, however, that if the home-grower can supply what the foreigner does, on perhaps easier terms, he will be able to sell all he can get to Long Acre or anywhere else.

The whole thing wants careful handling in the preliminary stages, and those who have gone thus far have shown courage linked to their opinions. If "Stores" can make a do out of what it is proposed to supply in Long Acre, most assuredly the scheme will pay, and thus a step be taken in the direction tending towards making agriculture once more a popular pursuit, though very differently conducted to what it was in years gone by. The *dépôt* building is nearly completed, and we believe will shortly be opened for business. *E. C.*

## SCOTLAND.

### GLASGOW BOTANICAL GARDENS.

VISITORS to Glasgow who are interested in horticulture should not fail to visit these gardens, which the corporation have now taken in hand. A variety of improvements have been made in every department, and it did well when the services of Mr. Dewar were secured, for under his intelligent and eminently practical management the various departments show a great and notable improvement. In all there are some new features present; the plants have greatly increased in numbers, and many novelties of merit have been added. Orchids are becoming more numerous, and valuable plants are constantly being obtained. The cultivation of these plants leave little to be desired. New flower-beds have been formed, and planting has been extensively carried out during the last few years; and the examples of the various styles in gardening are now practically completed. A hardy Lily-pond was recently formed, with waterfalls and fountains and a stream running through a new rock garden. The last-named, when the plants have become established, will form a pleasing addition to attractions of the place. The bedding-out is almost finished for this season, and a grand show will be made. Several capital new houses have been erected to accommodate a variety of plants.

The noble collection of Tree Ferns in the Kibble House ranks amongst the most complete in the Kingdom, and the plants are in a fine, healthy, and vigorous condition. This enormous house contains much to interest those desiring an acquaintance with medicinal and useful plants.

The various greenhouses to the right and left of the entrance are gay, at the present season, with flowering plants, well grown and arranged. The Palms in their gigantic house are splendid examples of cultivation. The large collection of the Cactus family has several flowering examples that are at the present time a great attraction to visitors. The plants of *Nepenthes* have a plentiful crop of pitchers. *Caladiums*, *Codiceums*, and *Dracenas*, mixed with flowering plants, especially *Gloxinias*, form an imposing display. In the tropical aquarium a fine collection of *Nymphaea* in flower was noted. The bothy accommodation in the gardens has been much improved, and the comfort of the young gardeners studied in other desirable directions. It may be remarked that the new railway which has been made under the garden has rendered many alterations necessary, including the planting of many trees and shrubs. A new entrance with lodge has been made, which form an attractive feature, now that the surrounding planting is getting established. The Thorns in variety, pink, white, scarlet flower, the *Laburnum* and *Rhododendrons* are flowering beautifully this year. *A. Outram.*

## SOCIETIES.

### EDINBURGH BOTANICAL.

JUNE 11.—The eighth meeting of the session was held by this society on Thursday evening last at 6.30 p.m. in the Lecture Hall at the Royal Botanic Garden. Mr. A. P. AITKEN in the chair, a fair number of members being in attendance.

After the reading of the Proceedings of the Council, Colonel F. BAILEY, R.E., exhibited a rather remarkable specimen of subcortical roots in *Fagus sylvatica*, taken from a tree at some distance below the level of the ground. Professor J. B. BALFOUR spoke of this being more common in such trees as the Willow, &c., and in the present case was perhaps caused by injury to the trunk, the roots finding their way under loose bark, and spreading into a fibrous mass.

The plants exhibited from the Royal Botanic Garden included *Saxifraga longifolia*, *S. lingulata*, *cochlearis*, *S. altissima*, *Kerneria saxatilis*, *Incarvillea Delavayi*, *Masdevallia muscosa*, *M. Rolfeana*, *Hemanthus Katherinae*, *Gladiolus gracilis*, *Dendrobium Falconeri*, *Cirrhopetalum maculosum*, and others of interest.

The report read by Mr. A. D. RICHARDSON of meteorological observations, showed some very unusual statistics regarding the month of May, both in the rainfall and percentage of sunshine. He stated that trees, shrubs, and herbaceous plants generally flowered profusely, but owing to the drought and bright sunshine, their period of flowering was short. The highest reading of the barometer at 9 A.M. was 30.459, on the 26th; lowest, 29.679, on the 19th, being 0.290 inch above the average. Protected thermometers:—Highest, 75.8°, on the 11th; lowest, 36.3°, on the 1st. Mean of the month, 53.9°. Radiation thermometers:—Highest in the sun, 121.7°, on the 14th; lowest, on grass, 26.7°, on the 1st; while frost occurred on the grass on five days.

Sunshine. The total amount recorded was 219 hours, 35 minutes, being 43.7 per cent. of the possible amount. No sunshine was recorded on two days.

Rain fell on eight days, the total fall being 0.580 inch, being 1.357 inch below the average. The greatest fall in twenty-four hours was on the 18th, 0.255 inch being then recorded.

Mr. R. L. HARROW, in his report on plants in the plant-houses, stated that the latest completed section of the new range was now almost ready for admitting the public, the plants having now become fairly established.

After the meeting, the members inspected the plant-houses, rock-garden, and other interesting features of the garden.

### THE YORK GALA.

(By Telegraph.)

WEDNESDAY, THURSDAY, AND FRIDAY, JUNE 17, 18, 19.—York Gala is a very fine exhibition in every respect, perhaps the finest yet seen. Unfortunately, the weather was unpropitious. Fruit was good all round, black Grapes especially so. The Royal Horticultural Society's deputation awarded medals as follows:—Group of plants, &c.: Sir James Reckitt, Hull, took the 1st prize; Mr. C. J. Mee, Nottingham, 2nd; Mrs. Gurney Pease, 3rd; Mrs. Tetley, Leeds, took the leading prize in Pelargoniums. Mrs. Tetley was 1st for Zonals; Messrs. Veitch, Chelsea, for groups of stove and greenhouse plants, receiving a Gold Medal. Messrs. Cutbush & Sons, of Highgate, obtained a Gold Medal for a collection of decorative plants; and Mr. Cypher, Cheltenham, took the chief prize for a collection of stove and greenhouse plants, Orchids excluded. The latter for specimen stove and greenhouse plants, which were, on the whole, very fine. Orchids were a fine feature

of the show, and were much admired. Mr. Cypher, Dr. Jessop of Leeds, and F. Hardy, Manchester, won the main prizes. Trade exhibitors included Messrs. Sander, Messrs. Charlesworth, and Messrs. R. Low & Co., London, who had also an award of a Gold Medal for a collection of Orchids. Plants in abundance, groups of Carnations, and bunches of cut flowers were very striking. Sir Joseph Pease was the most successful exhibitor in the fruit classes, being 1st for ten, six, and four dishes.

The display in the several marquees, if not absolutely up to the standard of previous years in every department, was, at any rate, in point of variety, hard to equal, and in very few instances could a comparison with one or two of the best of the former shows exhibit much of a decline. The Council, which has had the arrangements in hand, had taken a sure step towards realising an extensive collection of exhibits by offering a total of £700 as prize money, an advance of £50 on the previous year; while the visit of the President and Council of the Royal Horticultural Society brought about the award of several extra medals and the granting of various commendations, all of which are expected to stimulate greater activity in the pursuit of flower, plant, and fruit growing. As usual, considerable interest was shown in the class for groups of miscellaneous plants arranged for effect, and it was matter of general remark that in this department the display of the present exhibition was simply magnificent. Special mention should be made of the class for 72 Roses, single blooms, of not less than 36 varieties. Messrs. D. PRIOR & Son took 1st prize with a charming arrangement, and three further awards were made in the same class, a total of £18 being distributed over the four prizes. In the fruits and vegetables department, Sir J. W. PEASE, M.P., and the Duke of ST. ALBANS were 1st and 2nd in the class for collection of ten varieties. The deputation of ten members and office-bearers of the Royal Horticultural Society, including the Rev. W. Wilks (Secretary), having inspected the exhibits in the several tents, made the following special awards on behalf of the above-named society:—Silver-gilt Flora Medal, Messrs. J. Veitch & Son, for group of plants; Silver Flora Medal, Mrs. Tetley, for Pelargoniums; Silver Banksian Medal, Mrs. Gurney Pease, for Ferns; Mr. C. J. Mee, for group of plants; Sir J. Reckitt, Bart., for group of plants; and Mr. H. Pybus, for zonal Pelargoniums; First-class Certificate, Messrs. Charlesworth & Co., for special variety. Awards of Merit, to Messrs. Harkness & Sons, Messrs. Low & Co., Messrs. Charlesworth & Co., Mr. George Yeld, Lord Deramore, Mr. J. Cypher, and Mr. H. Steel; Botanical Certificate, to Mr. T. R. Jessop; High Commendation, Mr. J. Cypher, the Marquis of Zetland, Messrs. Fisher, Son, and Sibray, Messrs. Lang and Mather, Mr. A. Waterer, Mrs. Gurney Pease, and Mr. J. A. Rodwell; Commended, Messrs. Perkins & Sons, Mr. F. B. Grotrian, M.P., Mr. S. Harcastle, Sir Joseph Pease, Bart., M.P., and Mr. T. R. Jessop; and Cultural Commendation to the Rev. G. Yeats and the Earl of Zetland.

Luncheon was served in a marquee on the ground at two o'clock, the Chairman of the Council (Ald. Sir Joseph Terry) presiding. He was supported by the Lord Mayor (Ald. Milward), Sir Trevor Lawrence, the Dean of York, and a large attendance of members and well-wishers of the council. In submitting "Success to the Royal Horticultural Society," the Lord Mayor expressed his gratification at the presence of the President of the society and the members of the council. In reference to the York Horticultural Society he was glad to say they were in a very satisfactory position, having in hand a balance of between £2,300 and £2,400, and that notwithstanding that they offered substantial prizes. He coupled with the toast the name of the President of the Society.

Sir TREVOR LAWRENCE, in responding, congratulated the Yorkshire Gala Society on their successful career. He spoke the unanimous opinion of the deputation from the Royal Horticultural Society when he said that they had seen in that day's show a very complete and varied exhibition. One of the advantages of having so complete an exhibition was that they possessed something to please everybody's taste. They had felt it their duty to make a not inconsiderable number of awards on behalf of the Royal Horticultural Society, and in doing so they had desired to mark their sense of the high character and quality of the show. He dared say they were aware that the Society in sending that deputation, was taking a new departure—a departure which had recommended itself unanimously to the Council. All along they had greatly regretted not being able to bring themselves more directly into connection with the active provincial societies which were scattered up and down through the length and breadth of this garden-loving country. In its endeavours to occupy the proposed new position, the Royal Horticultural Society was acting as all true lovers of horticulture would desire it to act, and he hoped it might come to pass that the Society with which he was connected would occupy in regard to horticulture a position analogous to that which the Royal Agricultural Society held in regard to agriculture. In conclusion, he said it was the intention of the Council of the Royal Horticultural Society to visit several other shows in the provinces.

At the Dinner given on Tuesday evening at Harker's Hotel by the Gala Society, Sir Joseph Terry in the chair, the following gentlemen were present:—Sir Trevor Lawrence,

Bart, Rev. W. Wilks, and Messrs. P. Crowley, S. Courtauld, T. B. Haywood, H. Selve-Leonard, W. Thiselton-Dyer, C.M.G., Harry J. Veitch, Malcolm Dunn, and James Hudson. As will be seen, the Council, with the Scientific, Fruit, Floral, and Orchid Committees, were represented. Mr. J. Wright, one of the York Judges, and Mr. J. H. Veitch, both members of R.H.S. Committees, were also included among the guests, the party present numbering about thirty. The President and Secretary of the Royal Horticultural Society were the guests of the Lord Mayor at the Mansion House, the remaining members composing the deputation having every provision made for them at Harker's Hotel as the guests of the York Society.

The following were the Judges:—Stove and greenhouse plants—Mr. Thomas, gardener at Windsor Castle; and Mr. J. Wright. Pelargoniums, Roses, and cut flowers—Mr. Laing, Forest Hill; and Mr. Cannell, Swanley, Kent. Fruits—Mr. Huotter, gardener to Lord Durham; and Mr. Parker, gardener to the Duke of Richmond.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for Temperature (Accumulated), Rainfall, and Bright Sun. Rows list districts (0-13) and their corresponding weather data for the week ending June 13, 1896.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending June 13, is furnished from the Meteorological Office:—

"The weather was again fine and dry throughout the period at some of the Irish stations, but over England the earlier half of the week was cloudy and changeable, with heavy falls of rain, and occasional thunder and lightning, in most localities. Considerable falls of rain occurred also in some parts of Scotland.

"The temperature varied greatly, but was, upon the whole, in excess of the mean; in 'England, E.' the excess was as much as 5°. The highest of the maxima were registered on the 13th, when they varied from 83° in 'England, S.' and 82° in 'England, E.' to 77° in 'Scotland, E.' and 'Ireland, S.' and to 76° in 'Scotland, W.' The lowest of the minima were recorded during the earlier part of the week, and ranged from 40° in 'Scotland, W.' and 42° in 'Ireland,' to 49° in 'England, E.' and to 53° in the 'Channel Islands.'

"The rainfall varied greatly in different districts. It was less than the mean in Ireland, the north and west of Scotland, and over the north of England, and just equal to the normal in 'England, S.W.' Elsewhere, there was an excess, that over the south and east of England being very large.

"The bright sunshine was more than the mean in 'England, E.' and over Ireland, but less in all other districts. The percentage of the possible duration ranged from 5 in the 'Channel Islands,' and 45 in 'England, E.' to 27 in the 'Midland Counties,' 22 in 'England, N.E.' and 14 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, JUNE 18.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various plants in pots such as Adiantum, Aspidistra, Calceolaria, etc., with columns for s. d. s. d.

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers such as Arums, Bouvardias, Carnations, etc., with columns for s. d. s. d.

ORCHID-BLOOM in variety.

Table listing prices for orchid blooms such as Arums, Bouvardias, Carnations, etc., with columns for s. d. s. d.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for various vegetables such as Beans, Broad, Cabbages, etc., with columns for s. d. s. d.

NEW POTATOS.

MARKET very firm, with tendency to higher prices. Supplies not heavy. J. B. Thomas.

SEEDS.

LONDON: June 17. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market presented a lifeless and uninteresting appearance. At this season, there are, of course, but few sowing wants to be satisfied, whilst no speculative movement of any importance has yet developed itself. Some small orders, however, still come to hand for Turcs, Lucerne, Sainfoin, &c. The prices demanded for new French Trifolium are regarded as prohibitory. There is no change in either Mustard or Rape seed. Canary seed is now obtainable at record low figures. Hemp seed is steady. Peas and Haricots command Monday's quotations.

FRUIT AND VEGETABLES.

BOROUGH: June 16.—Quotations:—Spinach, 1s. 6d. 2s. 6d. per bushel; Rhubarb, 1s. 6d. to 2s. 3d. per dozen bunches; Spring Onions, 1s. 6d. to 2s. per dozen bunches; Tasmanian Apples, 7s. to 10s. per case.

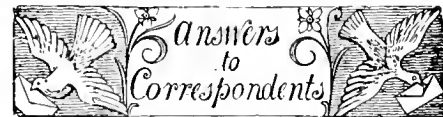
SPITALFIELDS: June 16.—Quotations:—Cabbages, 1s. to 2s. per tally; Onions, 1s. to 1s. 6d. per dozen bunches; Leeks, 1s. to 1s. 6d. per dozen; Mint, 2s. to 3s. per dozen bunches; Parsley, 2s. to 3s. do.; Lettuce, 6d. to 1s. per score; Beetroot, 1s. 6d. to 2s. per bushel; Peas, 3s. 6d. to 4s. per bag; Horseradish, 1s. 6d. to 2s. per bundle; Gooseberries, 2s. 6d. to 3s. per bushel; Tomatoes, English, 5d. to 6d. per pound.

STRATFORD: June 17.—Cabbages have been a very slow trade, supply in excess of demand. Fair trade done in all other vegetables and fruit. Quotations:—Cabbages, 1s. to 3s. per tally; Cauliflowers, 9d. to 2s. per dozen; do., 3s. to 10s. per tally; Beetroot, 6d. to 8d. per dozen; Horseradish, 2s. to 2s. 6d. per bundle; Parsley, 1s. to 1s. 6d. per dozen; Rhubarb, field, 1s. 6d. to 2s. per dozen Leeks, 1s. 6d. to 2s. per dozen; Spring Onions, 1s. to 1s. 6d. per dozen; Salad, 1s. 6d. to 2s. per pun net; frame Cucumbers, 1s. 6d. to 3s. 3d. per dozen Asparagus, 6d. to 1s. per 100 heads; Green Peas, 1s. 6d. to 2s. 6d. per sieve; do., 2s. to 6s. per bag; Tomatoes, 5d. to 6d. per lb., Guernsey; ditto, 5d. to 7d. per lb., English; Gooseberries, 2s. to 2s. 6d. per half-sieve; Strawberries, 2s. 3d. 3s. 6d. per peck; Turnips, 1s. to 2s. per dozen bunches; Carrots, bunches, 1s. 3d. to 2s. 6d. do.; Mangolds, 10s. to 15s. per ton; Onions, Egyptian, 90s. to 100s. per ton.

FARRINGTON: June 18.—Quotations:—Asparagus, 12s. per dozen; Cucumbers, 2s. 6d. do.; Mushrooms, 8d. per pound; Tomatoes, English, 6s. per dozen pounds; Carrots, 4s. to 6s. per dozen bunches; Turnips, 4s. do.; Marrows, 12s. per dozen; Spinach, 3s. per bushel; Mint, 3s. per dozen bunches; Parsley, 3s. do.; Peas, 2s. 6d. per bushel; do., best Blues, 3s. do.; Strawberries, 8s. per dozen punnets; double baskets, 1s. 6d. each; Cherries, English, black, 10s. per half-bushel; do., white, 9s. do.; Gooseberries, 3s. do.; Pine-apples, 3s. to 3s. 6d. each (about 6 lb.).

ENQUIRY.

"He that questioneth much shall learn much."—Bacon. "J. A." enquires if it is a fact that a Rose will not live side by side with a Honeysuckle—say, on an arch? We have had ourselves a Honeysuckle and a Gloire de Dijon on the same arch for some years. The Honeysuckle grows faster and so encroaches on the Rose, but that is easily remedied.



CARNATIONS: W. H. Sporting in Carnations is very common. It is probably due to a reversion, or "harking back" to a former state.

CAULIFLOWER ROOTS EATEN: J. S. Most likely the work of a weevil.

CORRECTION: Mr. R. L. Harrow desires to say that Primula Reidii is not a vigorous grower, as was stated in our last issue, and that very few plants are now to be found in the kingdom.

CUCUMBER FRUITS DECAYING: C. W. H. There is evidence of gummy, but you should send roots of the plants for investigation and some particulars of the sort of cultivation adopted.

DIOSPYROS VIRGINIANA: W. J. P. The species is the Date Plum or Persimmon, a native of the warmer parts of the United States of America. The fruit is an inch or more in diameter, nearly round, and of a yellowish-orange colour, and it is only eatable when blotted or softened by the action of frost. You could get plants and seeds in quantity from the American nurseries, and in small quantity, probably, from Mr. W. Bull, nurseryman, Chelsea, S.W. It is too tender a plant for cultivation out-of-doors in this country.

GARDENERS' ORPHAN FUND: The sum of £1 has been received from F. P., gr. to the Earl of D., in acknowledgment of services rendered by the Gardeners' Chronicle in naming Orchids. The amount has been forwarded to the Gardeners' Orphan Fund.

IVY-LEAVED PELARGONIUM: B. B. The leaves appear to have been punctured on the lower surface by some insect, but what insect we are unable to tell you. Wash the plants with quassia-water; it may render the foliage distasteful to the insects.

**MELON:** *J. C. P.* We do not believe the appearance of one side of the fruit to be due to disease, but to exposure to a very hot sun, perhaps without much ventilation at the time. It is not in the nature of a Melon to be elevated above the foliage as gardeners manage it, but to be partially hidden by the foliage, the shade from which is perpetually shifting. In warmer climates than ours, Melons and Cucurbits of many kinds are grown in the shade of Maize, Vines, &c.

**NAMES OF PLANTS:** *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*F. R., Herts.* 1, *Epidendrum alatum*; 2, *Ocuidium divaricatum*; 3, *Maxillaria ochroleuca.*—*No Name.* 1, *Oneidium pulvinatum*; 2, *Oneidium longipes*; 3, *Maxillaria luteo-alba*; 4, *Vanda Denisouiana*; 5, *Cattleya Mossiae*; 6, a very good *Odontoglossum crispum guttatum.*—*W. S. L. Lonicera Regehana.*—*Lanc.* *Gypsophila paniculata.* *E. H. Medicago sativa, Lucerna.*—*J. S. Montrose.* *Escallonia macrantha* and *Crataegus pyracantha.*—*N. J.* 1, *Philadelphus coronarius* var.; 2, *Weigela rosea* var.; 3, *Viburnum plicatum*; 4, *Philadelphus coronarius*, double; 5, *Philadelphus coronarius* var.; 6, *Kolreuteria paniculata.*—*E. M. I.* *Phlox fruticosa*; 2, *Lonicera Ledebourii.*—*W. D.* next week. No. 7 is the Feather Hyacinth, a variety of *Hyacinthus comosus*, in which the flower-stalks become coloured, whilst the flowers remain undeveloped.—*K. Budge.* Many thanks. We do not think the leaf you send can be that of *V. Coignette.*—*M. H. H.* *Justicia carnea.*—*A. M.* 1, *Ophrys apifera*. 2, *Philadelphus coronarius*. 3, *Spiraea opulifolia*. 4, *Spiraea bracteata.*—*H. S.* *Dendrobium Fierdii.*

**PALM-LEAF AND ELECTRIC-LIGHTING WIRE:** *J. W. W. & Son.* Such injuries as those you mention, but of which there seemed to be no trace on the portion of leaf sent, are matters of which, as yet, we have no acquaintance. It may have occurred in the manner you relate, but as the electric wires are encased in non-conducting material, the points of contact with the plant must have been unprotected.

**PANSIES:** *W. C.* We think highly of your seedlings, but there are now so many that comparison is difficult. The Pink is very pretty, and worth propagating.—*F. W. D.* We still think that the insalubrity of the town is against their cultivation. It is almost equally so in London, for unless wintered under glass, *Violas* and *Pansies* dwindle away, and disappear in about a twelvemonth.

**PRICES OF NURSERY STOCK:** *A. B. T. H.* Without seeing the plants no one can estimate their selling value. Consult a trade valuer, or get a nurseryman friend to value them for you.

**ROYAL PELARGONIUM, PERSIMMON:** We are desired by Messrs. Cannell & Sons to state that this plant, although staged by them at the last Royal Horticultural Society meeting at the Drill Hall, James Street, was really exhibited by Mr. P. Ladds, Swanley.

**TOMATOS:** *E. H.* The spot is due to a fungus often described and figured in these columns. None of the circumstances you mention would cause the disease.

**TREE FERNS.**—In answer to a recent enquiry in these columns, Mr. W. E. Broadway, of the Botanic Gardens, Grenada, British West Indies, writes that he has plants of *Cyathea arborea*, *Alsophila infestans*, *A. aspera*, *Hemitelia grandifolia*, and several others.

**COMMUNICATIONS RECEIVED.**—*B. Corte.*—*H. J. H.*—*E. G.*—*A. D.*—*J. Heathman & Co.*—*Journal of Horticulture.*—*A. J. R.*—*O. G.*—*J. McL.*—*R. A. R.*—*F. W. D.*—*W. Miller*—*W. J. P.*—*A. O.*—*U. D.*—*M. T.*—*A. P.*—*J. W.*—*R. L. H.*—*A. D.*—*D. R. W.*—*A. D. W.*—*D. T. F.*—*G. C.*—*Sir C. W. S.*—*H. de V.*—*H. J. W.*, Florida.—*J. W.*—*A. H. D.*

**MARRIED.**—At Trinity Church, Bergen Point, New Jersey, U.S.A., on Wednesday June 3, LEONARD BARRON, son of Mr. A. F. Barron of Chiswick, to EFFIE MAUD ROBINSON.

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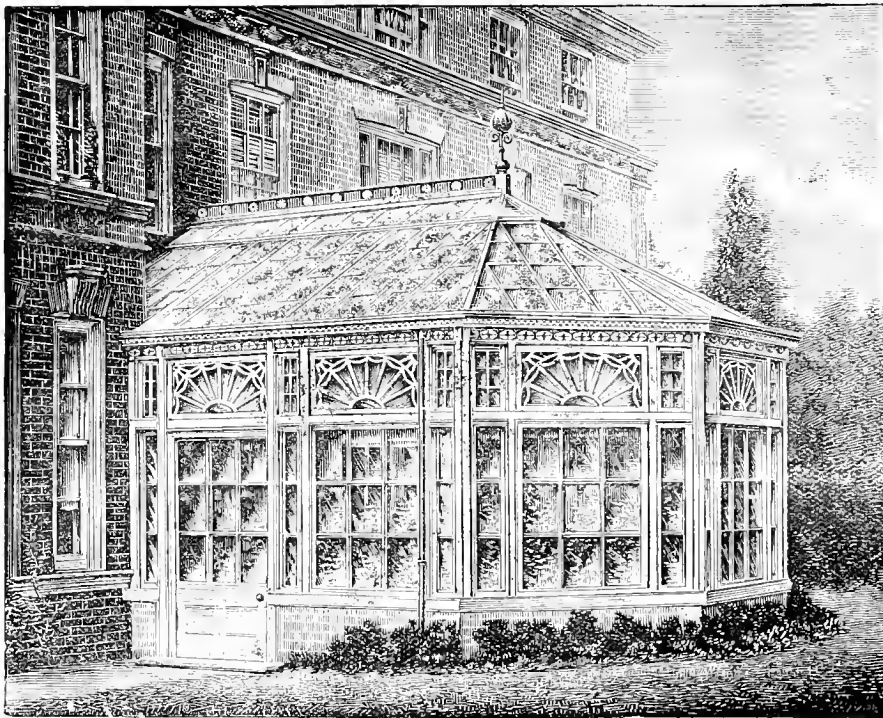
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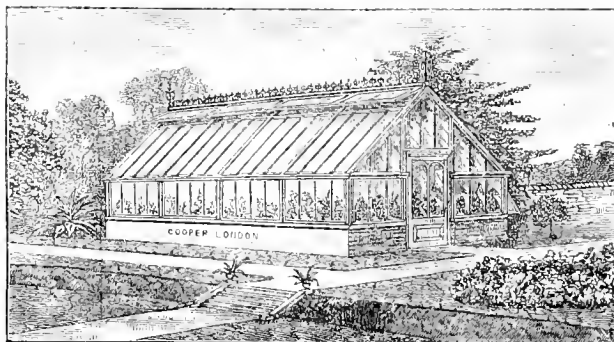
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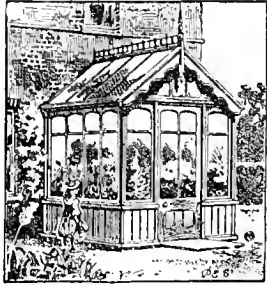
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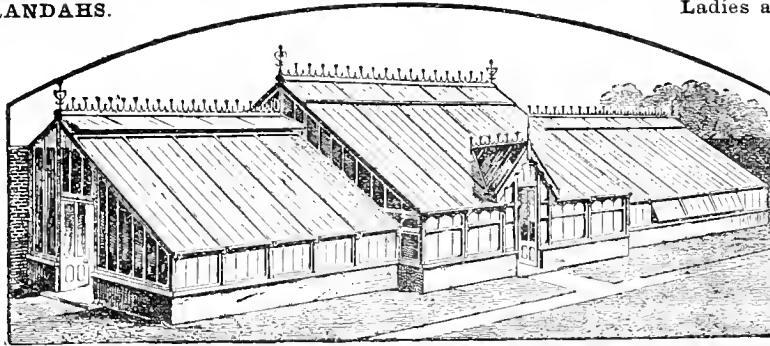
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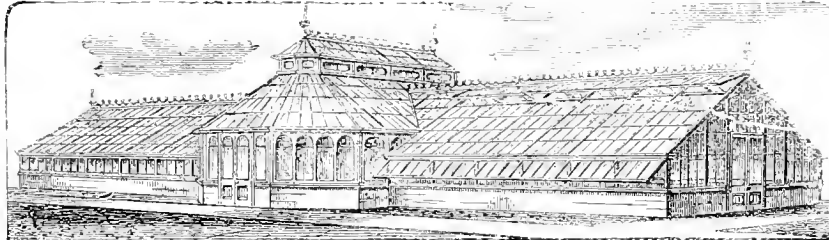
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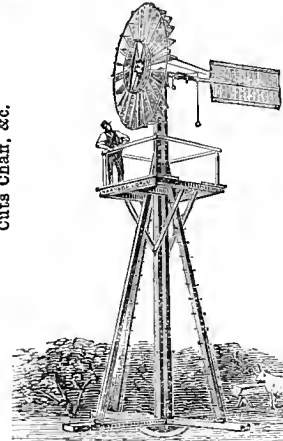
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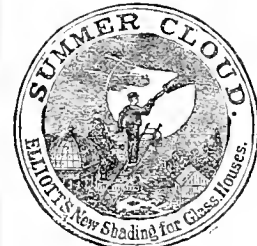
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MR. A. C. GRAY, late of Bay House Gardens, Ilminster, as Head Gardener at the Hampshire Reformatory School, Netley Marsh, near Totton.

MR. C. WEAVER, late of Rose Hill Gardens, as Head Gardener to C. RATCLIFFE, Esq., The Hyde, Wareham, Dorset.

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WANTED, AT ONCE, a GENERAL FOREMAN.—Knowledge of Chrysanthemums preferred. £1 per week, bothy, &c.—Apply to G. INGLEFIELD, Tedworth Gardens, Marlborough.

ROSE GROWER.—WANTED, AT ONCE, a capable and energetic young Man to take charge of Roses, Fruit Trees, &c. Must be a good budder.—DOBBIE AND CO., Orpington, Kent.

WANTED, a GROWER.—Must be first-class hand at Tomatoes or Cucumbers. Write, stating age, wages, and what plants they have had experience in.—X. Y. Z., 41, Wellington Street, Strand.

WANTED, a steady, willing young MAN, with experience in Outdoor Florist Nursery Work, chiefly Herbaceous Plants. Wages 20s. per week, with prospect of an increase to a good man.—Apply, R. CLACK, Chingford Hall Nursery, Chingford, Essex.

WANTED for the season, TWO practical ROSE BUDDERS. State wages required, &c., to—TOWNSEND AND SONS, Rose Growers, Lower Broadheath, Worcester.

WANTED, AT ONCE, good BUDDER, permanent situation. House. Family no object.—Apply, WM. BOSTON, Manor Farm Nurseries, Carthorpe, Bedale, Yorks.

GRAPE THINNERS.—One or Two expert hands WANTED AT ONCE.—Apply, FOREMAN, The Nurseries, Cemetery Road, Hampton, Middlesex.

WANTED, TWO MEN, well up in Growing Cucumbers for Market.—Wages, 21s. per week.—Apply, The Firs, Rumsey, at Cardiff.

WANTED, a young MAN well up in Tomato work, also Bulb-forcing. Age not under 24.—Particulars to F. J. LILLEY, St. Peter's, Guernsey.

H. B. MAY has VACANCIES for two or three young Englishmen. Must have been accustomed to Ferns, &c. and have good references.—Apply Dyson's Lane Nurseries, Upper Edmonton.

WANTED, a young MAN (UNDER).—Must be quick hand in Potting, for Fern Department. Must have some experience in same.—Send references, and apply to LITZOW AND KROLOW, The Albert Nurseries, 208, Peckham Rye, S.E.

WANTED, at ONCE, TWO good MEN, for Cucumber Growing. Must know their work.—A. B., Belgioise Nursery, Chingford.

WANTED, a strong, active young MAN, well up in Soft-wooded Stuff, Cucumbers, Tomatoes, &c.—South Hill Park Nursery, Bromley, Kent.

WANTED, a young MAN, not under 24, to take charge of Pleasure Grounds. Must be neat and energetic. State wages.—Address P. JAKEMAN, The Gardens, Blackmoor, West Derby, Liverpool.

WANTED, in Market Nursery, young MAN for the Houses; used to growing Ferns and Bedding Plants. Wages 18s. per week.—Apply to J. W. BUTCHER, Wright's Nursery, Turner Road, Lee.

WANTED, APPRENTICE for the Nursery Trade, in one of the best Nurseries in Scotland. Small wages given, and bothy found. For the Glasshouses, chiefly.—Apply, F., 41, Wellington Street, Strand, W.C.

WANTED, an APPRENTICE.—Wages 10s. per week; £30 Premium.—Gloucester Nurseries, Hampton, Middlesex.

WANTED, a FLORAL ARTIST and SALESMAN for Manchester Market.—State age, salary, and references. None but a practical man need apply.—JAMES W. BRIDGE, Florist, Smithfield Market, Manchester.

WANTED, an INVOICE and DISPATCH CLERK; also a TRAVELLER in the Seed Trade. State age, experience, salary and references to HARRISON AND SONS, Seed Merchants, Leicester.

WANTED, a good smart Handy Man, to act as PACKER and STORE-KEEPER. Wages 25s. per week.—Apply to WILLS and SEGAR, Florists, South Kensington, S.W.

WANTED, a CLERK, for correspondence, &c., in the Bulb and Plant Trade. Must be a good, quick writer. INVOICE CLERK also wanted.—Apply by letter, stating experience, salary required, and full particulars, to BARR & SONS, 12, King St, Covent Garden, London, W.O.

WANTED, a SHOPMAN, with a fair knowledge of book-keeping, and a good counter-hand of good address. State age, if married, wages expected, and where gained experience.—WM. TROUGHTON, Seedsman, 4, Church Street, Preston.

WANTED, a reliable MAN, as SHOPMAN, General Seed, Nursery, and Floral Business.—About 23.—Apply to R. P. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

## WANT PLACES.

TO GARDENERS AND OTHERS  
SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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GARDENER (HEAD).—Age 32; thoroughly experienced in all branches. Left through Estate being sold. Good references.—F. WELLS, 1, Elm Cottages, Sandford Road, Bexley Heath, Kent.

GARDENER (HEAD).—Age 26; twelve years thorough practical experience in all branches of the profession. Highest references.—S. C. F., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 36, married, two children, ages 8 and 13 years; thoroughly practical life experience; highly recommended. Eight years in present place as Head.—T. WILKS, Queensberry House Gardens, Richmond, Surrey.

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GARDENER (HEAD, or good SECOND).—Age 25; highly recommended. Leaving through giving up. Total abstainer.—W. T. BICKNELL, 20, Larch Road, Balham, S.W.

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**GARDENER (HEAD WORKING),** age 28.—W. CRUMP, Steward to the Misses Goldsmid, Tongswood, Hawkhurst, Kent, desires to recommend his General Foreman to any Lady or Gentleman requiring the services of a steady, persevering, reliable man.

**GARDENER (HEAD WORKING).**—Age 36, married, one child; four years' good references; leaving through breaking up establishment. Experience in all branches, Orchids, &c.; Land and Stock if required.—CHAS. ROFFEY, Middle Lane, Teddington, Middlesex.

**GARDENER (HEAD WORKING).**—Age 35; Married, no family. Thorough practical knowledge in all branches. Leaving through giving up the residence. Highly recommended.—W. PAYNE, Bournhurst, Horley, Surrey.

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**GARDENER (SINGLE-HANDED, or good SECOND).**—Age 24; single. Thorough knowledge of good all round gardening; excellent characters from last and previous employers. Abstainer.—FRANKLIN, 35, "B" Street, Neasden, London.

**GARDENER (SINGLE-HANDED).**—Age 25; life experience. Five years in last situation.—F. STAPLES, Harrowby, Grantham.

**GARDENER, or GARDENER and BAILIFF.**—Age 43; married. Thoroughly experienced man in all branches. Twelve years character. Understand hops.—E. BRAYBON, Tile House, Denham, Uxbridge.

**GARDENER.**—Age 29, single; well up in Vines, Melons, Peaches, House and Table Decorations. Twelve years' references.—Mr. JAMES BARNSHAW, Streatham and Norbury Nurseries, S.W.

**GARDENER.**—Situation wanted by a young Man, age 24, single, as Flower and Kitchen Gardener. Several years' good character.—T. R., 2, Elm Terrace, Brookdale Road, Catford.

**GARDENER.**—Situation wanted, as IMPROVER, under Glass; six years with present employer. Age 21; total abstainer.—E. G. POTTER, Ockham, Woking Station, Surrey.

**GARDENER (SECOND, or otherwise),** on Gentleman's place.—Single; well up in Kitchen Garden, Fruit Trees, Tomatoes, and Greenhouse. Life experience.—LA MERCER, 29, Marien View, Clay Hall Road, Alverstoke, Gosport.

**GARDENER (SECOND),** where four or more are kept.—Age 22; three years as second in present situation.—G. MACLENNAN, Kingston Hill, Surrey.

**GARDENER (SECOND), or JOURNEYMAN (FIRST).**—Age 23; single. Three years good character. Disengaged.—C. MAXWELL, St. Ippalyta, near Hitchin.

**GARDENER (UNDER),** where two or more are kept; or GROOM and GARDENER.—Age 21; can be well recommended.—J. KIDBY, West Bergholt.

**GARDENER (UNDER), or JOURNEYMAN (Inside),** age 23.—W. GOSS, Gardener to W. G. ROY, Esq., can very highly recommend W. HUNTER as above; been with him two years; five previous.—W. GOSS, Myams, Marchwood, Southampton.

**GARDENER (UNDER),** Inside and Out.—Age 23, single; six years in present situation. Good character. Botchy preferred.—F. WATTS, The Gardens, Chacombe House, near Banbury.

**GARDENER (UNDER).**—A Clergyman wishes to recommend a young man of 19 as above. Has had three and a half years' experience in houses. Of the highest character, and an abstainer.—For particulars apply to Rev. ARTHUR FORMAN, Repton, Burton-on-Trent.

**GARDENER (UNDER).**—Age 20; good reference. Total abstainer; experienced both Inside and Out.—J. LINIS, 109, Durham Road, Tollington Park, London, N.

**GARDENER (UNDER).**—Situation wanted by a young Man. Age 21; seven years' experience Inside and Out. Good references.—E. R., 37a, Springfield Road, Horsham, Sussex.

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**GARDENER (UNDER).**—Age 21.—H. J., care of Gardener, Arnyu Villa, Falmouth.

**JOHN SMITH.**—Many years Foreman to Mr. John Fraser, The Nurseries, Leyton and South Woodford, Essex, and six years with Messrs. W. Barron & Son, Elvaston Nurseries, Borrowash, —now offers his services, having a thorough practical knowledge of Nursery-work in all its requirements, as GENERAL MANAGER, including Valuer or Traveller. Well known to the Trade. Could undertake Laying out or Furnishing to any extent.—Address, 2, Belle Vue Cottages, Borrowash, near Derby.

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**GROWER and PROPAGATOR (GENERAL).**—Soft-wood, Roses and Fruit; accustomed to take charge, and to turn out choice stuff in quantity. Twelve years' London experience. Excellent references. State wages.—X., Lorne Villa, Hillingdon Heath.

**GROWER of Palms, Ferns, soft-wooded stuff, &c.**—Age 25; well experienced in leading London nurseries. Good references.—G. W., Mr. Ferris, High Street, Southgate, London, N.

**FOREMAN (NURSERY).**—Grapes, Tomatoes, Roses, and Carnations are specialties.—Age 28; good references from present and previous employers.—A. E. N., GEORGE, Pear Cottage, Milton, Cambridge.

**FOREMAN.**—Age 28; thirteen years' practical experience in all branches. Excellent testimonials and highly recommended. Two years and nine months as Foreman, Longchew Gardens, Oldcastle, Co. Meath.—W. KEYWOOD, The Gardens, Gredington, Whitchurch, Salop.

**To Nurserymen.**

**FOREMAN (WORKING).**—Age 32; fifteen years' practical experience. London and Provincial, in Plant growing, Cut Flowers, Bulb-fencing, Tomatoes, &c. Excellent references.—W. R., 42, Shakespeare St., Southport.

**FOREMAN, Inside;** age 30, single.—W. LAMBERT, Arnot Hill Gardens, Notts, can highly recommend his late Foreman. First-class references.—A. SMITH, Birstwith, near Leeds.

**FOREMAN.**—Age 28; life-long experience in first class situations. Fairly good knowledge, Inside and Out. Well recommended.—J. HILL, Watlock House, Torquay.

**FOREMAN.**—N. HUTTON, Gardener, Brandfold, Goudhurst, Kent, will be pleased to highly recommend GEORGE WHITE to any Gardener requiring a thorough practical and trustworthy man. Well up in Plant and Fruit-growing.

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**JOURNEYMAN, in good Establishment.**—Age 19; one year in last situation, four previous. Good recommendations.—J. STONARD, Duchesse Cottage, Pirbright, near Woking.

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**JOURNEYMAN, Inside and Out.**—Age 22; good character. Three years in present place; five previous.—J. BEAUCHAMP, Cowesfield Gardens, Salisbury.

**JOURNEYMAN.**—Inside and Out; age 22. Life experience; good references.—F., 2, Burrell Terrace, Winchmore Hill, Middlesex.

**JOURNEYMAN (FIRST).**—Age 23; seven years' experience. Can be highly recommended; over two years in last situation. Good references from previous employers. Botchy preferred.—W. ABRAHAM, 8, Kelsey Park Road, Beckenham, Kent.

**JOURNEYMAN, in the Houses, under Foreman.**—Age 21; six years' experience. Good references. Disengaged.—HENRY SKITT, Providence Grove, Upper Pulley, Shrewsbury.

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**IMPROVER.**—Age 17½; over three years' good character in present place. Within 60 miles preferred. Abstainer.—W. CAUNDELL, Wohlgelegen, Bournemouth.

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**IMPROVER in Garden;** five years' good character.—H. DEAL, Bulmer Lodge, near Sudbury.

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**TO NURSERYMEN.**—Young Man, age 22, experienced in general routine of Market Work. Quick at Potting, Watering, and Tying.—ABSTAINER, 41, Wellington Street, Strand, W.C.

**TO NURSERYMEN.**—Young man (age 22) seeks situation as GROWER, Cucumbers, Tomatoes, Chrysanthemums, and Mushrooms. Eight years' experience. Good references.—F. E., 47, Dunstan's Road, East Dulwich, S.E.

**TO NURSERYMEN.**—Young man (age 24), seeks situation as GROWER. Well up in Cucumbers, Tomatoes, Chrysanthemums, and Mushrooms. Twelve years' experience. Good references. Disengaged 20th.—L. LUXFORD, 47, Dunstan's Road, East Dulwich, London, S.E.

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**TO NURSERYMEN.**—Situation wanted, well up in Palms, Ferns, and Soft-wooded Stuff; age 24; ten years' experience in London Market Nurseries. Good references.—C. P., 41, Wellington Street, Strand, W.C.

**TO NURSERYMEN.**—A young Man (age 19) seeks permanent situation in General Nursery; five years' good Nursery experience, Inside and Out. Good character. Abstainer. Cut Flowers. State wages.—W. WEST, 26, Devonshire Street, Brighton, Sussex.

**SHOPMAN (HEAD), or MANAGER,** with the idea of becoming Partner, provided the business is suitable. Situation wanted, as above, by a middle-aged man, who has a thorough knowledge of the Seed Trade in all its branches.—State all particulars to Z., care of Messrs. Hurst & Son, 152, Houndsditch, London, E.

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**TO FLORISTS.**—Young lady seeks situation in a good Florists, as SECOND HAND. Has had City experience. Knowledge of Book-keeping.—E. HOPFROFF, Langton Green, Tunbridge Wells.

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 Range of Hothouses at Waterpark, Castle Connel, Ireland.

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For RAISING WATER for the Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from 300 to 400,000 gallons per day. Will force to a height of 800 feet.

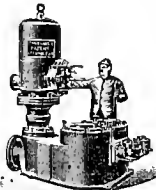
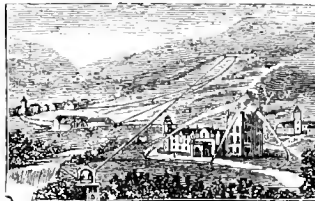


FIG. A.—This ram lifts part of the same water that works it. (Engraved from Photo. of Ram which raises 250,000 gallons per day of 24 hours to medium heights, with good working fall.)



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 532 ft., and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.

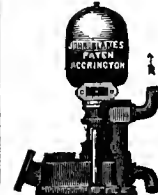


FIG. B.—This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

### TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to the RIGHT HON. LORD HINDLIPI, Braaley, Ashbourne, Derby. March 17, 1894.

DEAR SIR,— Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than 63 times that of the working fall. The Rams are worked by water from the River Dove, with the small working fall of 8 ft. 3 ins., and issuing from the rocky bank close by is a copious stream of pure spring water, 3000 gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of 523 ft. above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.—Yours faithfully, T. FERNYHOUGH.

From the RIGHT HON. THE EARL OF HARROWBY, 44, Grosvenor Square, London. February 21, 1893.

SIR,— I have pleasure in stating that the two Hydraulic Rams which you supplied and fixed for me last autumn, at Sandoe, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 ft. from a previously-existing mill-pool, the Rams supply reservoirs 168 ft. above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.—I am, Sir, your very obedient Servant, HARROWBY

From T. DYNE STEEL, Esq., M.Inst.C.E., Paat President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon. April 24, 1891.

DEAR SIR,— In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 ft. with a working fall of driving water of 27 ft., and on your guaranteeing that performance, I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests, with the following results:—Working fall of driving water, 30 ft.; vertical height raised, 127 ft.; length of rising main, 850 ft., from Ram to outflow; length of supply pipe 200 ft.; gallons per hour raised, 1,512; driving water used per hour, 8,189 gallons, showing the remarkable and gratifying result of 83 per cent. of efficiency. The tests were carefully made and repeated, the water measured and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe, in order to reduce friction, with excellent effect.—Yours faithfully, T. DYNE STEEL.

From MARTIN CURTLER, Esq., Agent to the Right Hon. LADY NORTHWICK, Sausome Place, Worcester. Feb. 18, 1895.

DEAR SIR,— I have great pleasure in informing you that the Hydraulic Ram which you put in for the Right Hon. Lady Northwick, at Northwick Park, last year, has worked, and is working, most satisfactorily. The water, as you know, had to be raised to the height of nearly 400 ft., with 1,900 yards of rising main pipe, to a large tank on the top of a hill, in order to supply several farms on the estate with water for gravitation.

The supply to the tank is most ample, and there is an adequate overflow left below the Ram. Altogether the work is a very great success.—Yours faithfully, MARTIN CURTLER.

JOHN BLAKE, Oxford Street Works, ACCRINGTON, LANCASHIRE.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, June 20, 1896. Agent for Manchester—JOHN HEYWOOD.

# The GARDENERS' CHRONICLE

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## CONTENTS.

Berlin notes ...	782	Persimmon, hardness of	790
Brodiaea californica ...	790	the ...	790
Carnations at Great Bookham ...	780	Phylloxera haws and Italy	790
Clematis montana ...	790	Plants, new or note-worthy—	
Cornus Kousa ...	782	Philadelphus Coulteri	792
Dessert Apples and Pears, special prizes for ...	789	Roxburgh, Wm., the life of ...	781
Diospyros virginiana ...	790	Royal Horticultural Society and the provinces	788
France, notes from ...	784	Societies—	
Horticulture at the Berlin Exhibition ...	782	National Rose ...	793
Horticulture in the North of France ...	784	National Vio ...	793
Hyacinths and Tulips, the best varieties of ...	790	Richmond Horticultural ...	794
Irises, English ...	790	Royal Horticultural ...	791
Moore, Mr. Chas., of Sydney ...	789	Scientific Committee of the R.H.S. ...	791
Obituary—		Straffan House, Kildare	789
Findlay, Bruce ...	788	Strawberry, origin of the cultivated ...	787
Sadier, Jas. Stewart ...	794	Tomato disease ...	791
Orange from seed, the reproduction of the ...	784	Week's work, the—	
Orchid notes and gleanings ...	786	Flower garden, the ...	787
Orchids, a tasteful way of showing ...	785	Fruits under glass ...	786
Orphan Fund, Royal Gardeners' (annual dinner) ...	788	Hardy fruit garden ...	787
		Kitchen garden, the ...	786
		Orchid houses, the ...	787
		Plants under glass ...	786

## ILLUSTRATIONS.

Cornus Kousa, flowering shoot of ...	783
Orchids, tasteful method of exhibiting ...	785
Shedrops under Lime trees at Straffan House, co. Kildare (Supplement).	

## NOTICE TO ADVERTISERS.

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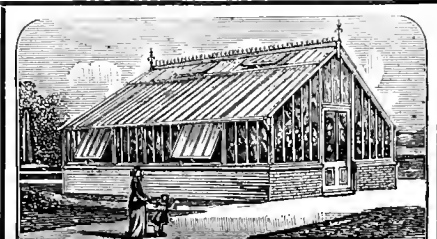
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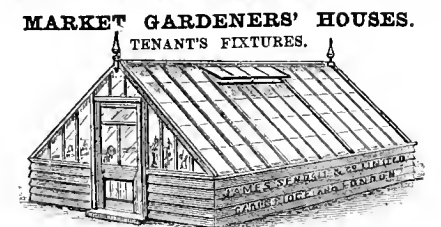
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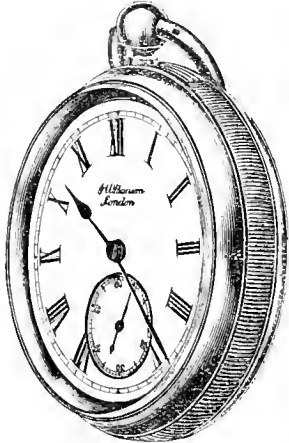
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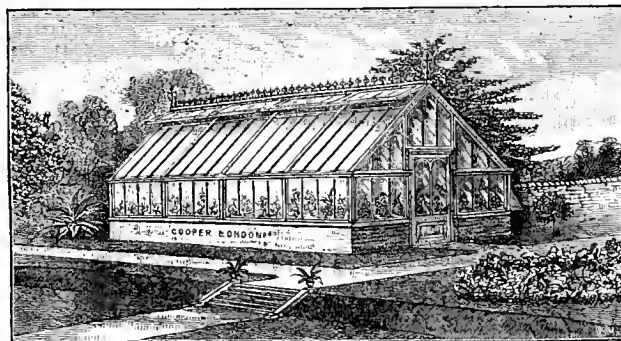
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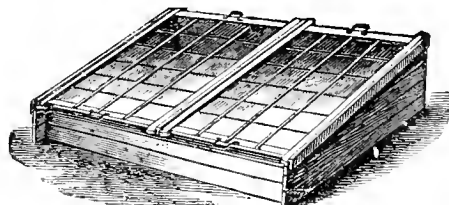
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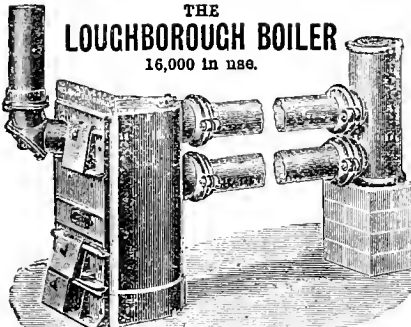
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THE **Gardeners' Chronicle.**  
SATURDAY, JUNE 27, 1896.

**WILLIAM ROXBURGH.**

THE fifth volume of the *Annals of the Royal Botanic Garden, Calcutta*, contains a portrait of William Roxburgh, author of the *Flora Indica*, together with a brief memoir by Dr. G. King, the present Superintendent. William Roxburgh was born at Underwood in the parish of Craigie, in Ayrshire, on June 3, 1751, and was educated at the parochial school, after which he went to the University of Edinburgh, and having attended as many of the medical classes there as were then required for a licence to practice as a surgeon's mate, he received an appointment in that capacity on one of the Honourable East India Company's ships. After making several voyages, and completing his medical studies during the intervals spent at home, he accepted an appointment in the same company's Madras establishment, where he arrived in 1776. Here he made the acquaintance of Dr. Koenig, who went to India some eight years previously, as physician and naturalist to the Dutch Settlement in the Carnatic, but afterwards entered the service of the Nawab of Arcot. During the latter period he met Roxburgh, and the daily intercourse of two such men in an unfamiliar country, where almost every plant was new to them, must have afforded a mutual stimulus to work. The researches of the two friends into the botanical sources of the indigenous economic products of the Carnatic impressed the Madras Government so favourably that from 1778 they made Koenig a monthly allowance to enable him to extend his enquiries to Siam and the Straits of Malacca, and two years later he was formally admitted into the company's service. Koenig died of dysentery in June, 1785, and was succeeded as Government Botanist by Dr. P. Russell, who held the office but a short time, and was in turn succeeded by Roxburgh. In May, 1793, Colonel Robert Kyd, the founder and first superintendent of the Calcutta Botanic Garden, died, and Roxburgh was appointed to succeed him, taking charge in the November following. Kyd had never lived in the garden, there being no suitable house, but Roxburgh decided to live there, and at once set about building a house, which exceeded the amount allotted by the company by a considerable sum, and the accountant-general refused to pay the excess.

Until this period Roxburgh's service was confined to the Northern Circars (he was presumably attached to a regiment), and a good deal of it was at Samulcotta, a small station on the edge of a hilly region, about 7 miles from the town of Coconada. For years it had been

the practice, both of Koenig and of Roxburgh, to describe and make drawings of every plant they met, and the former had transmitted many specimens to Europe, which had been published in various works, but the latter does not appear to have done so, or to have published anything. Between 1791 and 1794, however, he transmitted to the Court of Directors in London descriptions and figures of no fewer than 500 species, which were placed in the hands of Sir Joseph Banks, who selected 300 of them, which were published, at the Company's expense, in three large folio volumes, under the title, *The Plants of the Coast of Coromandel*. This was Roxburgh's earliest book; the first part appeared in 1795, but the last not until 1819. [A copy of this fine work was presented to the Lindley Library by Her Majesty the Queen.]

Roxburgh appears to have arrived at Calcutta with a constitution impaired by hard botanical work in the feverish jungles of the Carnatic, for within four years after his transfer, he was obliged to make a voyage home for the re-establishment of his health. This was in 1797, and during this visit to Scotland he took the degree of Doctor of Medicine at the University of Edinburgh. He returned to Calcutta in 1799, but in 1805 he again returned to England on account of his health, residing at Chelsea. About 1808 he returned for the last time, but during the hot season of 1813 his health completely broke down, and he started on a sea-voyage to the Cape of Good Hope. His health, however, not improving sufficiently, he extended his voyage to St. Helena, and finally to England. Shortly after arriving he proceeded to Edinburgh, where he died on February 18, 1815, and was buried in the Greyfriars churchyard there, in the tomb of the Boswells of Auchinloch, his third wife being a daughter of that house.

Estimated by the number of elaborated botanical materials which he left behind him, Roxburgh's life at Calcutta, Dr. King remarks, must have been one of continued hard work, as when he quitted India for the last time, in 1813, he left under the charge of Dr. Carey not only the MSS. of his *Hortus Bengalensis* and of his *Flora Indica*, but also no fewer than 2553 life-sized drawings of Indian plants, with figures of excellent analyses of their flowers, which had doubtless been made by himself. The majority of these drawings are of plants described in his *Flora*, so that between these and his descriptions there is generally little room for doubt as to what Roxburgh's species are.

Roxburgh had several copies made of the MSS. of his *Flora Indica*, one of which he took home with him, intending to occupy the remainder of his life in amending it, in the light of the most recent views of systematic botanists in Europe, and in passing it through the press; but this was prevented by his ill-health and death so soon after his return. A second copy he left with his friend, the Rev. Dr. Carey, a missionary and an accomplished botanist, who was placed in charge of the Calcutta garden when Roxburgh left, and until relieved by Dr. Buchanan-Hamilton. Roxburgh had not long left India before Dr. Carey passed the *Hortus Bengalensis* through the press, and secured for his absent and sick friend the priority for many of his species. At the end of Buchanan-Hamilton's short tenure of office, Dr. Wallich, then surgeon to the Danish Settlement at Serampore, and a young botanist of much promise, was appointed superintendent of the Calcutta Garden, and employed his early years of office in making extensive collections in Nepal, and subsequently in the Straits of Malacca, and other parts of India not visited by Roxburgh. It was decided that descriptions of these collections should be incorporated with Roxburgh's MSS., and the whole published under the joint supervision of Carey and Wallich. The first volume appeared in 1820, and contained but few of Wallich's interpolations; but the second, which appeared four years later, contained many, and the decision to include Wallich's novelties was the cause of failure of the whole project, for the latter's

capacities for collecting were so far in excess of his leisure for description and classification that he had to abandon the idea of carrying on his share of the work, which thus ended prematurely with the second volume. Eight more years having elapsed, the author's two sons, Captains Bruce and James Roxburgh, neither of whom was a botanist, determined to print, at their own expense, their father's MSS., exactly as he had left it, which was done under the editorship of the venerable Carey, and the work was published, in three octavo volumes, at Serampore, in 1832.

The excellence of Roxburgh's *Flora Indica* as a botanical work has long been acknowledged, and Dr. King remarks that his descriptions are for the most part so accurate and graphic that while identifying a plant by it one can feel quite certain when he has got the very species that its author meant. His ideas of affinity are in the highest degree sagacious, and had he lived a few decades later it would have doubtless been as successfully fashioned on the natural system as it was on the Linnean. As regards economic botany it is a perfect mine of wealth, and so much of his attention was given to enquiries into indigenous vegetable products, and so greatly were his re-earches esteemed in England, that on no less than three occasions were gold medals awarded to him by the Society of Arts.

Although there can be little doubt that during his long Indian career of thirty-eight years he must have made large collections of plants, comparatively few can now be traced in herbaria. His earlier ones in the Carnatic were destroyed by an inundation, but during the twenty years of his life at Calcutta he must have accumulated large quantities of dried plants, yet none now exist in the herbarium there. Griffith, however, asserts in his Report on the Calcutta garden, written while he acted for Dr. Wallich in 1834, that the latter had carried off all Roxburgh's collections from Calcutta, and that they had (without any distinguishing mark) formed part of the great herbarium of Indian plants distributed to the chief scientific institutions in Europe, at the expense of the East India Company, under Dr. Wallich's direction. A few of Roxburgh's plants are to be found at Edinburgh, Kew, and the British Museum, and there may be some on the Continent; but the majority cannot now be traced, though this is greatly compensated for by the series of drawings left at Calcutta, of which copies were made at the expense of the late Sir William Hooker, and are now deposited at Kew.

Contemporary with Roxburgh in India during the end of the last and beginning of the present century were many keen botanists, all of whom probably received some stimulus from the ardour of Koenig, who appears to have been in India a sort of an *avatar* of Linneus. But Roxburgh was the only one of the group who attempted to give an account of any considerable number of Indian plants in the form of a *Flora*, and for this reason he has been called the "Father of Indian Botany," and "the Linneus of India." He was a member of the Asiatic Society of Bengal, a Fellow of the Linnean Society of London, of the Society of Arts, and of the Royal Society of Edinburgh. A list of Roxburgh's contribution to scientific journals, eighteen in number, is appended to this interesting memoir. R. A. R.

## NEW OR NOTEWORTHY PLANTS.

### A NEW PHILADELPHUS, P. COULTERI.

THIS beautiful and almost perfectly-hardy flowering shrub is a native of North Mexico, and though well known in America (where Professor Sargent figured it in 1888, on plate 40, p. 232, of his volume of *Garden and Forest* for that year), it has only recently been introduced into European gardens by M. Lemoine of Nancy, from whom I received it about three years ago, and it is now blooming for the first time in my garden. It differs from all other members of its large family known to me save *P. mexicanus* in the important fact of being evergreen, whereas all

the others, with the one exception named, are quite deciduous. It produces its flowers singly on the ends of the lateral spurs of last year's growth. The flowers are large, and of a fine solid texture, of a creamy-white, with the four petals well overlapping one another, and in shape are exactly similar to those of the comparatively well-known *P. mexicanus*, with the important difference and great additional beauty in colour of having a distinct rosy-purple flush, extending from the base of each petal, and forming the centre of the flower surrounding the bunch of golden stamens. So far as I know, this is the first and only instance of a second colour appearing in the flower of any of this profuse-blooming family of hardy shrubs, and this being so, it is all the more interesting and curious. I believe M. Lemoine has used this new Philadelphia for crossing with other varieties with a view to raising new hybrid forms, but none of his seedlings from these crosses has yet bloomed. W. E. Gumbleton, *Be grove, Queenstown, Ireland.*

## CORNUS KOUSA.

MESSRS. VEITCH & SONS kindly send us a specimen of this beautiful hardy Japanese shrub. The leaves are almost exactly like those of the common Dogwood of our hedges, but the flowers are borne on long, slender, stiff stalks, from the very tips of the shoots. The flowers themselves are inconspicuous, and in heads surrounded by four large, ovate acuminate, white bracts. The appearance is that of so many large stars projecting at loose intervals beyond the foliage, or like banners at the end of long poles. We cannot define the expression, but when we say the flower is characteristically Japanese, our meaning will, we think, be understood. It is nearly allied to *Cornus* (*Benthania*) *fragifera*, and was first figured and described as *Benthania japonica* in Siebold and Zuccarini's *Flora Japonica*, i., 38, t. 16.

## BERLIN.

### HORTICULTURE AT THE BERLIN EXHIBITION.

A PECULIAR interest attaches to the scientific section of the horticultural group, which occupies almost an entire house in its display. There is the great drug collection of Bruckner, Lampe & Co., a firm which has had a continued existence of more than 150 years. This collection for completeness can scarcely be excelled anywhere, and everything connected with the healing art that has been obtained from the vegetable kingdom during the last 150 years is here represented; and not alone recognised official drugs, but everything employed as home remedies, and in veterinary practice. Numerous drugs about which much was once expected, no less than others which notwithstanding their good properties are not to be found in the market, as for example Russian Kron Rhubarb, are to be found in this collection. It would occupy too much space to particularise, but it may be remarked that besides drugs, the firm exhibits a number of important medicinal plants in the living state, as well as drugs in common use in their original packages; for instance, a chest of rhubarb, another of opium, some leaden bottles enclosed in felt filled with oil of roses, &c.

Another exhibit of objects of general interest consists of diverse yeast cultivation shown by Dr. Lindner. It may be remarked at this point that it has been successfully proved that the bouquet of a wine is dependent on the yeast which arises from the fermenting juices of the Grape. A great number of wine yeasts are cultivated at the present day, and used in a wholesale manner, so that with their aid any desired bouquet can be given to wine. Since the practicability of this new method of dealing with wine has made its value apparent, further experiments have been made in the direction of employing wine yeasts in the fermentation of cider, and wines made from berries. These experiments have proved successful; and it is now possible, for

instance, to make a wine from cider which shall possess the peculiar bouquet of Rudesheimer wine.

As the employment of wine yeast has shown the further advantage of nearly always preventing a wine from becoming "sick," as a consequence of inducing fermentation with unsuitable yeast, these wine-yeast cultures become of the greatest importance to agricultural economists. Dr. Lindner exhibits quite a number of these clean yeast-cultures in gelatine, as

peculiar property of existing in different stages of their development on different host plants. Numerous species of cultivated plants are attacked by large numbers of species of fungi, and H. Sydow has now collected and arranged them systematically, according to the plants upon which they exist, and he has done this work with much thoroughness. He has, in carrying out this work, taken cognizance of the early as well as the adult stages of the fungus,

formation of a herbarium is a matter of considerable difficulty. But as a proof of what can be done with patience and care, I would direct attention to the extraordinarily rich and well-mounted Conifer herbarium of Herr Goetze, which includes all the species and varieties that are capable of living in the open air in Germany.

Other species of plants, as is well known, are also difficult to prepare as herbarium specimens for other



FIG. 135.—*CORNUS KOUSA* (*BENTHAMIA JAPONICA*): HARDY SHRUB; BRACTS WHITE. (SEE P. 782.)

well as injurious yeasts and microphotographs of the same.

Another exhibit of the fungus order is a very complete collection of diseases of cultivated plants caused by fungi. This is from Herr Sydow. The fungi cause very great injury to plants under cultivation, and, at the same time, they are so minute that the laity only observe them after enormous havoc has been committed. Some fungi, as is well known, have the

and he also exhibits drawings greatly magnified in many cases, the formation of a fungus method of growth in and upon a plant and its spores; and in that instructive manner he imparts precise knowledge and a clear understanding of the character of the disease.

A herbarium is very essential for the proper study of plants, but so many kinds lose their leaves in process of drying—for instance, the Conifers—that the

reasons; for instance, the Cactus, which, in consequence of their fleshy consistency and prickly stems, are found in herbariums in completely unrecognisable form. Professor Schumann exhibits a very interesting collection of Cactus in which this fault is not recognisable. He has simply allowed the Cactus plants to become dry, and in this process they have lost but little of their natural form, and permit of exact examination.



Among the other objects exhibited in this section which deserve to be specified are maps of the distribution of Ilex from the monographer of the genus, Dr. Loessner; an apparatus by Porschmann for testing the vitality of seeds, which can be heated by briquets of charcoal; numerous photographs of large size, by Mulert, of solitary plants and groups of plants from the Berlin Botanical Garden, including a picture of the Victoria Regia, 1 square metre in size; sketches of fruit tree-pruning by Kiehl, &c. A report is exhibited of the *Allgemeinen Deutschen Gärtnervereine*, concerning wages and the conditions of work in the gardens of Berlin and neighbourhood; the branches of the Verein; also the position of the sick clubs for gardeners in Germany, which are not alone of great interest to the gardener, but to the social reformer as well. One fact, by the way, may be here alluded to, viz., that of the 3000 young gardeners in and around Berlin 1000 of them are in the winter season without employment.

In the same hall are exhibited a number of garden plans and reliefs by various landscape-gardeners. Amongst the first-named are several which have received awards, and from which ideas may be obtained of the manner by which a landscape can be rendered attractive, and yet made to differ from others. The reliefs afford landscape gardeners a very efficient aid in displaying their plans, namely, when, as here, a relief is given of the original appearance of the ground, and alongside of it one showing the garden, &c., when the alterations are completed. *U. D.*

## FRANCE.

### HORTICULTURE IN THE NORTH OF FRANCE.

EARLY IN JUNE the Société Régionale de Lille held its monthly general meeting, which was largely attended in spite of the great heat.

The beauty of his exhibits on this occasion induced me to visit M. Vanden Heede's nurseries. I there noticed, among other plants in bloom, *Mitraria coccinea*, *Callistemon amœnum* (*Metrosideros albicans*), *Sprekelia formosissima* (*Amaryllis*, or Lily of St. Jacques), *Strelitzia reginae*, *Lilium Harrisii*, *Richardia aurata*, *Aristolochia triacaudata*, *Hypocyrta strigilloides*, many plants of *Cattleya Mossiae*, a pretty *Odontoglossum Pescatorei*, a new *Phyllocactus*, *Anthurium Scherzerianum atropurpureum*, *Impatiens Sultani violacea*, *Cypripedium Argus*, *Masdevallia Harryana*, *Grevillea alpestris*, *Nicotiana affinis fol. albo var.* (with, in the evening, a delicate perfume), *Saintpaulia ionantha*, Carnations, *Souvenir de la Malmaison*, *Rhododendron Maddenii*. In the open air were scented herbaceous Chinese *Pæonies*, Tea and hybrid *Roses*, *Iris germanica*, *sibirica*, *hispanica*, *anglica*, *Polemonium coeruleum*, *Heracleum giganteum*, and a large variety of herbaceous plants. *Ch. de B.*

### THE REPRODUCTION OF THE ORANGE FROM SEED.

In your issue of April 25, 1896 (p. 527), I notice Mr. C. Wolley Dod suggests that it is generally believed by gardeners that Orange trees raised from the seed of a sweet Orange produce bitter fruit unless grafted on to the sweet Orange tree. As I am somewhat familiar with Orange-growing in Florida, having spent several years here in studying the industry, it may not be out of place for me to give some notes regarding this.

#### SWEET ORANGE (*CITRUS AURANTIUM*).

The seed from the fruit of the sweet Orange, I think we may safely conclude, invariably produces sweet Oranges unless they are the results of hybridisation with some other species or variety. The evidence, however, is somewhat conflicting. The experiments of Gallezio, published in 1811, seem to show conclusively that the belief that they produce bitter fruit, which Mr. Dod suggests is quite generally held by gardeners, is erroneous. In his *Traité du Citrus*, Gallezio says, "I have during a long

series of years sown pips of sweet Oranges, taken sometimes from the natural tree, and sometimes from Oranges grafted on bitter Orange trees or Lemon trees. The result has always been trees bearing sweet fruit, and the same has been observed for more than sixty years by all gardeners of Finale. There is no instance of a bitter Orange tree from seed of sweet Oranges, nor of a sweet Orange from the seed of bitter Oranges. . . . In 1709, the Orange trees of Finale, having been killed by frost, the practice of raising sweet Orange trees from seed was introduced, and every one of these plants produced the sweet-juiced fruit."

Macfadyen's statement regarding the experience in Jamaica is, however, in opposition to Gallezio. Macfadyen says, "It is a well-established fact, familiar to everyone who has been any length of time in this island, that the seed of the sweet Orange very frequently grows up into a tree bearing the bitter fruit, numerous well-attested instances of which have come to my own knowledge. I am not aware, however, that the seed of the bitter Orange has ever grown up into the sweet-fruited variety." Duchassaing says that in Guadeloupe the sweet Oranges often yield bitter fruit, while according to Dr. Ernst, at Caracas they sometimes yield sour but not bitter fruit. Brandis, who is considered one of the highest authorities on this subject, relates that at Khasia, in India, so far as he can verify the fact, the extensive plantations of sweet Oranges are from the seed.

It is difficult to harmonise these conflicting statements. The very extensive experience of Orange growers in Florida, California, and Louisiana entirely corroborates Gallezio's statement. In Florida for many years the policy has been extensively followed of growing trees from seeds of sweet Oranges, and in all cases known to the writer, sweet Oranges, usually of a very fair quality, have been produced. Indeed, the fruit of the sweet seedling Orange trees in Florida is of superior quality to the fruit commonly imported into the United States, and is well known in the markets of New York, Philadelphia, &c. Probably one-fourth of the Florida Orange groves, which in the season of 1894-95 yielded over one billion Oranges, are sweet seedling trees. It is so thoroughly understood that seeds from sweet fruit produce sweet Oranges of a fair quality, that no grower has any hesitation to rear extensive groves from sweet seed trees. Since the severe freezes of the winter of 1894-95, which killed to the ground almost all of the trees in the State, many groves which were originally budded on sweet stock are being re-grown by allowing sprouts, which have been thrown up by the sweet seedling stock, to grow into trees without budding. This illustrates how well it is known by Florida growers that sweet seedling Orange trees produce good sweet fruit. In Louisiana and California sweet seedling trees have also been grown to considerable extent, and always, so far as I can learn, with the same results that from seeds of sweet Oranges sweet fruit is produced.

Mr. William Fawcett, director of the Jamaica public gardens, states that, "The evidence goes to show that Macfadyen's experience was exceptional in finding that the seeds of the sweet Orange sometimes produced trees with bitter fruit. . . . The danger in planting seedlings of the sweet Orange appears to be small."\* Mr. Syme also says,† "The popular opinion in Jamaica that the majority of the seeds of a sweet Orange will produce sour Orange plants is not quite well founded, though there need be little surprise felt if a goodly proportion of the trees are productive of sour fruits. It may be safely asserted that there are few good sweet Orange trees in this island (Jamaica) so isolated from inferior varieties, sour-fruited Shaddock, Grape-fruit, Citron, Lemon, or Lime trees as to be beyond the influence of the fecundating pollen of the latter. It is intentionally chiefly to this influence, rather than to an inherent tendency in the tissue, that many seedlings, raised from sweet Orange seed, exhibit what may be termed degenerate or unmarketable fruits."

In the Reports from the Consuls of the United States on fruit culture in their several districts, in answer to a circular from the Department of State, sweet Oranges are reported to be grown wholly or largely from seeds in the following places: Morocco, Guerrero (Mexico), Ecuador, Jamaica, Guadeloupe, Porto Rico, Syria, Sidon, Philippius Islands, Naples, Azores Islands, Spain, &c.‡

Far the greater portion of the evidence, it will be seen from the above discussion, supports the belief

that seeds from sweet Oranges commonly produce sweet fruits. When bitter or sour fruits result from planting sweet Orange seed, it is probable that other seeds have been accidentally mixed with them or that they are the results of accidental hybridisation. Sweet Oranges are almost invariably grown near sour Oranges, Lemons, Limes, Pomeles, &c., and it is not greatly to be wondered at that from seeds formed under such conditions a hybrid occasionally arises. Both Fawcett and Syme think this is what misled Macfadyen. Stubbs and Morgan\* also mention this as one of the main causes of the variation in the quantity of seedling Oranges. That perfectly fertile seeds may be obtained by hybridising the different species of *Citrus* I have incidentally proven in the course of pollination experiments which I have been conducting under the direction of the U.S. Department of Agriculture. The following instances may be cited:—

Parson Navel Orange (a local variety of the common sweet Orange, *Citrus aurantium*), which is commonly seedless, crossed with pollen from the acid Lime (*Citrus limetta*), produced three full seeds, which were planted, and gave four seedlings, two embryos of one seed developing.

St. Michael Blood Orange (*Citrus aurantium*), crossed with pollen of Grape-fruit or Pomele (*Citrus decumana*), formed fifteen well-developed seeds, which were planted, and gave twenty-two seedlings. If seeds thus artificially hybridised are fertile, there is no reason to doubt that seeds accidentally hybridised may be fertile.

In each of the above cases the number of seedlings resulting is in excess of the number of seeds planted. This introduces an interesting feature into experiments of this nature. It is a well-known fact that most species of citrus fruits produce several embryos, some seeds producing as many as twenty-five; only from one to three of these, however, commonly develop. Crüger, Schacht, Hofmeister, Strasburger, and others have carefully studied this interesting polyembryonic development; and it appears, so far as we yet know, that only one of the embryos in each seed is formed by the act of fecundation, the others being what are termed adventive embryos, developing from the side of the embryo sac. It is thus probable that only the sexually-developed embryo will be influenced by the hybridisation. As two to three embryos frequently develop from a seed, even in cases of hybridisation some of the seedlings, those from adventive embryos, will probably produce true to the parent bearing the fruit.

While seedlings of the sweet Orange produce sweet fruit similar to those produced by the parent, there is yet much variation in the fruit from such seedlings. Commonly it can hardly be distinguished from the parent, but many are of much inferior quality, and occasionally one producing fruit superior to that of the parent tree may be found. This uncertainty in the quality of the fruit is what renders budding or grafting desirable in this industry as in others. There is, however, by no means so great a difference between the fruit of the common seedling and that of the best budded varieties as occurs in certain other fruits, such as the Pear and Apple. If sweet seedlings are to be grown, the seeds should be taken from selected seedling trees, known to produce good fruit, which are isolated from trees of other varieties and species. By such selection one would avoid the probability of obtaining seeds affected by crossing or hybridising with other varieties, and may be quite sure that the trees from such seeds will produce good fruit.

The various improved varieties of the sweet Orange, such as the Hart's Late (Tardive), Jaffa, Majorca, Ruby, &c., cannot be depended upon to reproduce true through the seed. The policy of budding the trees to selected varieties cannot be too strongly recommended.

#### BITTER OR SOUR ORANGE (*CITRUS BIGARADIA*).

Whether the bitter or sour Orange be classed specifically with the sweet Orange, or is considered as a distinct species, the fact remains that the varieties in cultivation are totally distinct in foliage, fruit, and character of branching, from the sweet Orange, and that both are reproduced true through the seed. The seed of sour Oranges invariably produce sour fruit of the same general character. It is true the fruit of seedlings vary slightly in shape, size, taste, thickness of rind, &c., as in the case of sweet Oranges, but they are nevertheless distinctly sour Oranges. Gallezio

\* Bull. Bot. Department of Jamaica, No. 4, Nov., 1887.

† Bull. Bot. Department of Jamaica, No. 42, April, 1893.

‡ Fruit Culture in Foreign Countries. Special Consular Reports, Washington, 1890.

\* Stubbs and Morgan, *The Orange and Other Citrus Fruits, from Seed to Market*. Special Bulletin, Louisiana State Experiment Station, 1883, p. 12.

says, "The sour Orange produces many seeds which always reproduce sour Oranges."

The sour Orange was introduced into Florida very early, probably by the Spanish, and escaping from cultivation, spread over the central and southern portions of the State. When comparatively recently—about 1870—interest was awakened here in the Orange industry, extensive wild sour Orange groves were found in many places. One of these, at Citra, Florida, contained some 500 acres. These wild groves

have mostly been cut off and budded, so that now but few of the original trees can be found. I have examined a number of these old original trees, and have always found them to produce comparatively the same fruit. The fruit from these old wild trees, furthermore, does not noticeably differ, so far as I have been able to determine, from the fruit of numerous cultivated sour Orange seedlings, one or two of which are found in almost every grove in the State. As these seedlings scattered through the

groves of the State are unquestionably descendants from seeds of the wild sour Oranges found here, the identity of the fruit is significant in this connection. I have made some enquiry of pioneer Orange growers who cut off and budded many of the wild sour Orange trees, and have been unable to learn of any marked difference having been observed in the character of the fruit on different wild trees. Orange growers here invariably feel sure of obtaining sour Oranges when sour Orange-seed is planted. *Herbert J. Webber, Special Agent, United States Department of Agriculture, Subtropical Laboratory, Eustis, Florida.*

(To be continued.)

A WAY OF SHOWING ORCHIDS.

In the delightful west country there are several places where the tree Ferns of the southern hemisphere may be seen growing out of doors in all their native magnificence, notably at Mr. A. P. Vivian's beautiful place on the Helford river in Cornwall, and also at the gardens of Tresco Abbey in Scilly, where the spring flowers are exported by the ton, and you may see the scarlet *Metrosideros* of the size of a good forest tree, and the rocks smothered with *Mesembryanthemums* and *Pelargoniums*.

A few years ago we put out about a dozen *Dicksonia antarctica* in an old Oak wood here, which is situated in a sheltered valley, and where I thought they might succeed, but the terrible winter of 1894 was too much for them, and in the spring of 1895 they were all dead. I thought the stems might be utilised in the hothouses for showing Orchids, Ferns, and stove plants; so last autumn we planted thirteen of them with Sander's new hybrid *Begonias*, different *Adiantums*, and stove creepers, and all the Orchids the gardener would let me have.

The result has quite come up to my anticipations, the Ferns and *Begonias* grow like weeds in the soft substance of the Tree Fern stems, which exactly suits their requirements; and as to the Orchids, they have done as well, if not better, than in the ordinary pots and pans and baskets. For instance, *Oncidium Lanceanum*, as Orchidists know, is not a very easy thing to do with—on the Fern-stems they are growing away and making leaves with the greatest vigour. But the chief advantage of this plan is that the things look exactly as if they were growing naturally—a great thing, I venture to think, with Orchids, and when these flower, the effect, with the rich background of *Begonia* leaves, out of which the Orchid flowers seem to spring, is exceedingly good.

To those Orchid growers whose space falls somewhat short of their wishes (rather a numerous body, I imagine), I venture to submit this idea as effecting a great saving of space. It is evident that if you can grow twenty or thirty plants on the space occupied by only one pot it is an advantage not to be despised by the owner of a small house. The Tree Fern stems are fitted tightly into pots as the easiest way to make them stand by themselves, or tied with one strand of strong copper wire at the top and the bottom of the iron pillars of the Orchid-house. It is much prettier to see these masses of foliage and bright flowers than the usual naked iron pillar.

The only cultural hint I have to offer is to water from the top with a rose; the water runs down the stem and reaches every root upon it without touching the leaves and flowers.

If any of your readers should think of trying this plan, I append a list of things I have found to do well on *Dicksonia* stems in the Cattleya-house here; but, of course, the idea is equally applicable to the cool Orchid-house or the conservatory. About 2 feet of the bottom of some of the *Dicksonia* stems is covered by a dense carpet of young Ferns, the result, I presume, of seed ripened by the Australian sun.

ORCHIDS.

*Cattleya citrina*, *C. marginata*, *C. Trianae*, *Cesogyne cristata*, *C. flaccida*, *C. ochracea*, *Dendrobium amonum*, *D. Farmeri*, *D. chrysotoxum*, *D. draconis*, *Laelia anceps*, *L. acuminata*, *L. autumnalis*, *L. Digbyana*, *Lycaste Skinneri*, *Maxillaria grandiflora*, *M. picta*, *Miltonia cuneata*, *M. spectabilis*, *Odontoglossum Cervantesii*, *O. citrosimum*, *O. maculatum*, *O. Rossi*



FIG. 136.—LORD ANNESLEY'S METHOD OF SHOWING ORCHIDS.

majus, *Oncidium Cavendishianum*, *O. Lanceanum*, *O. tigrinum*.

#### HYBRID BEGONIAS FROM SANDER.

*B. smaragdina*, *B. Erin*, *B. Countess of Annesley*, *B. Gloire de Vesinet*, *B. Mrs. Barron*, *B. Malaine Patti*, *B. Tresco Abbey*, *B. Winter Queen*, *B. spiciosa*, *B. Winter Marvel*, *B. Sander's Masterpiece*, and *B. Rajah*.

#### FERNS.

*Adiantum cuneatum*, *A. Legrandi*, *A. Lathomi*, *A. gracillimum*, *A. muudalum*, *Gymnogramma chrysophylla*, *G. Lancheanum*, *Pteris serrulata*, *P. cretica albo variegata*. The photograph shows a single stem, but for the pillars in the centre of the house it is a very good plan to put two stems of the *Dicksonia* back to back; when the plants upon them have grown, the iron pillar is quite covered. A.

## ORCHID NOTES AND GLEANINGS.

### ZYGOPETALUM WENDLANDI, &c.

This very distinct plant from Costa Rica, lately included under the now sunk genus of *Warszewiczella*, has a rich violet lip; and sepals, petals and column of dull white. The distichous leaves broaden towards the apex, and pseudo-bulbs are absent. A plant of this species is growing on a piece of teak in the gardens of the Royal Botanical Society, Edinburgh. Another species of *Zygopetalum* now in flower is *Z. Jorisanum*, a native of Venezuela, and introduced by M. Bungeoth. The pseudo-bulbs are about 3 inches in length, and bear two light green leaves. The inflorescence is erect, and the flower has a finely fringed lip of creamy-white running into yellow at the side-lobes, just under the crest, which is purple. *Waru* Cattleya-house treatment snits both of the *Zygopetalums*. *R. L. H.*

## COLONIAL NOTES.

### GRENADA BOTANIC GARDEN.

The annual report (for 1895) of the Botanic Garden, Grenada, has recently been published by Mr. W. E. Broadway, the Curator. In addition to the usual record of work done during the season, a protest is uttered against the rapidity with which Grenada is being denuded of its forest trees. It is hoped that, official and other influence being brought to bear upon the subject, conservancy measures may be made on a large and systematic scale, and that speedily.

## FLORISTS' FLOWERS.

### CARNATIONS AT GREAT BOOKHAM.

LOVERS of these beautiful flowers in the southern counties will find in a week or two a very fine and most interesting show of plants in large pots, and also planted out-of-doors, at Mr. J. Douglas's nursery, Edenwell, Bookham. The plants not only show bloom-buds in profusion, but they are very robust and clean. There is no evidence of either maggot or fungus at the present time, and probably there will be no trouble in that direction. Although interested with the sending out of Mr. Martin Smith's large-flowered varieties, which, by-the-by, everybody does not admire, it is noteworthy that Mr. Douglas has already secured some beautiful seedlings of the true Carnation type—notably a lovely rosy-carmine self, and a pleasing self of rich ruby colour. That there will be other fine things found in the large batch of seedlings presently, there can be no doubt. Some day, it is hoped, split podders will be absolutely condemned as unworthy of culture by Carnation florists. *A. D.*

**FLORENCE.**—An international horticultural exhibition will be held at Florence in May, 1897, under the auspices of the Royal Tuscan Horticultural Society.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Drogheda, Maidenhead.*

**RUNNER-BEANS.**—The latest sowings of these Beans should now be made, and if a choice of position be possible, that which is the most sheltered by trees or buildings from the early morning sun, should be preferred, as affording some amount of protection from early frosts. If the present dry weather continues, it will be necessary to afford water to the drills before the seeds are sown, and the seeds may also be soaked in water for a few hours before they are sown, with a view of assisting their speedy germination. After the seeds are covered with earth, make it firm about the seeds by lightly treading it. Early sowings should now be staked, or as soon as the bine begins to "run," placing one strong stake to each Bean plant, making sure that it is strong enough to last the season and carry the weight of the tops. If some of the old stakes must be used, there should be a sufficient number of new ones mixed with them, to form a secure row, and in any case the stakes should be laced together with tarred string. A good mulch will be required by all runner Beans, and where they are cultivated on the pinching-back plan, and without support, the points should be nipped out of the stems when these are from 1 to 1½ foot in height. Unstaked Beans should be mulched between the rows with litter, so that the pods may not be splashed by rain.

**DWARF FRENCH BEANS.**—In many gardens a continuous supply of these Beans is required, and at this date another sowing will have to be made, the seed-drills and seeds being similarly treated to Scarlet Runner Beans. The variety *Ne Plus Ultra* is one of the best French Beans, being of a more desirable size than the larger Canadian Wonder. Afford a mulch to the earliest-sown Beans now coming into flower, and water the plants copiously if the dry weather should continue, otherwise the flowers will drop off without setting. French Beans growing in cold pits should now have the lights entirely removed. With us these plants are still podding freely, but they have required a large supply of water to keep them growing.

**PARSLEY.**—Much of last season's Parsley has run to flower, and unless it is required for seedling, the worst of the plants should be cleared off the land. Spring-sown Parsley has not done well generally, owing to the drought; but if the plants are crowded, thinning to about 4 to 6 inches from plant to plant should be attended to, the surplus seedlings being pricked out in small beds that can be covered in the winter with frames. The plants should be shaded from hot sun till they are established. If the drought continue, good Parsley will probably be rather scarce, and it will be prudent to afford water, and to mulch the plants with leaf-mould. Another sowing may now be made in well-moistened drills for late supply.

**ONIONS.**—The rain which fell for a few hours on the 10th inst. gave a great impetus to the growth of Onions, and the transplanted bulbs have taken a decided lead of those sown in the usual manner. If very large bulbs are desired, a mulch of finely broken-up rotten manure should be put on the beds, and the plants well supplied with water during dry weather, weak liquid-manure being afforded at intervals of a week or ten days, or a sprinkling of soot or nitrate of soda may be applied instead, washing them in with clear water.

**CELERY.**—By the time that these lines appear in print, the plants for the main-crop will be ready for transferring to the trenches from the beds in which they were pricked-out. It is a mistake to wait till the plants get crowded and compactly-rooted, as the check is much less, and less attention in watering and sprinkling to get them re-established is required. The bed a few hours before transplantation is commenced should, if dry, be well moistened; also the soil in the trenches if dry, should be watered the previous day, and made firm as soon as the surface is slightly dry. Let the plants be lifted with a ball or cube of roots and soil, remove small leaves or suckers from the base, and plant them with a trowel, doing this late in the afternoon if the weather be sunny, affording sufficient water at last to settle the soil. The tops should be sprinkled daily until it is seen that the plants have taken hold of the soil. Plants from the latest sowings should be pricked out a few inches apart, and shaded when necessary. They will produce small heads useful in the late spring.

**ASPARAGUS** sown early in April should now be thinned to about 4 inches apart. It may be transplanted next spring. The cutting of Asparagus should now cease, the beds be kept free from weeds, and if the soil is light, it should be slightly sprinkled with salt in showery weather.

**SEAKALE** should be looked over for the last time, and duplicate crowns removed. Keep the soil well stirred between this and other crops. Jerusalem Artichokes, although not requiring high moulding like Potatoes, are the better for having a little earth drawn up towards the stems. Any thinning of Carrots, Beetroot, &c., remaining to be done should now be finished off as soon as possible.

### PLANTS UNDER GLASS.

By Jno. McLEAVE, *Gardener, Woodslee, Darlington.*

**GARDENIA RADICANS, FLORIBUNDA, ETC.**—Cuttings struck in the spring, which have filled their pots with roots, stand in need of re-potting into 5 inch pots, in which, if well managed, they should make good plants, producing a good quantity of flowers of fair size next spring. In potting, two thirds loam of a rather strong nature should be employed, using with it plenty of the fibre, one-third part peat, and plenty of silver-sand and charcoal broken small. Place the plants in their growing quarters for the summer, and for this purpose pits or frames facing south are excellent both for growing and flowering Gardenias. Shade should be afforded the plants on sunny days till established, when no more shade will be required. As the pots fill with roots, water must be copiously afforded when needed, and the syringe used vigorously on hot days. Thrips and red-spider injure the plants if means are not taken to rid them of these pests, disfiguring the foliage, and affecting the flowering of the plants. The most efficient means of destruction is to dip the plants in strong soap-suds made with water, soft-soap, and flowers-of-sulphur, and having a warmth of 90°. If black-fly only be present on them, the sulphur need not be used. Dip for two or three nights in succession. Old plants which, having been pruned after flowering was past, have made considerable growth, may be shaken out of the soil and re-potted forthwith, reducing the balls so that they will go into a pot one size smaller than those they came out of, shifting when again established in the new soil. I do not keep my *Gardenia* plants longer than two years, the best results being obtained from young plants.

**POINSETTIAS.**—The entire stock of plants required having now been struck from cuttings, and well established in the cutting-pots, preparations should be made for separating and potting them, using as a soil loam of good quality three-quarters, dried cow-manure one-quarter, rubbed through a quarter-inch sieve, with a small quantity of sand. My usual method is to put the rooted cuttings into their flowering-pots, say, of 5 or 6 inches diameter, thoroughly clean, moderately crooked pots, with some finely-broken charcoal placed above the crocks, potting with a moderate degree of firmness. Much care is required in applying water to these newly-potted plants; and, in fact, little or no water will usually be found necessary before the roots have pushed into the soil. Afford them a humid atmosphere, and dew them overhead night and morning, which will be sufficient for some time after being given so large a shift. To grow them well, a low span-roofed structure is the best; and if ventilation can be afforded at the top, it is all that is required in hot weather, that is, if draughts of cold air be avoided. If a good many plants are grown, the tops of one-half as soon as they show bracts may be taken off and struck, to furnish dwarf stuff for house-furnishing during the winter.

### FRUITS UNDER GLASS.

By W. PORE, *Gardener, Highlere Castle, Newbury.*

**VINERIES.**—In vineries in which the Grapes are beginning to ripen, the floors, &c., should be damped down occasionally, but a close condition must be guarded against by applying a certain amount of artificial heat in dull weather, so as to ensure a circulation of air in the house. Varieties like *Chasselas Masqué*, *Madresfield Court*, *Golden Champion*, &c., which are tender-skinned, should be afforded a considerable quantity of ventilation if splitting of the berries be noticed. If splitting does not then cease, bore a hole with a small gimlet through the lateral just below the bunch, which will check the flow of sap to the berries; aided by free ventilation it is a sure preventative. Inside and outside borders should be examined, and if found to be getting dry a heavy application of diluted farmyard manure should follow,

mulching the border afterwards with dry short litter. As soon as the fruit begins to colour, admit more air, and continue the use of fire-heat. The night temperature should be 65° to 70°, and 80° to 85° by day. Muscat-vines should have a night temperature of 70° to 75°, with a corresponding increase in the day-time.

**GRAPES SWELLING.**—Where the berries have finished stoning, the Vines should have a genial warmth afforded them by artificial means when necessary, the paths and borders should be sprinkled morning and afternoon, and the mulchings on inside borders be renewed—or rather fresh, short stable-manure may be added to the old mulch. After afternoon damping, close theinery for an hour or longer, and then put on air at the top, and so leave it for the night. The ventilation should be increased in the morning when the warmth reaches 70°, keeping it at from 80° to 85° throughout the day. The laterals at this stage may be allowed to grow freely, but there should be no crowding, or the best leaves will be deprived of light and air.

**GRAPES STONING.**—During the period of stoning close attention should be given, so as to guard against the scalding of the berries; a rather higher night temperature should be allowed, and ventilation afforded early in the day, and more freely as sun-heat increases, and theinery closed late in the afternoon. In the case of very bright weather, a slight shade put over the roof for a week or two will be an advantage. Care must be taken in thinning Lady Downes and other late Grapes, to thin the bunches several times, having due regard to the size the berries of the varieties may be expected to attain at last.

**POT VINES.**—When the plants have completed their growth more air will be required in the house, less moisture should be afforded the soil, and syringing discontinued. Let the principal leaves be fully exposed to light. When properly matured and hardened, stand the Vines out-of-doors in a sunny situation.

### THE ORCHID HOUSES.

By W. H. WURR, *Orchid Grower, Burford, Dorking.*

**CECLOGYNE SANDERIANA.**—In the Cattleya-house the plants of this rare species are showing new breaks, and at such time water should be plentifully afforded at the roots. It should be stated that nothing now will induce the plant to flower unless it has been rested in a proper manner. The plant needs to be well exposed to the light, but shaded from direct sunshine; and re-potting should be performed as soon as the flowers fade. As regards any of the plants of this species which have not flowered, they should be supplied with fresh potting material as soon as the young roots make an appearance.

**PLEIONES** (the so-called Indian Crocuses) will now be in full growth, and if the plants are strong, and have much vigour, they should be abundantly watered at the root, and at alternate waterings have weak liquid-manure, made from cow-dung; and this kind of treatment should be followed till the foliage shows the colours of maturity, when the latter must be discontinued—and when the leaves begin to fall off, water should be gradually withheld.

**CATLEYA WALKERIANA.**—This plant will now be making roots freely from those rhizomes which have flowered, and, if re-potting is thought to be needed, this should be performed without delay. Like some other Cattleyas of dwarf growth, plenty of sunlight should be afforded it, and, for this reason, its cultivation in baskets or shallow pans hung up close to the roof is to be preferred to pot-culture. Even when in full growth the compost should not be kept in a moist state always, but it should receive thorough applications of water at rather long intervals of time.

**OTHER CATTLEYS.**—The following may be repotted, viz.: C. Mossiae, C. Mendeli, C. Schroderae, C. Skinneri, C. Warneri, C. amethystoglossa, C. intermedia, C. Harrisonae, C. Schofieldiana, Lelia tenebrosa, and L. Perrinii. These are plants which cannot endure to be disturbed for repotting purposes oftener than is absolutely necessary—that is to say, only those that require more space for the proper development of growth, or plants which may have become unhealthy. In such case the plants should be turned out of their pots, cleaned well in every part, and repotted in pots of as small a size as their roots will go into. As regards established plants which may need more space, the roots should never be disturbed unnecessarily, but those which are attached to the pot should be loosened with a thin-bladed knife, and the pot broken, commencing to do this

at the rim, and as much of it should be taken away as may be possible without disturbing the drainage; then pick out from among the roots every bit of decayed compost, place the plant in a clean pot of a size sufficient to afford space for two seasons' growth, keeping the rhizome of the plants a little above the rim of the pot. Now fill in around the roots with clean crocks, and afford a very thin layer of compost into which the plant may root, which should consist of equal proportions of fibrous peat and sphagnum-moss, amongst which crocks of good thickness should be freely used. The whole should be placed together with firmness, and some stakes should be inserted in it to hold the plants securely in their places. The disturbed plants should be stood in a shady part of the house, where the surroundings are fairly moist, and be afforded water sparingly till new roots push and growth becomes active, when more water may safely be applied. Woodlice do much mischief to the young roots and points of the roots of Cattleya plants, and means must constantly be taken to catch them. Lelia purpurata, L. grandis, Lelia-Cattleya eximia, L.-C. Arnoldiana, L.-C. Canhamiana, and others whose flowering has recently finished, should be placed in a cool, airy part of the house, to remain there till growth begins anew, affording a very small quantity of moisture at the root, in fact only just sufficient to keep the latter alive and the pseudo-bulbs from shrivelling.

### THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

**OPERATIONS IN GENERAL.**—By this date bedding-out of all kinds should be brought to a close, and in case sufficient rain does not fall to moisten the soil to the depth of a foot, artificial watering must be resorted to. Where the plants in the beds are beginning to make growth, the surface of the soil should be stirred with a small draw-hoe or a three-tined short-handled fork, or if the plants are very close together, a short sharp-pointed stick may be used instead. If the land is of a light kind, the beds may be mulched with cocoa-nut fibre. Make good all blanks in the earlier-planted beds, and remove decaying leaves and flower-stems. Such plants as Pansies, Violas, and Calceolarias soon cease to flower if seed be allowed to form; the decaying flowers should therefore be removed. The shoots of plants used for the groundwork of beds should be pegged down pretty closely, but not so much as to give a formal appearance to them. Box edgings may still be clipped, and branches of flowering shrubs or evergreens that are encroaching on the walks removed, as there is still time for new growth to hide the mutilated parts. Mowing and weeding will now occupy much labour, but they are very necessary jobs if the lawn, walks, and borders are to present a good appearance. Sowings may yet be made of seeds of Wallflower, Brompton Stocks, Sweet Williams, Aquilegias, Delphiniums, &c. If the sowings are made on a border, first afford the ground a dressing of soot, so as to deter slugs from molesting the seedlings.

**DAHLIAS** soon make rapid growth when planted out, but if little or no rain has fallen they will soon suffer from lack of moisture in dry soil, in a season like the present, and should be heavily watered. Place flower-pots containing a little dry moss or hay, on the top of the stakes, and lengths of Bean-stalks about the plants as traps for earwigs; and it is well to do this early in the season, as the insects may then be destroyed before much damage is done.

**ROSES.**—As yet the blooms are not up to average quality, although it is somewhat early to form any decided opinion as to the prospects of the season. Newly-planted Roses should not lack moisture at the roots, nor a mulching of the roots. The diluted drainings from the stables and cowsheds may be afforded established plants, but for the present plain water will be the best for newly-planted specimens. Use the proper means to kill aphids and prevent the growth of mildew on Roses, and look out for the Rose-beetle and leaf-roller, both of which do much harm when unmolested. Tea varieties seem to be the more thriving Roses.

**HERBACEOUS BORDERS.**—Old borders will be fast getting into a crowded state, and frequent attention will be necessary in the matter of tying-up stems and removing here and there those that are encroaching upon their weak neighbours, neglect to do this often resulting in the death of the latter. Perennial Gaillardias are among the most valuable of hardy plants for affording flowers for cutting, and they are easily raised. Seedlings do better as a rule than cutting-raised plants, and produce larger flowers.

Plants raised from seed sown in March or April which have been grown in pots are ready for being planted-out. They should not stand in the beds closer together than 1½ foot each, otherwise the stems become drawn, and the blooms small.

**EARLY-FLOWERING CHRYSANTHEMUMS.**—The varieties Madame Desgranges, Strathmeeth, Précocité, and some others present prominent flower-buds, especially those growing in flower-pots. These buds, if allowed to develop, will produce an early supply of bloom; but if this is undesirable, take out the points of each growth, and give a good watering with a stimulant.

### THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Barton-on-Trent.*

**APRICOT, PEACH, AND NECTARINE** trees should be given frequent attention in the matter of training and nailing-in the shoots left for the extension of the tree. Young wood in the body of the trees may be secured by twigs cut from the suckers of Syringa or Privet. This is a better practice than nailing them in, and is more quickly done. The foliage having now become more fully developed, it will be easier determined how many young growths it is necessary to leave. It must be borne in mind that only by allowing every leaf sufficient space for development can we hope for perfectly-ripened wood on open walls, even in the best of seasons.

**PEARS, APPLES, AND PLUMS** grown as pyramid or bush trees, require to have all the side-growths pruned back to five or six leaves, unless any shoots are necessary for forming new branches; in which case the shoots should be treated as leading growths, and stopped when about 12 inches long. Study to keep the centre of the trees sufficiently open to allow of the free access of light and air. Espaliers and cordons may be treated similarly, except that the leading shoots must not be shortened until the trees have filled the required space, they may then be treated like side-growths. Older trees are prone to produce numerous young growths from the old spurs, and where this is the case, many of them should be removed entirely, saving only sufficient for forming fresh spurs. Any of the old spurs which are not fruiting, and which may have become unsightly, should be cut back in order to give the young growths at the base the exposure required for their development into fruiting spurs. Thin out the fruits, if necessary, by removing the smallest and any that have been attacked by caterpillars, taking away at the same time any dead petals that may have remained among the fruits.

**MISCELLANEOUS WORK.**—Employ all means possible for the destruction of insect-pests. Forceful syringings with the hose-pipe or garden-engine will tend to keep the trees clean, but an insecticide may be required occasionally, and it should be used betimes to prevent aphids and other pests from becoming established on the shoots. Continue the protection of Cherries and Strawberries from birds. In the case of Cherries on walls, the nets must be kept away from the fruit by laths placed against the top of the wall, and standing 2 or 3 feet out at the base. Wood or iron borders of sufficient length to span three or four rows of plants are most convenient for supporting the nets required for the Strawberry-beds.

**WHENCE CAME THE CULTIVATED STRAWBERRY?**—Prof. BAILEY, in the *American Naturalist*, 1894, answers this question in the following terms: Garden Strawberries are a direct modification of the Chile Strawberry. The initial variation occurred when species were thought to be more or less immutable, and lacking exact historical evidence of introduction from a foreign country; hybridisation was the most natural explanation of the appearance of the strange type. This modified type has driven from cultivation the Virginian berries which were earlier introduced into gardens, and the original type of the Chilean Strawberry is little known, as it tends to quickly disappear through variation when impressed into cultivation. The Strawberry is an instance of the evolution of a type of plant in less than fifty years, which is so distinct from all others, that three species have been erected upon it, which was uniformly kept distinct from other species by the botanists who had occasion to know it best, and which appears to have been rarely specifically associated with the species from which it sprung.



## EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

## APPOINTMENTS FOR JULY.

TUESDAY,	JUNE 30.	Maidstone Rose and Horticultural Show. Sutton Rose and Horticultural Show.
WEDNESDAY,	JULY 1.	Ancient Society of York Florists' Show. Croydon Rose and Horticultural Show. Farningham Rose and Horticultural Show. Ealing Horticultural Show. Ipswich Horticultural. Royal Botanic Society (Evening Fête).
THURSDAY,	JULY 2.	Bath Rose and Begonia Show. Rose and Horticultural Shows at Gloucester, Norwich, Eltham, and Dublin.
SATURDAY,	JULY 4.	National Society's Rose Show, at Crystal Palace. Isle of Wight Horticultural Assoc. Meeting. Société Franc d'Hort Meet.
SUNDAY,	JULY 5.	Royal Horticultural and Agricultural of Ghent.
TUESDAY,	JULY 7.	Wolverhampton Floral Fête (three days)
WEDNESDAY,	JULY 8.	Newcastle-on-Tyne Summer Show (three days). Rose and Horticultural Shows at Hitchin, Lee, Redhill, Canterbury, and Tunbridge Wells. Royal Botanic Society Promenade.
THURSDAY,	JULY 9.	Workshop Rose and Horticultural. Helensburgh Rose and Canterbury Hospital Fête and Flower Show. Rose Shows at Woodbridge and Aylesbury.
SATURDAY,	JULY 11.	Royal Botanic Society Meeting.
TUESDAY,	JULY 14.	Royal Horticultural Society Committees (Roses).
WEDNESDAY,	JULY 15.	National Rose Exhibition at Ulverston. Geneva Exhibition (temporary show six days). Royal Botanic Society Promenade.
THURSDAY,	JULY 16.	Rose and Horticultural Shows, at Halifax, Selby, and Finchley. Jersey Summer Show.
SATURDAY,	JULY 18.	New Brighton Rose Show.
TUESDAY,	JULY 21.	Tilshelf Rose and Horticultural.
WEDNESDAY,	JULY 22.	Royal Botanic Society Promenade. Beckenham Horticultural Show.
SATURDAY,	JULY 25.	Royal Botanic Society Meeting. Rose Show at the Botanical Gardens, Manchester.
TUESDAY,	JULY 28.	Royal Horticultural Society Committees.
WEDNESDAY,	JULY 29.	Birmingham Horticultural and Rose (two days). Royal Botanic Society Promenade.
THURSDAY,	JULY 30.	Trentham and Hanford Horticultural and Rose Shows, Bishops-coteigton and District Horticultural Show.

## SALE FOR THE ENSUING WEEK.

FRIDAY, JULY 3. Imported and Established Orchids, at Frotheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—62.7.

The Royal Gardeners' Orphan Fund  
As we went to press last week the dinner of this excellent society was held at the Métropole, under the chairmanship of His Grace the Duke of BEDFORD. The Duke is known to follow the traditions of his liking for horticulture and agriculture in the interest

he takes in allotments and in technical education. This is shown by the two experimental stations he has founded, one for agricultural purposes, the other for fruit culture. Moreover, his connection with Covent Garden rendered him a specially fitting President. It is no wonder, then, that his Grace received a warm welcome from his tenants who assembled to do him honour, and from the large body of horticulturists present. The claims of the fund are so generally recognised, and its usefulness so well appreciated, that no long speeches were necessary to enforce them. His Grace was brief and to the point; other speakers included Mr. MARSHALL, the zealous chairman of the committee, always ready to do a good turn where it is required; Mr. POUPART, who spoke as the exponent of the market growers and of the Covent Garden interest. Mr. SKEWES COX, M.P., made a humorous speech *à propos* of gardening and gardeners; and Dr. MASTERS, in proposing a cordial vote of thanks to the President for his presence that evening, spoke of the many services rendered to Horticulture alike by former Dukes, and by the present representative of that noble house—services, the general nature of which was referred to in our columns last week. Sir EDWARD MALET, lately British Ambassador at Berlin, responded for the visitors. The tables were profusely and elegantly decorated with flowers sent by eminent horticulturists, and arranged by Miss HUDSON, and after the dinner they were sent to the Children's Hospital in Great Ormond Street. In spite of the absence at York of several prominent members of the Society, the meeting passed off very successfully, and reflected credit on the committee and Secretary. The amount collected was over £865.

THE ROYAL HORTICULTURAL SOCIETY AND THE PROVINCIAL SOCIETIES.—The York Gala last week was the occasion of an interesting experiment, the results of which we shall watch with great interest. We have always strenuously advocated the closer union and conjoint action of the metropolitan and the provincial societies, feeling assured that such co-operation would be for the benefit of horticulture in general, and for the mutual advantage of the societies. The provincial shows which were held in past years by the Royal Horticultural Society were not financially so successful as to justify the Society in renewing them in spite of their great success from a horticultural point of view. The present experiment was of a more modest character. The Society was invited by the York authorities to send down a deputation, and in response an influential number of representatives of the Council and the various committees accepted the invitation, and were hospitably entertained by the LORD MAYOR OF YORK, and the committee. The deputation, as we mentioned last week, comprised Sir TREVOR LAWRENCE, the President of the Society; Mr. THISELTON-DYER, C.M.G., the Director of the Royal Gardens, Kew; Rev. Mr. WILKS, Secretary, and several members of the Council, to whom must be tendered the hearty thanks of the Fellows of the Society. The details of the show were recorded in our last issue. The deputation, we learn, was greatly pleased at the cordial reception they met with, and were struck with the fine specimen plants (now rare in London exhibitions), with the Pelargoniums, and other exhibits. Independently of the judges who made their awards in the competition classes in the usual way, the

deputation selected for special honour such exhibits and groups, competitive or otherwise, which they deemed worthy of recognition. Flower shows are very tangible things, but we doubt not, if this experiment succeeds, the influence of the Society in promoting horticulture in other not less important ways will make itself felt.

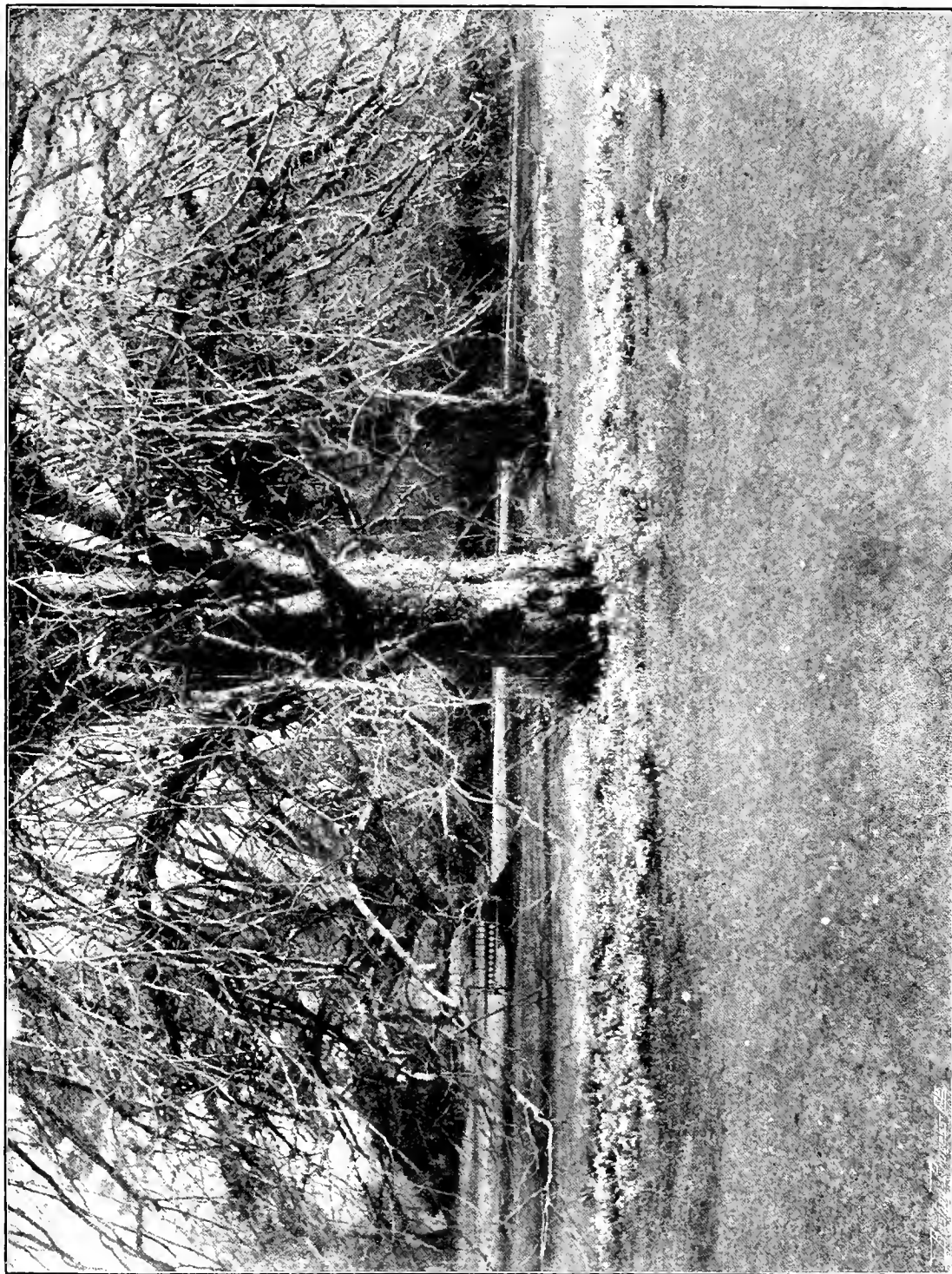
BRUCE FINDLAY.—It is with sincere regret that we announce the death of Mr. BRUCE FINDLAY, Curator of the Manchester Royal Botanical Gardens, which took place at his residence in the gardens at Old Trafford on Tuesday, June 16, at the age of sixty-one years. The sad event was not unexpected, for Mr. FINDLAY has had but indifferent health for some time past, and since the death of his wife in 1895 he seems to have gradually broken down; the change in his health, which was not very marked at first, having been so rapid of late, that those of his intimate friends who caught a glimpse of him at the last great Whit-week show at Manchester could see but too plainly that the end was at hand.

Of BRUCE FINDLAY it may be said that he was one of the cleverest and most persevering men connected with horticulture in our times—clear-headed and irrepresible in matters which he wished to push forward, and certain to gain the confidence and support of those whom he wished to aid him, by reason of the earnest, yet quiet, manner he had of putting the matter he had in hand before them. Few men connected with gardening had a wider circle of friends than he, as he had the respect of all, both rich and poor alike.

His death has brought many letters touching on his good qualities, one of which, from JOSEPH BROOME, Esq., of Llandudno, one of Manchester's oldest and best gardeners, so well sets forth the general feeling towards the late BRUCE FINDLAY that we are glad to give an extract. Mr. BROOME says, "Our dear friend, BRUCE FINDLAY, is gone at last. He was interred at the Stretford Cemetery on Friday, a large concourse attending the funeral, including many gardeners and those interested in and connected with horticulture, both private and professional. I saw him for the last time on Wednesday week, and had an interview with the doctor previously, who explained to me that he could not live long, there being some internal trouble which was irremediable. This shocked me greatly and made me sad indeed. We had worked together with harmony and happily for many years for the good of our society, he as curator and secretary, and I as treasurer and chairman of the Council. During all this time I had opportunities of estimating the true worth of our dear friend. I had a sincere regard for him, and had the pleasure of being instrumental in a great degree in getting the greater part of the £1000 testimonial and the other presents to himself and his wife subscribed."

None had a better opportunity of knowing his good qualities than Mr. BROOME, and though many speak of him in the same strain, none so forcibly suggests the good feeling which existed between the late BRUCE FINDLAY and those with whom he worked, than he in his simple and sympathetic words.

BRUCE FINDLAY was of Scotch extraction, was born at Streatham in Surrey in 1835, and after his school-days were over entered the nurseries of Messrs. ROLLISSON. Leaving there, he passed some time at the Royal Gar-



SNOWDROPS UNDER LIME TREES, AT STRAFFAN HOUSE, CO. KILDARE, IRELAND.



dens, Kew, and afterwards went as foreman at the Botanic Gardens, Hull, where he stayed about two years, when he left to take a similar appointment at the Sheffield Botanic Gardens.

In 1858 he was chosen curator of the Manchester Botanical Gardens, and here he found ample scope for his energies and resources, and soon gained the confidence of the leaders in gardening, which was then commencing to be prosecuted in earnest in Manchester, and which has since developed in such a remarkable manner.

In 1867, at Mr. FINDLAY's suggestion, the annual spring show was changed to Whitsuntide—the great Lancashire holiday, and the prize money was increased from £200 to £1000. This resulted in the transformation of a local show into a national exhibition on a very large scale, and with satisfaction both to the exhibitors and the Society. Then came the great International Exhibition of 1873, which was a fine show in itself, and did much to spread the love of gardening, a consideration which was ever uppermost in the mind of the Curator, and which he had still further opportunities of emphasising when he became Secretary to the Society in 1875. The great Whit-week shows at Manchester were looked forward to by a large number of persons interested in horticulture, and the Curator and Secretary worked hard to keep them up to what he considered the proper standard, and always with success, although the amount of work was occasionally very great, and must have been a great strain. In recognition of his services, a Testimonial Committee was formed, and at the Manchester Town Hall on November 24, 1881, under the presidency of the Mayor, the presentation consisting of an address, a cheque for £1000, and a gold watch and chain, was made, the Mayor extolling the good qualities of the Curator, whose wife was also presented with a gold watch and chain at the same time.

In 1890 he received the Veitch Memorial Medal for distinguished services to horticulture, and in making the presentation, Sir TREVOR LAWRENCE, Bart., said that it would be impossible to hand the Veitch Memorial Medal to a worthier recipient. One thing troubled Mr. FINDLAY very much, and that was that he considered foot-ball and kindred sports with which he had necessarily something to do at Old Trafford were undermining the gentler art of gardening; at all events, he said, the interests of sports and of gardening were, he considered, conflicting.

In BRUCE FINDLAY, Manchester, and horticulture generally, has had a good and pleasant servant, who will not easily be replaced, and his departure from among us we sincerely deplore—a sentiment which will be endorsed by thousands of gardeners and garden-lovers throughout the length and breadth of the land.

FROM Sydney we learn of the retirement from the directorship of the Sydney Botanic Garden of our old correspondent, Mr. CHARLES MOORE. He was the brother of Dr. DAVID MOORE, formerly of Glasnevin, and uncle to the present director of that garden. Mr. CHARLES MOORE is a native of Dundee, Scotland, and was born in 1820. After his education, which was commenced in Dundee and completed in Dublin, he was appointed assistant to his brother, Dr. MOORE, then botanist to the Ordnance Geological Survey of Ireland. He afterwards held positions in the Royal Gardens at Kew, and the Regent's Park Gardens. Prior to his appointment as Director of the Sydney

Botanic Gardens—which was made in 1847 by Earl GREY, then Secretary for the Colonies—he was subjected to an examination in botany by Professor HENSLOW, of Cambridge University, whose flattering credentials on Mr. MOORE's attainments gained him the Sydney appointment. Mr. MOORE was thus the last of the officials who were appointed by the Home Government before the colony became self-governing. When Mr. MOORE came to Sydney, the Gardens were controlled by the Museum authorities. The grounds were in what present-day people would call a very rude state, but Mr. MOORE set to work with a will, and gradually brought them to their present beautiful condition. He reclaimed nearly all of the land that constitutes the lower portion of the Gardens, and laid it out in such an artistic manner as to make it, perhaps, not the least attractive portion of the grounds. He was the means of erecting a lecture-hall on the top part of the grounds, and instituted a series of lectures on botany, which he delivered from time to time, and which were largely attended. He instituted the popular as well as the scientific naming of the plants, tree-growths, and flora, for the benefit of the public, and made the gardens a place of pleasurable and scientific resort second to none. Mr. MOORE is a member of the Linnean Society, a Fellow of the Royal Horticultural Society of London, an Associate of the Royal Botanical Society, London, a Veitch Medallist, and a member of various foreign scientific societies. In 1867 Mr. MOORE went as N.S.W. Commissioner to the Paris Exhibition, and whilst on the Continent he made vigilant inquiries into the disease that was ravaging the Oranges of this colony, as well as those of Portugal and Spain. He afterwards published a valuable and comprehensive report on this subject. In 1874 he attended the Universal Botanical Conference in Florence, and had the honour of being received as the N.S.W. delegate by his Majesty King VICTOR EMANUEL. In 1850 he made a trip of research to the New Hebrides, Queen Charlotte Group, Solomon Islands, and nearly the full circuit of the coast of New Caledonia, bringing back with him a large and varied assortment of plants, most of which were new to culture, and many entirely new to science. He has published a pamphlet on the *Woods of New South Wales*, and a work dealing with the *Census of the Plants of New South Wales*, also subsequently a complete *Flora*, recently noticed in our columns.

**STRAFFAN HOUSE, KILDARE.**—In the issue of the *Gardeners' Chronicle* for May 30, 1896, we had occasion to figure a view of the gardens, and now supplement it with a view showing the manner in which Snowdrops are planted in the grass. Apart from the spreading masses of common single and double kinds, there are in pet nooks and corners the rarer kinds, such as *Galanthus Ikarie*, *G. Elwesii* in variety, *G. Scharlokii*, *G. Cassalia*, *G. Aidin*, and last, but best of all, the great Tchernaya Valley Snowdrop, introduced by a kinsman of the family in 1856 after the Russian war. This is the Straffan Snowdrop (*G. nivalis grandis*) from the battle-field of Tchernaya, where the allied troops were victorious on August 16, about the end of the Russian campaign in the Crimea. The great flowers remind one of those of *G. Imperati* from Naples, but it is far more robust in growth and more free in its blossoming, spreading about like the ordinary Snowdrop, and growing fully 15 inches in height. The great fault of all the new kinds of Snowdrops is their slowness of increase, especially if planted on the grass, whereas the main charm of the ordinary

single and double kinds is their luxuriance and free-spreading character. The point seems to be that the Northern Snowdrops are the ones really best suited to our gardens, those of the south and east being a little too delicate and tender for our rough and cold climate.

**FRUIT CIRCULAR.**—We propose to issue our annual report on the condition of the fruit crops in our number for August 1. Circulars will be sent in the ordinary course. The publisher desires us to request fruit salesmen and others who desire extra copies, to be kind enough to communicate with him at an early date, in order that a sufficient number of copies may be printed. Frequently a demand occurs after publication, when we can no longer comply with the requisitions.

**SPECIAL PRIZES FOR DESSERT APPLES AND PEARS.**—With a view to the formation of a definite list of the best-flavoured varieties of British-grown Apples and Pears for dessert at all seasons, Messrs. JAMES VEITCH & Sons of Chelsea have kindly placed a sum of £30 at the disposal of the Council of the Royal Horticultural Society, who, in conjunction with the donors, have drawn up and sanctioned the following scheme, commencing with the Society's meeting on July 14, 1896, and continuing till the last meeting in June, 1897, the Temple Show meeting only being excepted:—The four following prizes are offered at every Fruit and Floral Meeting of the Society (Temple only excepted) on and after July 14, 1896, until and including the last meeting in June, 1897, for amateurs and gentlemen's gardeners only, subject to the undermentioned rules and conditions.

Class AA. For the best flavoured	1st Prize.	2nd Prize
Apple	10s.	5s.
Class BB. For the best flavoured		
Pear	10s.	5s.

*Rules and Conditions.*

1. Entry for either of these classes must be made at the Fruit and Vegetable Committee Table before 11 A.M. on the morning of the meeting. For the meeting at the Crystal Palace, see special schedule.
2. No exhibitor may enter more than three distinct varieties in each or either class at each meeting.
3. Six fruits (neither more nor fewer) of each variety must be shown, the judges being at liberty to cut any three of them they please.
4. Every exhibitor must guarantee that the fruit he exhibits in these classes has been grown *entirely* out of doors. He should also state on the name-card "wall-tree," "bush," or "standard," together with the aspect—north, east, south or west—the nature of the soil; the county; and, when known certainly, the stock on which the tree is grafted.
5. The judges are requested to allot twelve points to a perfect dish of fruit—perfect in flavour, in quality, in appearance, and in size—distributing the points in the following proportions:—

For flavour	6 points
For quality	3 "
For appearance	2 "
For size	1 "

By "quality" is intended the meltingness and smoothness (absence of grittiness) of the flesh, or (as, for example, in the case of early Apples) its crispness and juiciness.

By "appearance" is intended colour and beauty of outline and shape.

By "size" is intended such as invests the fruit "with the greatest value for table use." "Enormous specimens should not be preferred, as, beyond a certain point, size becomes a defect in dessert fruits. *File* R.H.S. Rules for Judging, &c., 1896 Code.

6. When several exhibits of the same variety are shown by several exhibitors, and the flavour and quality of two or more of them are found to be equal, the judges are directed in such case to award the prizes according to the demands of "appearance" and suitable "size."

7. The 1st and 2nd prizes are not to be awarded to the same variety at the same meeting.

8. An exhibitor having won the 1st prize, may not compete again during the year with the same variety, but the same variety exhibited by different exhibitors may take the 1st prize at any or all the meetings, and similarly with the 2nd prize; nor may an exhibitor who has won a 2nd prize take another 2nd prize with the same variety; but an exhibitor having taken a 2nd prize, may take a 1st prize with the same variety at any subsequent meeting.

9. The prizes will be withheld if the fruits shown are considered wanting in sufficient flavour for dessert, or not fair specimens fit for table.

10. In all other respects the Royal Horticultural Society's General Rules (p. 44 Schedule of Arrangements, 1896), will apply.

**THE CHRYSANTHEMUM.**—We have recently received a copy of the first number of a new French



magazine, to be published every two months, entitled *Revue Générale Internationale; Scientifique, Littéraire et Artistique*. The publisher is PAUL OLLENDORFF, 28 bis, Rue de Richelieu, Paris. The number before us is got up in excellent style, both as regards printing and illustrations, and amongst other articles it contains one on the Chrysanthemum, by M. HENRY L. DE VILMORIN, the well-known French horticulturist. M. DE VILMORIN'S contribution is one of the best magazine articles on the popular flower that has come under our notice, and occupies twenty-eight pages. He deals in an interesting and exhaustive manner with the history, physiology, and cultivation of the flower, and his remarks are illustrated with about a dozen figures of various types of the Chrysanthemum in black and white, the most striking of which are, perhaps, full-paged delineations of Lilian B. Bird, Yellow Dragon, Willm. Falconer, Etoile de Lyon, Boule d'Or, Souvenir de Haarlem, Gloire Rayonnante, &c. While rendering a tribute to the growers of his own country in their efforts to ameliorate the flower in every way, M. DE VILMORIN does ample justice to the claims of the American, Guernsey, and English cultivators. Several illustrations are also given of curious forms of the flower as grown in Japan. These we think are from sketches by the famous popular Japanese artist, HOKUSAI.

**SYDNEY BOTANIC GARDEN.**—Mr. J. H. MAIDEN informs us that he has been appointed Government Botanist to New South Wales, and Director of the Botanic Garden. Mr. MAIDEN is well known for his researches in economic botany, and in the botany of Australia. We may congratulate both him and the Government on this appointment.

**IRIS XIPHIODES (ENGLISH IRIS).**—A box of new varieties of this showy and easily-grown, hardy flower, sent by Messrs. E. H. KRELAKE & SON of Haarlem, Holland, represents it in quite a new light, the excellence of the flowers being beyond that of the old kinds. Indeed so large are they, and so rich in colour are the darker ones with their spreading oval falls, that they forcibly remind us of the beautiful *Iris levigata* (Kämpferi), and seem to suggest a way out of the difficulty which some experience in growing that handsome species, viz., to abandon it and take to these new forms of *I. xiphiodes*, which require little attention and never fail, provided they get a good supply of water until their flowers are over. Some twenty distinct kinds represent all the shades known in the species, and all are good. A selection of the best is Léon Tolstoi, a noble dark Tyrian purple, with yellow feather on the falls; Argentea, with pure white falls, bearing a few purple spots and rose-feathered standards; Tricolor, two shades of blue, with yellow ring on the falls; Mont Blanc, pure white; Almano, white tinged with lilac; Miss Wild, true blue; and Volunteer, rosy-lilac.

**CHESHUNT, WORMLEY AND DISTRICT HORTICULTURAL SOCIETY.**—The usual fortnightly meeting was held in the Coffee Room, Turnford, on Thursday, the 18th inst., Mr. W. HARRISON presiding, and there were fifty members present. Mr. F. S. HUTCHASON gave a paper on "The Life History and Metamorphoses of a Root-gall Nematode." *Tylenchus devastatrix*, or stem eel-worm, was first referred to, and its action in causing Tulip-root and Clover-stem sickness. The life-history of the *Heterodera radicola* was then thoroughly dealt with, the subject being illustrated by a series of drawings made from Mr. HUTCHASON'S own observations. Two of the Gourd-shaped female cysts were mounted under the microscopes, and were closely examined by the members. A discussion, in which Messrs. W. HARRISON, J. GUY, W. DYKE, &c., took part, followed, and the meeting closed with votes of thanks to Mr. HUTCHASON for his paper, and Mr. HARRISON for presiding. Two new members were elected.

**FIRST-CLASS BULBS.**—The Dutch Bulb Society has lately held a *plébiscite* to determine the best Hyacinths, Tulips, &c. Drawings will be made of them for publication. The following are the results of the voting:—

*Six White Hyacinths (single and double).*—La Grandesse, Graadleur à Merveille, Mont Blanc, L'Innocence, Madame van der Hoop, and Baron van Tuyl.

*Six Blue Hyacinths (single and double).*—Graad Maître, King of the Blues, Charles Dickens, Queen of the Blues, Czar Peter, and Regulus.

*Six Rose-coloured Hyacinths (single and double).*—Gigantea, Moreno, Noble par Mérite, Roi des Belges, Lord Macaulay, and Gertrude.

*Three Hyacinths, yellow and orange (single and double).*—Ida, King of the Yellows, and Sonora

*Three Purple Hyacinths (single and double).*—Haydn, Sir Wm. Mansfield, and Adelina Patti.

*Twenty-four Tulips (early single).*—Pottbakker (464 votes), La Précieuse, Keizerskroon, Vermilion Brilliant, Proserpine, Joost van Vondel, Rose Griselin, La Reine, Rosa Mundi, Chrysolera, Yellow Prince, Duchesse de Parma, Thomas Moore, Kanaïenvogel, Wouverman, L'Immaculée, Duc van Thol (scarlet), Ophir d'Or, Zilveren Standaard, Nelly, Rose Luisante, Rembrandt, and Gouden Standaard, with 189 votes.

*Twelve Tulips (double).*—Murillo, Tournesol, Imperator rubrorum, La Candeur, Salvator Rosa, Tournesol (yellow), Rose Blanche (see coloured plate *Revue de l'Horticulture Belge* of June 1), Rex rubrorum, Vurbaak, Mariage de ma fille, Alba maxima, and Raphael. The first with 461, the latter with 198 votes.

**DIOSPYROS VIRGINIANA.**—Some of our correspondents take us to task for stating that this North American species of Persimmon is not hardy in this country, which is certainly true, except in well-drained warm soils and favoured localities; but it rarely ripens its fruit with us. In countries with colder winters and warmer summers than ours, the wood gets well matured every year, enabling it to withstand more cold than is experienced in these islands, and produce fruit abundantly and ripen it. The summers of the last few years will have tended to make the trees in our gardens more fruitful than had been the case for many years previously. D. lotus and D. Kaki, the Date Plum, are species of Persimmon with finer fruit, but they are decidedly tender with us.

## HOME CORRESPONDENCE.

### BRODIAEA CALIFORNICA SYN. AUSTINÆ?—

Towards the end of last year five bulbs were sent to me from two importers of Californian bulbs under the above name, probably both of them having received them from the same collector. They purported to be a new species of *Brodiaea* found by Mrs. Austin, to which her name had been accordingly given. Only one of my five bulbs bloomed, though all of them grew vigorously and well in a pot in a cold house. The bulb which flowered (as if to make up for the remissness of its fellows), produced two flower-stems, the larger of which bore nine flowers in a bunch on its top, the smaller four. The former of these has been drawn, and will shortly appear in the *Botanical Magazine*, with description by Mr. Baker. When first I applied to this learned authority on all bulbous plants, he could give me no information whatever about it, nor even tell me what were its affinities. He has since, however, discovered that the plant is not a new species, as was at first supposed, but that it is identical with *B. californica*, introduced by Mr. Douglas in 1848, and figured in woodcut by the late Dr. Lindley in the fourth volume of the *Proceedings of the Royal Horticultural Society*, p. 84. The specific name of *Austiniæ* must therefore be dropped, except as a synonym. The flower resembles most that of *B. grandiflora*, but is much paler and less beautiful in colour, and of much taller and more robust growth, the flower-stem reaching to 2 feet 4 inches in height, the leaves considerably taller. W. E. Gumbleton.

**ABIES NOBILIS, PINUS MACROCARPA.**—I have in my pleasure-grounds a *Picea nobilis*, about 30 feet high, making vigorous growth. For some few years it has had a few (say half-a-dozen) cones on it each year. This year it had upwards of 100, all on the upper half of the tree, some boughs not more than 3 or 4 feet long having clusters of a dozen or more. Can you tell me in your notices to correspondents,

whether I ought to have them thinned before they get heavy, and weigh down the tree, and perhaps also weaken its constitution; and if so, how many I had better remove, and at what season it should be done? I notice the stem of a good *Pinus macrocarpa*, twenty-five years old, and about a foot in diameter, exhibiting exactly the same appearance as Larch canker, resin exuding plentifully from the defective place, though the tree grows luxuriantly; and in the same wood, a *Picea pinsapo* of the same age (twenty-five years) has a curious bunch of young shoots on one of its boughs, looking just like a bunch of Bananas. E. C. L. [The production of cones at an early age is generally a sign of failing health, but good results follow if a dressing of loam and leaf-mould be worked into the soil over the area occupied by the roots having previously thoroughly soaked the soil with water, and all, or nearly all, the cones be removed, and none is allowed to arrive at maturity for years to come. Ed.]

**DIOSPYROS VIRGINIANA.**—In the "Answers to Correspondents," p. 770, it is said that *Diospyros virginiana* is "too tender a plant for cultivation out of doors in this country." I grew it here for many years, and gave it up as not worth growing; but in a garden near Yatton, Somerset, I have seen it laden with fruit. But, surely, the Derby winner was not named from this plant, but from the very superior Japanese Persimmon (D. Kaki), a tree well worth growing, both for its foliage and fruit, and quite hardy. H. N. Ellacombe, Bitton.

**HARDINESS OF THE PERSIMMON.**—I think you are mistaken in saying in your answer to your correspondent, "W. J. P.," on p. 770 of your last issue, that this fruit tree is not hardy enough for cultivation in the open air in this country. I believe it to be perfectly and absolutely hardy, and able to stand with impunity a far greater degree of cold than anything ever experienced within the bounds of the United Kingdom. My reason for this belief is that by far the finest collection of species and hybrid varieties of Persimmon in Europe is that of a French nurseryman at Greooble, M. Paul de la Mortillière, who has for many years past devoted special attention to the cultivation and improvement of this fruit, and has now a collection of about twenty-five named varieties, most of which are hybrids of his own raising. Now the climate at Greooble is a very severe one, and the winters most bitterly cold, the thermometer frequently falling to 15° below zero, or 47° of frost. No plant that was not absolutely hardy would survive this extreme of cold. The summers, on the other hand, are correspondingly hot, and enable the wood to thoroughly mature and ripen itself. I should therefore think that it is from our summers not being hot enough that the culture of the Persimmon in the open air is not likely to succeed. W. E. Gumbleton.

**THE PHYLLOXERA LAWS.**—We think the following quotation from a letter we received from Italy may be of interest to the trade, and raises a question which we hope you will allow to be aired in your columns:—"The English horticulturists not having made any steps towards the removal of the Phylloxera laws, renders it impossible to import Orchids in any quantities from England into Italy. We get them from France and Belgium without any difficulty." [The question has often been raised in our columns and practically answered in the negative. We suppose the trade knows its own business. Ed.] W. L. Lewis & Co.

**CLEMATIS MONTANA.**—I am sending you a photograph of a plant of *Clematis montana* that I planted on the south side of my cottage in 1891. I purchased the plant of Messrs. Saltmarsh & Son, Chelmsford, and it has flowered freely annually, but this spring it was a perfect picture. There are four large clumps of *Iris acuta* growing in the border, which form a ground-work to the Clematis, and a striking contrast is seen, both flowering at the same time. This free-flowering creeper ought to find a place in every garden. It will grow and flower freely in any situation, and it proves a most valuable plant for covering unsightly objects such as stumps of trees, pillars, as well as verandahs, balconies, &c. As regards pruning, very little more is required than to cut out the dead wood in the spring, and lay in the young, and the most suitable time to do so is from the end of February to the middle of March—as a rule. But it is a bad practice to let the young growths get much entangled, this being the ruin of many a creeper. *C. montana*, as seen in the photograph, is simply trained over a rain water-pipe and tied loosely

here and there, as naturally as possible to wires stretched horizontally below. I may add, that the individual flowers are much improved by giving the plant a thorough soaking of diluted liquid-manure before and after flowering. S. Kerry, Hatfield Priory, Witham. [Very beautiful. Ed.]

DISEASE ON TOMATOS.—I beg to say that the disease on my Tomato plants was not due to heat and moisture combined [favouring the growth of fungi. Ed.], as you noted in last week's Gardeners' Chronicle, because I took the greatest care in keeping the atmosphere as dry as I possibly could. I only watered them once a week, and then it was early in the morning, so that the atmosphere got dry before night; and once I covered the surface with 2 inches of dry mould to prevent evaporation, but still the disease spread rapidly until I shut off the bottom-heat, and kept up a high temperature for two hours for three successive days. Since that was done the disease has ceased to spread, and on every Tomato that was affected the disease dried up, as you will see by the one which I send for your inspection. Some were much more and some less diseased than the one sent, but in every case the disease has completely dried up. I will also mention that I had a few Tomato plants growing in pots, but none of them were affected with the disease, but only those in the beds, and which are kept to one stem, and stand at 12 inches apart in the house. For the past week I have syringed the plants in this house to ascertain if the disease would return by keeping a moist atmosphere, but there is no sign of it, and I have now the healthiest lot of plants I ever saw. I believe the chief cause of disease in Tomatos lies at the roots more than in the air. It may be stable-dung or some other fermenting material on hot-water pipes. A little bottom-heat is of great benefit to the plants, but an excess of it is a cause of disease. [Sometimes, perhaps. Ed.] J. B., Chelmsford.

LITCHES.—Your Belgian correspondent might write to the Queensland Acclimatisation Society, Brisbane, re Litches. Information about all kinds of tropical fruits is obtainable from that association, but I am doubtful, however, if growing stock will be obtainable anywhere. Why not try Colombo for seed? The fruit is fairly abundant there, and it matures in September. C. Bennett, Ivy Cottage, Warblington, Havant.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

JUNE 9.—Present: Dr. M. T. Masters (in the Chair); Mr. McLellan, Dr. Bonavia, Mr. Douglas, Rev. W. Wilks, Dr. Müller, Dr. Russell, Rev. C. W. Dod, Mr. Bennett-Poë, and Rev. G. Henslow (Hon. Sec.).

Experiments in Colouring Flowers.—As a preliminary experiment, Dr. Russell tested the power of the soil to retain the various salts proposed to be used in the case of white Petargoniums. He took two glass tubes, 1 foot in length, and 1/2 inch in diameter, and drawn out at one end. These were filled with soil from a garden, the amount being 8 1/2 cubic inches. He poured in a solution of sulphate of copper (13 grains to the pint, or 1/2 oz. to a gallon). The water which came through was tested; but 4 1/2 pints passed through before any trace appeared, and that only after one month; 56 grains were held by the soil. Similarly with sulphate of iron; 3 1/2 pints of the solution passed through before any iron was present in the water. This took twenty-eight days, so that 47 grains were held by the soil. As an additional experiment, some of the same soil was saturated by shaking it with water; it was then put into a tube similar to the previous ones, and sulphate of copper (13 grains to a pint) poured on as before; 2 1/2 pints passed through before any copper was traceable. This took fifteen days, so that 36 grains were held by the soil. The next experiment was made with ammonium salts. Ammonium nitrate was poured on the soil (13 grains to a pint); 4 ozs. came through before the ammonium salt was found. The soil thus retained 2 1/2 grains. This took only three-quarters of an hour. Ammonium chloride.—With this salt, 5 ozs. passed through before ammonia was detected, therefore the soil held 3 1/2 grains. It ran through in half an hour. The significance of these experiments showed that unless the salts be placed directly in contact with the roots, it might be retained in the soil, and no result would follow.

Prepotency of the Male Parent.—Mr. Douglas brought a very interesting communication on prepotency in crossing Carnations from Mr. Smith of Warren House, Hayes, Kent, of which the following is an abstract:—"One very strong bit of evidence in favour [of the male prepotency] is given by the crosses on 'Germania.' This is a flower of tremendous individuality, and if any flower could transmit its peculiarities to its descendants, it would be this; yet Germania (yellow)

is swamped by the prepotency of the pollen parent in the great majority of cases. I hardly ever get a yellow worth having; but when I do I find them, as a rule, pure reproductions on a most feeble scale of the mother; and I always regard them as products of Germania fertilised by pollen of flowers on the same plant, or from one in the immediate vicinity." Mr. Smith sends a table of crosses in which is Germania (seed parent) x King of Scarlets.—Produce, two yellow-ground Plectes, one yellow self; Germania x Sir B. Seymour; all the produce took after the male parent; G. x a maroon, nearly all the offspring maroons; G. x Mrs. Vernon Harcourt; offspring, five scarlets and one maroon; G. x Ardele gave scarlet, crimson, and rose. "The strongest evidence on the other side is afforded by the produce of Madame A. Warocque x G. I have at one time or another, since 1892, saved nearly ninety plants from this cross, and I never raised a yellow from it; a few buff and apricots, but never a true yellow, by far the largest proportions being scarlets, rose, and crimsons. It seems to me to be easy enough in a cross for other colours to swamp yellow, but quite another thing for yellow to over-ride other colours, unless it exists in both parents. The most it seems able to do is to produce orange and buff." In further illustration of this fact he gives the following cases:—Ruby x G gave two rose (no trace of yellow); Governor (maroon) x G gave one yellow, one buff, two rose, and one crimson; Madame Van Houtte and Ella Murray x G, all the offspring took after the mother. Mr. Smith adds the following interesting fact with "whites":—"When you cross violent contrasts of colour, such as purple and yellow, or scarlet and yellow, you are apt to get a good proportion of whites." He gives as examples:—Coruna (yellow) x Hayes (scarlet); offspring, two whites, one scarlet; Germania (yellow) x purple, gives maroons and whites; G. x N. Murray (scarlet), four out of five were white; Lord Lofton x G. gave four whites, one maroon, three yellow or buff.

Punctures as Skin Irritants.—Mr. Dod observed that besides the well-known case of P. obovata (which, however, has no effect upon himself), he finds P. japonica to be very irritating; and what is more remarkable, the "farina," a secretion of wax on the surface of the plant, produces the same effect, causing blisters on the hand.

Cucurbita Hybrids.—Mr. Bennett-Poë exhibited a plant of C. Pflanzert (♀) x a greenhouse variety of C. orientalis, raised by Mr. Lynch, of the Botanic Gardens, Cambridge, and also a similar cross by himself. The flowers were very different. In the former they were red, whole coloured, the petals long and dependent; in Mr. Poë's they were white, with tips purple, and the buds flatter, more resembling an ordinary garden form.

Cytisus scoparius var. Andreeana.—A question having been raised as to the seed of this variety coming true, Mr. Wilks observed that about one-third came true, but in others the blossom reverted to those of the Broom, but were larger than on the wild Broom. Mr. Henslow exhibited sprays from a seedling which had come true. The plant had been grafted on the common Broom.

Peas Penetrated by Oats.—Mr. Henslow exhibited a specimen—one of many found among Peas—of a Pea which had been hollowed out by a weevil, and then penetrated by an oat. It illustrates, presumably, the remarkable property of penetrating the soil possessed by Oats, fruits of Erodium, &c., which are provided with a spirally-twisted hygroscopic awn. This on becoming moistened twists, and so thrusts the lower end downwards. In this case it happened to penetrate the hollow peas.

Garden Hybrids.—Mr. Henslow described some specimens received from Rev. C. W. Dod, consisting of natural crosses between species of Polemonium, Papaver, and Heuchera. In one case Polemonium flavum x P. ceruleum, the hybrid scarcely differed from the male parent; but in all the others the cross was more decidedly intermediate. The following are a few of the points which showed the proportional intermediate characters. Taking, e.g., P. ceruleum; the hybrid: P. reptans; the length of blades of similar leaves were as 3:4:5. The apex of a leaflet—shortly acute; sub-acuminate; acuminate. Anther elongated, golden yellow; shorter, pale yellow; shortest, white. Size of pollen-grains—2:1.75:1.5, &c. With regard to P. flavum x P. ceruleum, Mr. Dod writes:—"This is the most interesting of the many hybrids of Polemonium which come up in my garden. I have no doubt of the hybrid, because I have carefully saved seed of P. flavum, and the hybrid has shown itself among several sowings. It is interesting because in colour and flower it so nearly follows the pollen parent. The difference in habit is considerable. P. c. has a perpendicular habit of growth, but the hybrid follows P. flavum in being divaricate at the base, the hybrid is absolutely barren, though the parents are both profuse seeders. The hybrid, however, is most prolific in other ways; for any stump of stalk grows readily and luxuriantly." With regard to other characters, the hybrid is more decidedly pubescent than is the stem, &c., of P. c.; but less so than P. fl. The petals of P. c. have a round purple ring at the base of the corolla. In the hybrid this is wanting, as it is also in P. fl., &c. The cross between Heuchera cylindrica, with green flowers, and H. sanguinea, with crimson flowers, is very obvious, the hybrid having rose red flowers. The pollen, unlike that of the parents, was very bad. Though the leaves resembled those of the parents in size, the veining agreed mostly with that of H. sanguinea, the angles between the palm to veins being less acute than is the case in H. c. In the form of the calyx, the hybrid also approximated that of H. s. rather than that of H. c. In Papaver orientale var. bracteatum x P. rupifragum, this hybrid, though decidedly intermediate, approaches P. rupifragum the nearest. Thus while P. or. is bisulcate, P. r. is pubescent. In the cross the hairiness is of an inter-

mediate character. This is well seen in the calyx by the following proportions:—P. or.: Hyb.: P. rupifragum; stiff curved hairs: soft curved hairs: tomentose. The peduncle has corals scattered, as in endogones, in P. orientale; while in the hybrid and in P. rupifragum the peduncle is much smaller, having the corals in a ring. The corolla is scarlet in P. orientale; orange in hybrid and P. rupifragum, &c. Generally speaking, therefore, the hybrid is intermediate, but approximates P. rupifragum. With regard to other hybrid Poppies, Dr. Masters observed that M. Vilmorin had succeeded in crossing P. orientale with P. somniferum, and also with P. Rhæas. Mr. Wilks tried to cross a Shirley with the Iceland Poppy, but the result was identical with the wild P. Rhæas.

The Lek.—Dr. Masters exhibited a curious specimen, in which the leaves were very large, concrescent, and spiral in growth, forming a large sheet.

JUNE 23.—At the usual fortnightly meeting of the committees at the Drill Hill, James Street, Westminster, on Tuesday last, there were decidedly fewer exhibits staged than on the previous occasion. This was owing, no doubt, to the circumstance that the shows now being held in the provinces draw, to a large extent, upon the material for exhibition purposes at the museums. Possibly there were not fewer novelties present, but the exhibits of ordinary miscellaneous plants occupied a smaller space than has been the case lately. There was an excellent display of Sweet Peas, and the competitive classes for hardy flowers brought some very creditable collections, all of them exhibiting capital culture. The finest exhibit of Calochortus from Messrs. WALLACE we remember to have seen in the hall also deserves special mention. Several collections of fruit exhibited good cultivation, but there was nothing new on this occasion deemed of sufficient value to merit an award. A considerable number of awards were made by the Floral Committee, as will be seen below. Orchids occupied much less space than usual, but a number of novelties were before the committee.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. G. H. Engleheart, H. B. May, R. Dean, H. S. Leonard, J. F. McLeod, R. B. Lowe, Chas. E. Pearson, W. Bain, Thos. Peed, Geo. Gordon, J. W. Barr, J. T. Bennett-Poë, H. H. D'Ombraih, H. Herbst, Jas. Walker, and Jno. Jennings.

Mr. A. PERRY, Winchmore Hill, exhibited several interesting hardy flowers, including a fine new Geum called Helbrechii, having single flowers of about an inch and a half across, fiery scarlet (Award of Merit); a semi-double variety of this was also shown. Erigeron glaucus and Agrostemma Walkeri were well shown, several varieties of Lilium Davuricum, and a bunch of Linaria alba, small white blossoms disposed on slender terete stems. Two plants of an ornamental variety of Coleus named Mrs. Dashwood were exhibited by Mrs. DASHWOOD, Crayford (gr., Mr. G. A. Gardner); and Messrs. DOBBIE & Co., Rothesay, had three plants of Oxloxia Aigburth Gem, having velvety crimson flowers, with pale spotted throat.

Messrs. DOBBIE & Co. also exhibited a number of varieties of auricula-eyed SWEET WILLIAMS, and sprays of a new and excellent yellow flowered Antirrhinum, named Yellow Queen.

Tuberous Begonias were but little shown. Messrs. JOHN LIVING & SONS, Forest Hill, London, S.E., exhibited a very handsome plant in a wire basket. The variety was Richard's's Favourite Basket Begonia. It produces large, double, rosy-crimson flowers, and appears to be specially suited to this method of culture. A single flowered variety named Bitterfly, and a double one named Marchioness of Downshire, were shown in pots. The former has a silvery ground, striped and marked promiscuously with scarlet. The latter is intense crimson.

Mr. HENRY ECKFORD, Weir, Shropshire, made an excellent exhibit of Sweet Peas in glasses, which, in the uncrowded state of the hall, did not suffer from being placed too closely together. The varieties, as is now well known, exhibit a multitude of pleasing shades, and the form and size also differ considerably. Some of the newer ones staged were Salopian, a crimson flower, with standard stained with purple, large size; Queen Victoria, pale cream colour, very exquisite; Prince Edward of York, an exceptionally bright rosy-pink flower, attractive and very effective; Coquette, a variety which opens Primrose colour, afterwards becomes paler, and assumes slight stain of mauve; Triumph, a large flower with rose coloured standard, and pink wings; and Lady Nina Balfour, pale lilac blue. There were about fifty glasses in all (Silver Flora Medal).

Three plants in flower of Dimorphotheca Eckloni were shown by W. G. SOPER, Esq., Harestone, Caterham Valley, Surrey. The plant produces large Marguerite-like white flowers with a blue disc.

Roses were exhibited by H. V. MACHIN, Esq., Gateford, Derby, Worksop. The blooms were staged in six or more boxes, and represented considerable variety. It is remarkable that the collection from Mr. Machin constituted the only Roses present (Silver Flora Medal).

A new dwarf growing white Marguerite named nivalis compacta was shown by Mr. H. B. MAY, Tyson's Lane Nurseries, Upper Edmonton. A number of the plants were shown in a basket. They appeared to be very floriferous, and much more compact in habit than the type (Award of Merit).

Mrs. NORTH, Eltham, Kent (gr., Mr. Geo. Abbey), showed sprays of a Seedling Pansy, named Col. J. T. North. The flowers were small and of a very bright and distinct colour. If the habit be good, the variety is a desirable one.

Messrs. YOUNG & ROBERTSON, Stevenage, Herts, exhibited a collection of hardy flowers of some extent (Bronze Banksian Medal).

Messrs. JAS. VEITCH & SONS, Chelsea (Silver Banksian Medal), exhibited flowering sprays of *Escallonia Philippiana*, *Cytisus nigricans*, *Androseda speciosa cassinefolia*, *Acacia neo-mexicana*, with flowers like those of *A. hispida*, but smaller, and the bunch more dense; *Cornus stricta*, and *Meliosma myrtilloides*, a shrub with pale green, chestnut-like leaves, and white Spirea-like flowers. A plant in bloom of the pale mauve-coloured *Ostrowskia magnifica* was shown; and a plant of *Canna Italia*, a magnificent variety, with large, finely-formed flowers, having a yellow ground, with orange-scarlet markings (Award of Merit).

Messrs. IVERY & SON, Dorking, exhibited two plants in flower of a single blue flowered Clematis named Lady Ashcombe; and from the Duchess of ALBANY'S garden at Claremont (gr., Mr. E. Burrell), were exhibited three shoots and flowers of *Magnolia macrophylla*. The flowers of this species were very large, and cream-coloured.

Mr. Rapley, gr. to Mrs. GAINING, Harrow Weald House, Stanmore, showed a fine velvety-crimson variety of *Gloxinia*, with exceedingly good habit; and Messrs. HURST & SON, Houndsditch, on behalf of the Sunset Seed & Plant Co., San Francisco, exhibited a variety of Sweet Pea of rosy pink colour, named Red Riding Hood.

An exhibit of an unusual character was that from Messrs. HORN LOW & CO., Clapton. It consisted of well grown plants in flower of *Statice profusa* and *S. Butcheri*, the latter being a darker-flowered variety.

Messrs. F. SANDER & CO., St. Albans, exhibited a magnificent pan of the fine foliage plant *Eriocoma candida*, and were awarded a First-class Certificate for *Anthurium Andreanum*, Kelly's var. This is a very large-growing variety in all its parts. The spathe is large and of pretty flesh colour, and borne on a very long stem. The firm also obtained an Award of Merit for a new dwarf-growing *Asparagus*, viz., *A. tenuissimus*, var. *Albanensis*.

A magnificent display of the larger flowered varieties of *Calochortus* was made by Messrs. WALLACE & CO., Colchester. An Award of Merit was given to a number of varieties to be known as the Eldorado strain, a beautiful group of flowers, differing slightly from each other in regard to colouring. Another group of varieties obtained from a district some two hundred miles from the place where the Eldorado strain was obtained, was also noticed. These have flowers with more or less of coppery colour in them, and are very distinct and pretty. *C. venustus* in its many named varieties was well shown, the variety *citrinus* being especially pretty. *C. v. vesta*, *C. v. v. albus*, and *C. v. roseus* were to be seen also, and *C. luteus concolor*, a capital yellow variety, should be mentioned. *C. nitidus* is a species producing six or eight flowers on a scape. They are of pale mauve, and are distinct in possessing a few exceptionally long hairs in the interior. *C. Gunsoni* a white flowered species inclined to green at the base of the interior, and *C. splendens* were remarked. There was a variety of the latter named *atroviolacea*, but it appeared less pretty than the type. A few *Brodiaea*s and many varieties of *Lilium Thunbergianum* were likewise exhibited (Silver Flora Medal).

From ARNOLD MOSS, Esq., King William Street, came a white Iris, under the name *I. Angelica Mont Blanc*; and from C. F. THOMPSON, Esq., Swansea, was exhibited some flowers of *Alstroemeria splendens*.

Messrs. P. BARR & SONS, King Street, Covent Garden, made a very large exhibit of hardy flowers now in season. The collection contained numbers of fine Delphiniums, Sweet Peas, and Violas. Iris Kamperferi and other species were represented by numerous varieties. I. K. var. Chigo obtained an Award of Merit. It is a very effective flower, all the six segments being of equal large size. They are blue with a yellow feather at the base surrounded with white. Gaillardias, Agrostemmas, Poppies, Veronicas, *Dianthus barbatus* magnificus, and many other things were noticed, including the pretty light purple flowered *Allium acuminatum Murrayanum*. (Bronze Banksian Medal.)

A very interesting exhibit was made by Sir TREVOR LAWRENCE, Burford, Dorking (gr., Mr. Bain). This included several *Alstroemeria* seedlings, also flowers of *Crinum Powellii* alba, and *C. Mackoyanum*, both of them hardy species. *Anthurium* seedlings included one named *A. Lawrenceanum*, a variety with a large handsome white spathe and white spadix (First-class Certificate). A similar award was given to *Astibe chinensis*, also exhibited by Sir T. LAWRENCE. This is a species from Central China, grows about 2 ft. high. It has ovate-oblong leaves nearly 2 inches long, much serrated, and pubescent on under surface. The flowers as shown are pale mauve or white, small, rather sparsely placed on long corymbs.

An Award of Merit was recommended to a white flowering Carnation with clove fragrance named Hope. It was exhibited by J. WYNNE FROUCKES, Esq.

#### COMPETITIVE EXHIBITS.

The 1st Prize in the competitive class for a collection of hardy flowers of not fewer than eighteen bunches was awarded to Mr. M. PEITCHARD, nurseryman, Christchurch, Hants, who made a very effective bank of bloom with varieties of considerable interest and merit, the cultivation of most of them being remarkable. *Scabiosa caucasica* was splendid, and the white variety was exhibited, but this is

less attractive than the type. The double variety of *Campanula persicifolia*, and the white variety of *Polemonium Richardsonii* were noticed. Other good things included, were *Hemerocallis Thunbergii*, *Cephalaria alpina*, *Funkia Sieboldii*, *Alstroemeria aurantiaca*, *Helenium pumilum*, *Eryngium Olivarianum*, several good varieties of herbaceous Phloxes, *Catananche bicolor*, &c.

Messrs. P. BARR & SON, King Street, Covent Garden, were 2nd, and also staged an exhibit containing many interesting species.

The best exhibit of twelve bunches of hardy flowers, distinct species (amateurs) was that from Mr. C. HERRIN, The Gardens, Dromore, Maidenhead. His collection was very fine. The collection included *Delphinium Belladonna*, *Verbascum Chalcidii*, *Campanula persicifolia* alba, *Lathyrus grandifolius*, *Clematis recta*, *Gaillardia grandiflora*, *Spirea japonica* and *Lilium caudatum*. The 2nd prize was obtained by Mr. G. H. SADE, The Gardens, Ham House, Richmond.

The remaining competitive class, viz., that for eight bunches (amateurs) was won by Miss DEBENHAM, St. Peter's, St. Albans. In this collection we noticed *Erigeron speciosus*, *Lychnis vespertina* alba fl. pl., *Campanula coronaria*, *Alstroemeria*, and a nice bunch of the Ernest Ludham Pick

#### Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshaw, H. M. Pollett, H. Ballantiae, W. H. Frotheroe, John Gabriel, H. J. Chapman, W. H. White, Edw. Handley, W. Cobb, Jas. Douglas, S. Courtauld, T. B. Haywood, and A. H. Smee.

The show of *Oreobelis* at the Drill Hall has been better, and larger sustained this season than in any former year, and the displays have been good in quality, and of great extent. The present show experienced the falling off in the number of the exhibits which is invariably the case at midsummer, and fewer entries were made of plants to go before the committee. Some few remarkable ones, however, were staged, and notably the beautiful dark scarlet *Rensanthera storiei*, which may be likened to a large form of the fine old *R. coccinea*, exhibited in Sir TREVOR LAWRENCE'S group, and a fine inflorescence of which, with several branches, was sent by W. J. THOMPSON, Esq., Ghyllbank, St. Helens, who received it from the Philippines.

In Sir TREVOR LAWRENCE'S group (gr., Mr. White) also were a fine specimen of *Rhynchostylis retusa* (*Saccolabium guttatum*) with twelve spikes; a very handsome light form of *Miltonia vexillaria* with six spikes; a profusely flowered plant of the small, and pretty, white flowered *Cirriopetalum nutans* (Botanical Certificate); a splendid plant of *Cypripedium superbum*, with nine flowers, which had not received recognition from the Committee before, secured a First-class Certificate; a fine example of *Catasetum Bungeothii*, the rich mauve-crimson coloured *Epidendrum Frederici-Guilielmi*, and the singular looking *Epidendrum variegatum*; *Acridies multiflorum* Lobbi, *Dendrobium crystallinum giganteum*, &c. (Silver Flora Medal).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, also received a Silver Flora Medal for a magnificent group of rare and tastefully arranged Orchids, the most prominent of which were *Laelio-Cattleya* × *Cambiana* alba, a noble flower with clear white sepals and petals, and large violet purple lip; *L. C.* × *Endora* (V. Mendelii × *purpurata*), recently certificated to C. L. N. Ingram, Esq., who again exhibited it as *L. C.* × *regalis*. It is the same as that which W. R. Lee, Esq., first exhibited at Manchester as *L. C.* × *Apophite*, which by right of priority should be its name; *L. C.* × *extima*, one of the oldest, but still one of the finest of garden hybrid *Laelio-Cattleyas*; *L. C.* × *Hippolyta*, of rich Indian yellow colour, with ruby lip; the singular and pretty rose blue *Cattleya Schroderiana* Rehb. f.; fine panicles of *Disa* × *Langleyensis*, and *D.* × *Kewensis*; *Cypripedium* × *Brysa*, *C. Curtisii*, *C. ciliolare*, *C. niveum*, *C. volutatum*, *Cattleya citrina*, *Odontoglossum Harryanum*, and other good *Odontoglossums*; *Phalænopsis amabilis*, &c.

THE DUKE OF SUTHERLAND, Trentham (gr., Mr. P. Blair), was awarded a Silver Banksian Medal for *Odontoglossum crispum* "Duke of Sutherland," one of the finest ever exhibited, not only for the excellence of its large, perfectly-formed, white flowers, but for the noble size of the plant. It was one of the earliest importation (perhaps twenty-five years ago), and its splendid culture reflects great credit on Mr. Blair, who has had it in his care for a very long time, this being but a sample of many such at Trentham.

W. S. ELLIS, Esq., Hazelbourne, Dorking, showed a small group, in the centre of which was a good specimen of *Cattleya Warscewiczii*, and a well-flowered *Lycaste Dopei*; ranged around them being some of the fine *Odontoglossum crispum*, for which Hazelbourne is now noted. *O. crispum virgiale* "Ellis' var." was a pure white, like the original, but with chrome yellow and orange disc to the lip; and *O. E. guttatum* Hazelbourne var., a very pretty spotted form (Vote of Thanks).

Messrs. F. SANDER & CO., St. Albans, had an interesting group, the most remarkable plant in which was *Cypripedium* × *Neptune* (to grande × *Rothschildianum*) a very bold-looking hybrid of the *C.* × *Massianum* class, with large pale green flower, the petals of which were extended like those of *C. Rothschildianum*, and finely blotched with purple (Award of Merit). Other good things to the group were *C.* × *Uranus* (*Lindleyanum* × *grande*), much resembling *C. Sargentianum*; *Angreecum Chailanum*, *Cirriopetalum picturatum*, *Phaius Humboldtii*, *P. Owenianus*, *Sobralia* × *Veitchii*, *S.* × *Auesie*, and *S. xantholeuca*, some very good *Cattleyas*,

*Laelia tenebrosa*, *Odontoglossum Harryanum* and other *Odontoglossums*, *Oncidium triquetrum*, *Thunia* × *Veitchii inversa*, &c. (Vote of Thanks).

WALTER C. WALKER, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), showed *Stanhopea Wardii*, *Cattleya Warscewiczii* var. *Claudia*, very richly coloured; and C. W. Walker's var., a very large, light-coloured variety, and cut spikes of *Dendrobium suavisimum*, *Cattleya intermedia*, *C. granulosa*, and the yellow-petalled *C. g. Dubuyssonii* (Vote of Thanks).

W. G. SOPLA, Esq., Harestone, Caterham Valley, showed *Gongora maculata* (Botanical Certificate).

Messrs. HORN LOW & CO. staged fine varieties of *Cattleya Mossiae*, of which *C. M. bella* was a very distinct form, with almost wholly rich crimson-purple lip; also *Dendrobium chlopterum*, an Australian species, with greenish flowers with a few purple lines, the habit of the plant and the manner of producing its flowers being somewhat like *D. atroviolaceum*.

W. THOMPSON, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), sent *Laelia tenebrosa gigantea*, the largest flowers of the species yet exhibited, and rich in colour; and *Odontoglossum* × *Coradii* expansum, also very fine. Mr. N. BLANDFORD, Bittene, Southampton, showed *Cattleya Warscewiczii*.

H. GRINLING, Esq., Harrow Weald House, Stanmore (gr., Mr. Rapley), sent *Cattleya Warscewiczii imperialis*, and *Dendrobium Parishii*.

Sir FREDERICK WIGAN, Clare Lawn, East Sheen, Richmond (gr., Mr. W. H. Young), showed *Miltonia vexillaria Chelmsiensis*, a pretty variety with purple rays as in Baron Schroder's *M. v. radiatum*; and J. B. WALMSLEY, Esq., of Liverpool, sent a cut spike of *Acridies radicosum album*, a very pretty white form of the plant generally known as *Acridies rubrum*.

#### Fruit Committee.

Present: Philip Crowley Esq., in the chair; and Messrs. T. F. Rivers, Jos. Cheal, Geo. Bunyard, Henry J. Pearson, A. F. Barron, T. J. Saltmarsh, J. Wright, Alex. Dean, Chas. Herrin, T. H. Crisp, T. Glen, Jas. H. Veitch, G. H. Sage, Geo. Wythes, F. Q. Lane, J. Smith, Robt. Fife, and G. Norman.

A collection of 14 fine fruits of Queen Pine-apple was exhibited by the Rt. Hon. F. J. SAVILE FOLJAMBE, Osberton, Worksop (gr., Mr. T. H. Crisp), also a number of fruits of a Melon named Osberton (Silver Knightian Medal).

A collection of Strawberries in about twenty-five varieties was shown from the gardens of H. M. THE QUEEN (gr., Mr. O. Thomas). The fruit exhibited first-class cultivation. Cherries also in eighteen varieties were very fine, but some of them hardly ripe. Seventeen fruits of Cucumber Frogmore Prolific were exceptionally good, and there was also a dish of smooth yellow fruited Tomatos named Royal Windsor (Silver Banksian Medal).

A dozen excellent fruits (large and well coloured) of Lord Napier Nectarines were exhibited by the Duke of SUTHERLAND, Trentham Hall (gr., Mr. P. Blair); half-a-dozen fruits of a seedling Melon named Gem were from Mr. Wythes, gr. to Earl FROBY, Syon House, Brentford.

Mr. ALFRED BISHOP, Westley Hall, Bury St. Edmunds, exhibited a large scarlet fleshed Melon, weighing 14 lb., and named Royal Horticultural Society, also a green-fleshed variety named Westley Delancey.

Another seedling Melon, named Highlands Gem, was shown by Mr. J. F. WILKINSON, Highlands, Minchin Hampton. None of the Melons at this meeting were considered by the Committee of sufficient flavour to merit an award.

A seedling Strawberry, named Jno. Cox, was shown by Miss Cox, from Ryde, Isle of Wight.

R. DAWES, Esq., Edmonscote House, Castle Hill, Ealing, exhibited a yellow-fruited Tomato, named Edmonscote Favourite, but the fruit were not of the fine smooth character that is nowadays looked for.

Messrs. J. VEITCH & SONS, King's Road, Chelsea, exhibited a collection of about seventeen varieties of Peas, with interesting particulars respecting the date when the varieties were sown, and also when they were fit for gathering. All of the varieties were sown on the 15th of April, and Veitch's Selected Extra Early were gathered on June 17, others were ready on the 19th. William the First was not fit for gathering until the 22nd, the same date on which "Pluperfect Marrow," a fairly large, good flavoured Marrow-fat turned in.

Mr. H. ECKFORD, Wem, Salop, showed pods of a new early Marrowfat Pea named Pioneer. It was ready for gathering on June 9, grew about 5 ft. high, and has large pods.

Messrs. LAXTON BROS., Belford, exhibited a fine lot of fruits of the Strawberry Laxton's Monarch; and Mr. J. READ, The Gardens, Brentley Park, Burton-on-Trent, had three fruits of a seedling Melon.

Messrs. E. S. SARGANT & CO., Worthing, again exhibited a collection of Melons, including nearly forty fruits. Varieties of the extraordinary netted forms noticed at the last meeting were to be seen in this exhibit also. Excellent Capsicums were shown by this firm, as also some very fine Cabbages.

From Messrs. BARR & SON, King Street, Covent Garden, were exhibited some good Lettuces, including a variety with distinct appearance known as Asparagus Lettuce. There were some capital cabbages also, among which was a variegated one.

#### Lecture on Gardeners.

In the afternoon a lecture entitled "Gardeners, Past, Present, and Future," was delivered by Mr. S. HEATON, Horticultural Instructor under the Hants County Council. In speaking of gardeners past, the lecturer took occasion to

mention facts concerning the lives of several horticultural pioneers, such as John Hill, Jno. Gerarde, Geo. London, Wise, Stephen Switzer, Philip Miller, Jno. C. Loudon; and of later gardeners Sir Joseph Paxton and Shirley Hibberd. A few quotations were also given from Miss Amburst's *History of Gardening*. Of gardeners present, it was said that although very rapid strides had lately been made in the development of horticulture, and in the education of gardeners, there were many still to be found who could neither write nor read, but who were of opinion that they knew sufficient of everything, and that anything of which they had no knowledge was not worth the knowing. A few remarks were made upon Cottage, Amateur, Market, Professional, and Gentleman's gardeners. Of the last-named class Mr. Heaton had formed a considerable idea of their individual possibilities, and after enumerating the qualities usually looked for in such men, declared that he considered a really typical gentleman's gardener to be one of England's greatest sons. Of Lady gardeners the lecturer informed us, he had had no experience. Concerning gardeners of the future, Mr. Heaton's remarks amounted to a plea for the better preparation of the young men by additional education, and it was urged that more interest should be taken on the part of head gardeners in the teaching and welfare of the probationers under their charge. Several incidents in the lecturer's own career were related, in which he had been discouraged by his superiors from acquiring anything beyond a rule-of-thumb practice. Suggestions upon the varying circumstances which frequently operate against a gardener's advancement were given, and hints upon how to overcome them. The usual long list of 'ologies said to be needful to the gardener were again recommended, and an appeal made to the Royal Horticultural Society to extend their examinations until they are accessible to all gardeners wheresoever they are situated.

THE NATIONAL VIOLA.

JUNE 20.—On the above date the first exhibition of the newly-organised National Viola Society took place in the Royal Botanic Society's Gardens in the Regent's Park, the glass corridor in which the spring shows of the society are held, being utilised for the purpose. Tables ran down each side of the corridor, but they were only partly filled, and in consequence looked very poorly furnished. It would have been better to have had a single line of tables running down the centre, as that would have contained all the exhibits, and the effect would have been heightened. Had the exhibits been spaced out somewhat, the tables would also have appeared better filled, but it was not done. The bunches or sprays of Violas generally arranged on fan-shaped and other plush-coloured stands, were very effective; the large collections of show and fancy Pansies from the north were very gay, though, as staged on this occasion, they had a flat and monotonous appearance. Many of the fancy Pansies showed the effects of the dry weather, and also of passing storms, which had defaced their beauty; roughness was discernible in many of the flowers, but the general character of the spring had been much against good development. Happily the weather was cloudy and the day cool, or the heat of the corridor would have shrivelled many blooms by midday.

VIOLAS.

In the open classes, that for an unlimited collection three competitors appeared, the best being Mr. S. PEE, Gatherall, Garstang, whose collection consisted of some 200 sprays of six or more blooms of one variety, and they were placed in small metal vessels fastened to green stands, each division of stands having five shelves painted green, thus affording five tiers of sprays; this is a convenient way for setting them up. Among some promising new varieties were *Lightning*, maroon, with segments of mauve to each petal, good shape, and distinct; *Isa Ferguson*, glossy dark lower petals, the upper silvery-mauve, with a dash of mauve on each of the lower petals; *Sheelah*, white, tinted with pinkish cerise, dark centre; *H. W. Stewart*, a mixture of maroon and crimson, flaked with white and rosy-white; *Lady Salisbury*, white, with dark-blue pencilled lines round the eye; *Queen of the Year*, a pale mauve self, some of the blossoms faintly flaked with white; *Silver Bar*, white, with purple flakes and stripes radiating from the eye, large flowers; *Gold Crest*, yellow, small, a rayless variety; *Mary S. Howard*, white, large yellow centre, and delicate pink top petals; *Mrs. C. T. Gordon*, florized, delicate mauve; *Bull on a good old deep-yellow variety*; *Cherry Park*, white; *Mrs. Crane*, plum-purple lower petals; *Colleen Bawn*, white; *Admiration*, deep purple; *Marchioness*, white; *Princess Beatrice*, Charm, *Blush Queen*, *Christiana*, *Miss Gibson*, *Duchess of Sutherland*, &c. Mr. JOHN FORBES, Buccleuch Nurseries, Hawick, was 2nd, with about eighty-four bunches, the best being *Lord Fitzgerald*, *Bridal Wreath*, *Colleen Bawn*, *Cecilia*, *White Flag*, *Lord Elcho*, *Eynsford Gem*, *Mary Gilbert*, *W. Haig*, *Archie Grant*, *Lady Reay*, and *Miss Melville*.

With twenty-four sprays, distinct, Mr. JOHN SMELLIE, florist, Bushy, Glasgow, was 1st, having well-developed blooms of *Lord Salisbury*, *Jessie Pretswell* (new), a striped variety; *Princess Beatrice*, *Cecilia*, *Duchess of Fife*, *White Flag*, *Cherry Park*, *York and Lancaster*, striped; *Lady Salisbury*, *Commodore*, *White Duchess*, *Cissy Mellows*, *Lemon Queen*, *Iona*, *Goldfinch*, *Mrs. Hay*, *Mary Gilbert*, *Liz. Barron*, *Mary Jack*, *Peggy Smith*, *Colleen Bawn*,

*Hibernia*, and *W. Neil*. Mr. W. BAXTER, florist, Woking Village, was 2nd, his leading varieties being *Cottage Maid*, *W. Neil*, *Iona*, *Norah May*, *Florized*, *Cherry Park*, *Iara*, and *Charm*. Messrs. J. CHEAL & SON, nurserymen, Crawley, were awarded a 3rd prize.

With twelve sprays, Mr. W. BAXTER took the 1st prize, the best being *Iona*, *Princess Beatrice*, *W. Neil*, *Christian*, *Duchess of Fife*, *Norah May*, and *Border Witch*; Mr. J. SMELLIE was 2nd; and Messrs. J. CHEAL & SONS, 3rd.

With six bunches of rayless variety, Mr. J. SMELLIE was 1st, having *Border Witch*, *Mary Scot*, *George Lord*, *Dorothy*, *Nellie*, and a seedling; 2nd, Mr. W. BAXTER; and 3rd Messrs. J. CHEAL & SON.

With six sprays of rayless varieties, miniature type, Mr. W. BAXTER came in 1st, having unnamed seedlings. Two others were disqualified, their flowers being, in one or two instances, beyond the prescribed size. The best three varieties of yellow Violas came from Mr. J. SMELLIE, having *A. J. Rowberry*, *Prince of Orange*, and *Mary Gilbert*. Mr. BAXTER was 2nd, and Mr. J. FORBES 3rd.

The best three white varieties came also from Mr. SMELLIE; he had *Niphetos*, *Colleen Bawn*, and *Lady Salisbury*. Messrs. BAXTER and FORBES were again 2nd and 3rd.

Mr. W. BAXTER had the best three sprays of any other colour, staging *Iona*, *Goldfinch*, and *Milkmaid*. Mr. J. SMELLIE came 2nd with *Mary Jack*, *Cissy Mellows*, and *Jessie Pretswell*. Mr. W. HAYES, Highgate Hill, was 3rd.

PANSIES.

*Open Classes*.—In that for a collection of Pansies, there were two exhibitors; Mr. M. CAMPBELL, florist, Blantyre, N.B., and Mr. S. PYE. The former staged nine boards each of fancy Pansies, fresh and bright; and one board of twenty-four show Pansies. Of the former some of the finest were *Maggie Watson*, *George Sprout* (new), Mr. E. Stewart, *James Stewart* (new), *W. H. Clarke*, *Beauty*, *Annie Ross*, *James Campbell*, *J. Cramy* (new), *Neil Hutchison*, *Mrs. D. Johnstone*, *Dr. Jameson* (new). Very fine: *Mrs. C. E. Seace*, *Annie Ross*, *Thomas Gardiner*, *Marmion*, *D. G. McKay*, and *Col. M. R. G. Buchanan*. Of show varieties, yellow-grounds, *Alfred Johnston*, *P. C. D. Boswell*, *Dan Ferguson*, *C. C. Gordon*, *Sinclair Miller*, and *A. Fred West*; white-ground, *Robert Gardiner*; dark self, *Allan Stewart*, *Andrew Wenley*, and *W. Fulton*; yellow self, *Mrs. J. Hunter*, *Royalist*, and *Bella Wilson*; white self, *Mrs. M. S. Pye* took the 2nd prize, having twelve boards of twenty-four fancy Pansies, but many of the otherwise fine blooms somewhat rough and affected by the weather; and six boards of twenty-four show Pansies; but the system of naming adopted by Mr. Pye made it very difficult to identify the varieties.

*Fancy Pansies*.—Mr. CAMPBELL also had the best twenty-four fancy Pansies, staging *Mrs. W. Steele*, new, and very fine; *Mrs. Maundred* new, *Maggie A. Scott*, *Mr. D. Johnstone*, *Col. M. R. G. Buchanan*, *Lord Salisbury*, *Annie Ross*, *Mr. Stewart*, *John Jackson*, *Thomas Gardiner*, *Maggie McPhail*, *Lord Hamilton*, *Mrs. W. Watson*, *Bernard Donlon*, *Geo. Anderson*, *James Stewart*, *Agnes Mabel*, and *George Street*—a very fine lot indeed, and the collection may be taken as representing some of the finest varieties in cultivation. 2nd, Mr. J. SMELLIE, whose best flowers were *Maggie Watson*, *David G. McKay*, *Mrs. W. Steele*, *Maggie Goodiet*, *Jeanie R. Ker*, *Marmion*, *David Russell*, *J. P. Rae*, *Bessie Stuart*, *Lord Dunraven*, and *Britannia*. Mr. C. KAY, Garganock, N.B., was 3rd.

Mr. SMELLIE also had the best twelve varieties, and Mr. CAMPBELL was 2nd, repeating varieties already named. The only exhibitor of twelve blooms, in two varieties, six blooms of each, was Mr. J. SMELLIE, who had *D. G. McKay* and *Marmion*.

*Show Pansies*.—Mr. SMELLIE was 1st with twelve distinct Show Pansies, having dark self: *Wm. Maxwell*, *Dr. Inch*, and *Sir Wm. Arrol*; yellow self: *Nellie Smellie*, very good; white self: *White Bushy* and *Miss A. Ian*; yellow-grounds: *John Brand*, *P. C. D. Boswell* and *R. M. Wenley*; white grounds: *John McLeellan* and *Mr. Brown*; Mr. M. CAMPBELL was 2nd, having a fine dark self in *Huntbill Gem*, of excellent shape, and handsomely shaded.

AMATEURS' CLASSES.

*Fancy Pansies*.—There were two collections of twelve varieties: Mr. CHARLES KAY was 1st, and Mr. LOVATT, Newport, Salop, 2nd. No Show Pansies were staged in this division.

*Violas*.—These were well shown by amateurs, and in the class for twelve sprays there were five competitors. Mr. H. A. NEEDS, Holsell, Woking, was 1st, having fresh, well-developed sprays of *H. W. Stewart*, *Norah May*, *Christiana*, *Archie Grant*, *Iona*, *Goldfinch*, *Purple Empress*, *Wonder*, *White Duchess*, *Duchess of Fife*, *Cherry Park*, and *Princess Beatrice*. Mr. D. B. CRANE, Archway Road, Highgate, was 2nd, also with admirable sprays, *Nellie*, *Cottage Maid*, *A. J. Rowberry*, *Florized*, and seedlings. With six sprays, Mr. J. SHELTON, South Woodford, was 1st, having *White Duchess*, *Duchess of Fife*, *Goldfinch*, *Ardwell Gem*, and *J. B. Riding*. 2nd, Dr. SNACKLETON, West Hill, Sydenham. In another class for six sprays, three blooms in each, Mr. G. W. COOK, North Finchley, was 1st, and Mr. LEONARD BROWN, Brentwood, 2nd.

With three sprays of yellow varieties, Mr. H. NEEDS was again 1st, having *A. J. Rowberry*, *Lemon Queen*, and *Lizzie Lindsay*. Mr. A. J. ROWBERRY was 2nd, with three sprays of white varieties. Mr. NEEDS took the 1st prize, having Countess of Hopetoun, *Vestal*, and *Christiana*. Mr. A. J. ROWBERRY was 2nd. Mr. NEEDS had the best three of any other colour, staging *Florized*, *White Duchess*, and *Goldfinch*, but

should have been disqualified, as what was required by the schedule was three varieties of the same colour. Mr. D. B. CRANE was 2nd.

The class for six bunches of rayless varieties brought no competition, and in the class for six bunches of rayless varieties of the miniature type, the flowers not to exceed 1½ inch in diameter, Mr. A. J. ROWBERRY was 1st with *Lynette*, *Orange Queen*, *Violetta*, *Queen of the Year*, *Olivetta* and a seedling; Mr. D. B. CRANE was 2nd with unnamed seedlings.

In the way of miscellaneous exhibits, Messrs. DOBBIE & CO., nurserymen, Orpington and Rothsay, had sprays of fancy Pansies, Violas, and Sweet Peas; and Messrs. BARR & SON, King Street, Covent Garden, had a collection of bunches of Violas.

As far as could be ascertained, but one Certificate of Merit was awarded to a seedling, viz., *Lavender King* (D. B. CRANE), of a soft lavender tint, but the blossoms lacked both form and stoutness.

NATIONAL ROSE SHOW AT READING.

JUNE 24.—The visit of the National Rose Society to Reading on Wednesday last, in connection with the local Horticultural Society, was a distinct success. None of the classes lacked competition, some of them contained an uncommon number of entries. In the opinion of the secretaries of the society, as expressed at the luncheon given by the Chairman of the Reading Society (Mr. F. J. Ferguson), the exhibition was probably as large as any that has previously been held in the south of England. The quality of the Roses is a different matter, and we think there have been many exhibitions at which the general character of the blooms has been equal, and even superior, to that observed on Wednesday. Still, it was satisfactory to see such quality as did obtain after the very trying time Roses have passed through. The class in which the 1st prize was Messrs. SUTTON'S Silver Cup was exceedingly popular, as may be seen below. The historic site where the exhibition was held proved to be most suitable, and the large tent which contained the whole of the exhibits was erected over a series of grass terraces, upon which most of the boxes were placed. There was need for very little tabling. The weather was fairly propitious.

The best class was one for forty-eight blooms, single trusses (nurserymen), and it was won by Mr. B. R. CANT, Colchester. The blooms were *Duchesse de Morny*, Dr. Sawill, *Caroline Testout*, *Abel Carrière*, *Her Majesty*, *Xavier Olibo*, *Alfred Colomb*, *Lady Mary Fitzwilliam*, *Auguste Rigotard*, *Marchioness of Dufferin*, *Madame Henrie Peireire*, *Mrs. Jno. Laing*, *Victor Hugo*, *Marchioness of Lorne*, *Suzanne Marie Rodocanachi*; 2nd row, *Ba oness de Rothschild*, *Ho ace Vernet*, *Gustave Piganneau*, *Marie Baumann*, *Madame Victor Verdier*, *Mons. Nonan*, *Chas. Lefebvre*, *La Fraicheur*, *Fisher Holmes*, *Madame E. Verrier*, *A. K. Williams*, *Jeanmie Dickson*, *Earl of Dufferin*, *Madame Hoste*, *Maurice Bernardin*, *Maman Cochet* (extra good, Silver Medal), *Madame Crapetet*, *Baroness de Rothschild*. Front row: *Comtesse de Ludre*, *Kaiserin Augusta Victoria*, *Duke of Teck*, *Thos. Mills*, *Prince Arthur*, *The Bride*, *Prince C. de Rohan*, *Camille Bernardin*, *Jean Soupart*, *Madame Cusin*, *E. Y. Teas*, *Ulrich Brunner*, *Madame Gab. Luizet*, *Dr. Andry*, and *Edith Gifford*. Messrs. HARKNESS & SONS, Bedale, Yorks, were 2nd, and staged a good collection. Particularly fine were *A. K. Williams*, *Comte de Raimbald*, *Horace Vernet*, *Earl of Dufferin*, *Marchioness of Dufferin*, and *Madame Cusin*. Messrs. FRANK CANT & CO., Colchester, were 3rd, and there were several other competitors.

The winners of the class for twenty-four, single, were Messrs. JAS. TOWNSEND & SONS, Lower Broadhath, Worcester. *Louis Van Houtte*, *Prince Arthur*, *Heinrich Schultheiss*, *A. K. Williams*, and *Gustavo Piganneau*, were the best blooms. It was a bright collection, the individual blooms being of moderate size. Messrs. G. & W. H. BORN, Peterborough, were 2nd, and Mr. CHAS. TURNER, Slough, 3rd.

Mr. B. R. CANT, was 1st for twenty-four Roses, distinct, three trusses of each, the general quality of the blooms being rather below than above the usual standard. *Maurice Bernardin*, *Ulrich Brunner*, *Marie Baumann*, and *Camille Bernardin*, were the best. *Madame Cusin* was in exquisite colour, but the blooms were lacking form and had been slightly dashed. *Mrs. W. J. Grant*, by reason of its excellent colour, was conspicuous in this collection. It is, however, rather thin. Mr. FRANK CANT was 2nd; and Messrs. HARKNESS & SONS 3rd. There were other competitors.

The best collection of twelve trusses, distinct, of any Rose other than *Tea* or *Noisette*, was from Messrs. D. PRIOR & SONS, Colchester, who had *Horace Vernet*; Mr. B. R. CANT was 2nd, with *Mrs. Jno. Laing*; and Messrs. G. & W. H. BORN 3rd, with *Her Majesty*.

AMATEURS.

The most important of the classes devoted to amateurs was for twelve distinct single trusses, the 1st prize for which was a handsome Silver Cup, value ten guineas, presented by Messrs. Sutton & Sons. There were eighteen collections, and the coveted position was taken by the Rev. J. H. PEMBERTON, Davington-at-Bower, Essex. His blooms were decidedly good. They were:—*Her Majesty*, *A. K. Williams*, *Gustavo Piganneau*, *Ulrich Brunner*, *Horace Vernet*, *Comtesse de Nadailac*, *Chas. Lefebvre*, *Mrs. Jno. Laing* (beautifully fresh), *François Michelson*, *Comte Raim-*



band, Victor Hugo, and Jno. Stuart Mill; E. B. LINDSELL, Esq., Hitchin, who was 2nd, might well be proud of several of his own specimens; CHAS. J. GRAHAME, Esq., Leatherhead, was 3rd; and OSMOND G. ORPEN, West Bergholt, Colchester, 4th.

For twenty-four distinct single trusses, open to all amateurs, E. B. LINDSELL, Esq., was the most fortunate competitor. Mrs. Jno. Laing, Duke of Connaught, Camille Bernardin, Duc d'Orleans, Duke of Wellington, and Jean Ducher were the most praiseworthy specimens in a very satisfactory exhibit. The Rev. J. H. PEMBERTON was only an indifferent 2nd in this class, though a few of the blooms were very good. J. GURNEY FOWLER, Esq., Glebelands, South Woodford, was 3rd.

Eight competitors entered for the prizes for eighteen distinct single trusses (open only to growers of fewer than 2000 plants). P. G. C. BURNAND, Esq., Reigate, Surrey, was 1st. Alfred Colomb and a few others were good, but Marie Van Houtte and even Jean Ducher should not have been included. The Rev. H. A. BERNERS was 2nd, and E. M. BETHUNE, Esq., Horsham, Sussex, 3rd.

A class open to exhibitors in the two preceding classes, for six distinct Roses, three trusses of each, was won by the Rev. J. H. PEMBERTON; E. B. LINDSELL, Esq., was 2nd; and P. G. C. BURNAND, Esq., 3rd.

Growers of fewer than 1000 plants competed for the best twelve distinct blooms, and RIVERS H. LANGTON, Esq., Heaton, N.W., obtained 1st prize for a satisfactory collection, of which Madame Cusin deserved mention. MAHLOW WHITTLE, Esq., Belgrave Avenue, Leicester, could only have lost the 1st position by a few points. OSMOND G. ORPEN, Esq., was 3rd.

The best six single trusses, distinct from growers of fewer than 500 plants, were shown by Mr. GEO. MOYLES, Hitchin. His Prince Arthur was very good. W. D. FRESHFIELD, Esq., Reigate, was 2nd, and there were several other competitors.

Exhibitors in the two preceding classes again competed for the best four Roses, distinct, three trusses of each, when MAHLOW WHITTLE, Esq., 56, Belgrave Avenue, Leicester, was 1st.

An open class to all amateurs for six single blooms of any one variety other than Tea or Noisette, was won by C. J. GRAHAME, Esq., among nineteen collections. His variety was Mrs. John Laing; E. B. LINDSELL, Esq., was 2nd with Horace Vernet; and O. G. ORPEN, Esq., 3rd, with Kaiserin Augusta Victoria.

Another class open to all amateurs was for twelve bunches, distinct, of varieties H.P., H. T., or Teas or Noisettes. H. V. MACHIN, Esq., was 1st with a collection rather lacking in freshness; and Mr. JAS. PARKER, The Croft, Headington, Oxford, 2nd.

#### TEAS AND NOISETTES.

The best twenty-four distinct single trusses (nurserymen), were from Messrs. D. PRIOR & SONS, Colchester, who had an exhibit of general fine quality, Madame de Watteville, Ethel Brownlow, Madame Cusin, Jean Ducher, The Bride, Maman Cocher, Marie van Houtte, Innocente Pirola, and others were very good. Mr. FRANK CANT followed, and he had good specimens of Comtesse de Nadailac, The Bride, Ernest Metz, Souvenir d'Elise Vardon, Bridesmaid, and Marie van Houtte. Mr. B. R. CANT was 3rd. There were three other competitors. Mr. JNO. MATTOCK, New Headington, Oxford, was 1st for twelve blooms, and included fine specimens of Jean Ducher, Catherine Mermet, Miss E. Brownlow, and Ernest Metz. Messrs. JAS. TOWNSEND & SONS, Worcester, were 2nd, and J. BURRELL & Co., Cambridge, 3rd. There were eight collections.

The best eighteen distinct single trusses from amateurs were shown by OSMOND G. ORPEN, Esq., Madame Cusin, Françoise Kruger, Madame Hoste, Catherine Mermet, Honourable Edith Gifford were the best blooms in a moderately good exhibit. The 2nd prize was taken by the Rev. H. A. BERNERS, and the 3rd by the Rev. A. FOSTER MELLIER.

Of growers of fewer than 500 plants who exhibited nine distinct Teas in single trusses, the best was CONWAY JONES, Esq., Euclescote, Gloucester, and he had very fine blooms of Madame Cusin, Princess of Wales, and Madame de Watteville. The 2nd and 3rd prizes went to RIVERS H. LANGTON, Esq., and Mr. JAS. PARKER, The Croft, Headington, Oxford. There were seven collections.

Growers of fewer than 200 plants competed for the best six Teas, distinct, and the successful competitor was MAHLOW WHITTLE, Esq., 56, Belgrave Avenue, Leicester; followed by R. FOLEY HOBBS, Esq., 4, Forge Street, Worcester.

CONWAY JONES, Esq., won a class open to all amateurs for six distinct Teas, three of each. Another open class for six single trusses of any Tea or Noisette was won by O. G. ORPEN, Esq., with Madame Hoste. There were upwards of a dozen collections, and R. H. LANGTON was 2nd.

Another open class for twelve trebles (Tea) was won by Messrs. D. PRIOR & SONS, Colchester, with a capital lot, perhaps a little deficient in coloured varieties; 2nd, Mr. FRANK CANT; 3rd, Mr. B. R. CANT.

An open class for twelve single trusses of any Teas or Noisettes was won by Messrs. D. PRIOR & SONS, Colchester, who showed Madame Van Houtte in very fine form indeed. Of the other nine competitors, Mr. JNO. MATTOCK led, with the same variety; Messrs. HARKNESS & SONS, Bedale, being 3rd.

Garden Roses were capital. For thirty six bunches, distinct, not fewer than three trusses to a bunch, Messrs. COOLING & SOYS, Bath, with a magnificent collection, won premier position; there was not a variety but was well

shown, and it is seldom that such an exhibit of garden Roses is made. Messrs. PAUL & SON, Cheshunt, who were 2nd, also showed well; Mr. FRANK CANT was 3rd; and Mr. CHAS. TURNER 4th.

The amateurs' class for eighteen bunches was won by A. TATE, Esq., Downside, Leatherhead; H. V. MACHIN, Esq., was 2nd, and O. G. ORPEN, Esq., 3rd.

The best exhibit of a display of Roses was upon a half-cone-shaped stage, and was of a tasteful nature; Mr. GEO. PRINCE, Oxford, was the exhibitor. Mr. JNO. MATTOCK was 2nd.

#### MEDAL ROSES.

The best hybrid perpetual exhibited by a nurseryman was A. K. WILLIAMS from Messrs. HARKNESS & SONS. The best H. P. from an amateur was Kaiserin Augusta Victoria from O. G. ORPEN, Esq., contained in his 4th prize stand in Messrs. SUTTON'S Cup Class. The same exhibitor won the Silver Medal for the best Tea (amateur) with a bloom of Madame Hoste shown in a treble. Mr. B. R. CANT had the best Tea (nurseryman), in a large bloom of Maman Cochet.

#### LOCAL CLASSES.

The pressure upon our space this week prevents us from giving particulars of the local classes at Reading, with the following exceptions. Mr. J. J. FLETCHER won the Silver-gilt Medal awarded as 1st prize for eighteen Roses, and had also the best H.P. in these classes, in a bloom of Lady Mary Fitzwilliam.

For twelve Roses, Mr. E. SUCH, Maidenhead, was 1st; and Mr. T. TUNTON, Maiden Erleigh, 2nd. Mr. FLETCHER was 1st also for a dozen Tea Roses.

In the smaller classes, for residents within 3 miles of Reading Town Hall, the principal prize-winners were Mr. J. W. HOUNSLOW, Mr. F. W. LONERGAN, Mrs. A. ASHBY, and Mr. R. C. MOUNT. Mr. Chamberlain, gr. to M. LONERGAN, Esq., had the best group of miscellaneous plants arranged for effect.

#### RICHMOND.

JUNE 24.—In spite of morning showers, the later day proved to be singularly beautiful, and the show-ground was thronged with visitors.

#### GROUPS.

The chief feature of the show was, as usual, found in the large plant-tent, and here groups or collections of plants of an honorary kind proved to be most effective. Of these the premier place may well be given to the fine group of Begonias elegantly arranged by Mr. H. J. JONES, of Lewisham, whose decorative effort, it is hoped, will be largely copied.

Messrs. J. VEITCH & SONS, Chelsea, had a big bunk of dwarf pot Roses, backed by *Hyliranga paniculata*; also one of their elegant Japanese Acers.

Messrs. HUGH LOW & Co., Clapton, sent a superb lot of Orchids—Cattleyas being in great force, and one of the most beautiful groups of dwarf *Cannas* we have yet seen. Messrs. PEED & SONS, Norwood, had a charming group of *Caladiums*, thinly placed amidst Maidenhair Fern. Messrs. W. CURTISH & SONS, Highbury, sent a big collection of *Souvenir de la Malmaison*, Germania, and other Carnations in pots. Mr. W. ICKTON, Putney, had a huge group of Palms and foliage plants. Mr. W. THOMPSON, Richmond, had Palms, *Hydrangeas*, &c. Messrs. B. S. WILLIAMS & SONS, Holloway, a fine group of miscellaneous plants.

Messrs. JAS. CARTER & Co. Holborn, a remarkably attractive collection of *Petunias* in pots, *Violas* in pans, and bunches of hardy flowers; and Mr. R. JENSEN, of Chingford, had a group of his zonal *Pelargonium* King of Denmark. Then from private gardens came very fine groups of mixed plants, sent by Mr. Wythes, gr. to Earl Percy, Syon House, Brentford; and by Mr. McLEOD, Dover House, Roehampton. To all these groups medals of various money values were awarded.

*Decorative Groups*.—In the open class for these Mr. G. FORDHAM, Trickingham, was 1st, with a most beautiful arrangement, light and graceful. *Gloxinias* and *Orchids* were ably utilised. Mr. McLEOD was 2nd, and Mr. VAUSE, of Leamington, who arranged a group in a small way, *a la Shrewsbury*, was 3rd.

*Specimen Plants*.—The best six specimens in flower came from Mr. A. OFFER, Crawley, all of moderate size, including two fair *Erics*, *Clorodendron Balfourianum*, *Durwina*, *Lulifera*, &c. Mr. VAUSE was 2nd. Mr. Potter, gr. to J. H. MASTERS, Esq., Petersham, had the best specimen in *Bougainvillea glabra*. Mr. OFFER had the best four foliage plants in *Heliconia aurea striata*, *Croton Queen Victoria*, *Cycas revoluta*, and *Kentia australis*. Mr. W. Farr, gr. to A. PEARA, Esq., Isleworth, being 2nd; and Mr. VAUSE 3rd.

Mr. C. WAT, gr. to Sir F. WIGAN, Sheen, had the best specimen in a noble *Cycas revoluta*; Mr. OFFER coming next, with a good specimen of *Croton angustifolius*.

*Caladiums* finely coloured came from Mr. ALLSOP, gr. to W. CONNARD, Esq., Trickingham, 1st; and Mr. McLEOD 2nd.

*Show and Fancy Pelargoniums* were well shown as usual by Mr. C. TREZNER, Slough, who had the best six plants of each, the best of the former being Gold-mine, Joe, and Magenta; and of the fancies, Ambassador, The Shah, and delicatum. Mr. Wiggins, gr. to W. STACEY, Esq., West Drayton, was 2nd in the show class.

Mr. TURNER had the best group of show varieties in small pots, Mr. WIGGINS being 2nd.

*Orchids*.—Mr. W. H. Young, Orchid grower to Sir F. WIGAN, was the only exhibitor in a class for six, having excellent *Cattleyas Mossie* and *Mendell*, *Phalenopsis San-*

*deriana*, *Odontoglossum crispum*, *Cypripedium vitellinum*, and *Miltonia vexillaria*.

*Gloxinias* were very good, the best nine in one class coming from Mr. FORDHAM, and in another class from Mr. Smith, gr. to W. ODRAM, Esq., Richmond, very fine plants. *Begonias*, *Fuchsias*, &c., were also staged.

*Roses*—These were in good form, though not so numerous as usual. The best forty-eight trebles came from Messrs. D. PRIOR & SONS, Colchester, whose flowers were first-rate. Amongst them were Prince Arthur, Victor Hugo, A. K. WILLIAMS, Prosper Langier, Charles Darwin, Horace Vernet, Fisher Holmes, Marie Hansmann, Ulrich Brunner, Marie Verdier, Mrs. J. Laing, Her Majesty, &c. Mr. F. CANT, also of Colchester, was 2nd.

With twenty-four trebles Messrs. PAION & SONS were again 1st. Messrs. G. & W. H. BURCH, Peterborough, being 2nd. These had in their boxes such beautiful Teas as Edith Gifford, Marie Van Houtte, Jean Ducher, and Catherine Mermet.

Messrs. PRIOR were again 1st with twelve trebles with twelve blooms of one H. P.

Messrs. PRIOR were well 1st with splendid Ulrich Brunner, Messrs. BURCH coming 2nd with Her Majesty, very good.

Messrs. PRIOR had the best Tea Rose in The Bride, Marie Van Houtte was 2nd, and Edith Gifford 3rd.

Mr. W. RUMSEY, of Waltham Cross, sent a collection of *Roses*; and boxes also came from Messrs. SPOONER & SONS, Hounslow, and WILL TAYLOR, Hampton.

Messrs. PERKINS & SONS had the best bouquet of beautiful *Orchids*: Mr. SEALE, of Sevenoaks, coming 2nd with one of *Roses*; the latter had the three best dinner-table epergnes. Some fine epergnes, &c., came from the Misses COLE, Feltham. The decorations of this nature were, as usual, very extensive.

*Hardy Flowers*.—Mr. G. Sage, gr. to the Earl of DYSART, Ham House, was the chief exhibitor of these in bunches, taking prizes in the class for twenty-four, twelve, and six, all excellent. From Messrs. BARR & SONS, Long Ditton, Messrs. J. JACKMAN & SONS, Woking, and Messrs. J. YETCH & SONS, also came fine collections, more or less effectively arranged.

#### FRUIT.

Mr. G. SAGE had the best collection of six dishes, with fair Black Hamburg and Foster's Seedling Grapes, grand Brown Turkey Figs, good Lord Napier Nectarines, Hero of Lockinge Melons, and Latest-of-All Strawberries; Mr. Tidy, gr. to W. R. D'ARCY, Esq., Stanford Hill, was 2nd; and Mr. OSMAN, Ottershaw, 3rd.

The best three bunches of black Grapes were remarkably fine; Madresfield Court, staged by Mr. Blake, gr. to the Earl of ONSLOW, Clendon Park, one not having produced thirteen bunches all as good. Mr. Ford, gr. to W. H. ELLIS, Esq., Hounslow, was 2nd; and Mr. OSMAN 3rd.

With white Grapes, Mr. TIDY was 1st, with good Duke of Buccleuch; Mr. OSMAN being 2nd; and Mr. TUNTON, Maiden Erleigh, 3rd.

The best Melon, Hero of Lockinge, came from Messrs. SARGENT, Worthing. Mr. FORD had, in *Gros-e Mignonne*, the best Peaches; Mr. ALLSOP, in Lord Napier, the best Nectarines; and Mr. SAGE, the best Figs.

Tomatoes were very handsome, a beautiful dish of Perfection coming from Mr. FORD; and Mr. SAGE had the best two sorts of Strawberries in Ginton Park and Latest of All.

#### VEGETABLES.

were in great force, as usual. In the Society's class for twelve kinds, Mr. C. J. WAITE, gr. to the Hon. Col. TALBOT, Esher, was 1st, with fine samples; and Mr. GIBSON, gr. to E. W. WATTS, Esq., Chiswick, was 2nd.

In Messrs. CARTER & Co.'s class for nine kinds, Mr. WILKINS, gr. to Lady T. GUEST, Henridge, was 1st, with capital samples; Mr. WAITE coming 2nd.

In Messrs. SUTTON & SONS' class, for six kinds, Mr. GIBSON was 1st, and Mr. WAITE 2nd.

There were many other classes that cannot be referred to now.

## Obituary.

**JAMES STEWART SADLER.**—There died at his residence, Pollokwood House, near Glasgow, on Sunday, 14th inst., Mr. James Stewart Sadler, sole surviving partner of the well-known firm of Smith & Simons, nurserymen and seedsmen of that city. Mr. Sadler was fifty-five years of age, and leaves a widow and an only son. The deceased was well known in the trade, and much respected; and his knowledge of every department of a nursery was extensive, with an experience wide and varied. His career began with Messrs. Dickson & Sons, of Edinburgh; he afterwards occupied a responsible and confidential position in the firm of Peter Lawson & Son, with much success, and nearly thirty years ago, he removed to Glasgow, to join his old friend, the late Mr. Charles Smith, in the management of the business, which has since then been carried on successfully; and in this connection it was Mr. Sadler's wish that it should continue to be carried on by his son and Mr. George Clark, who has been

manager and traveller in the services of the firm for some years, and arrangements were understood as being made for effecting that end. Mr. Sailer's only brother John, who died a few years ago, was, it will be remembered, Curator of the Royal Botanical Gardens, Edinburgh.

**GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—Under the presidency of the Lord Mayor of York, a meeting was held on the afternoon of the first day of the Show in the council tent, the object being to bring before the notice of gardeners the benefits of the Institution. Mr. J. S. GRAY moved—"That this meeting, having heard the objects of the Gardeners' Royal Benevolent Institution, and considering such an excellent institution well worthy of support, heartily commends it to the practical sympathy of all Yorkshire gardeners, and to the kind assistance of all employers and patrons of gardening." This motion was seconded by Mr. H. J. CLAYTON and carried unanimously.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE, RAINFALL, and BRIGHT SUN. It includes a detailed table for accumulated temperature with sub-columns for day-degrees and differences, and a table for rainfall and bright sun.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Graining, &c., Districts— 6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; \*Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending June 20, is furnished from the Meteorological Office:—

The weather during this period varied a good deal in different parts of the kingdom. At first it was fine and very warm in all districts, but by the middle of the week it had become rainy and cooler very generally, with thunderstorms in several parts of Great Britain. These unsettled rainy conditions continued over the greater part of Ireland and Scotland; but over England the weather towards the close of the period again became fine and dry.

The temperature continued above the mean, the excess ranging from 3° or 4° in Ireland and Scotland, to 5° or 6° over England. The highest of the maxima were registered either on the 13th or 16th, when the thermometer rose to 87° in 'England, S.W.,' to between 84° and 86° in the other English districts, to between 82° and 84° in Ireland, and to between

78° and 81° over Scotland. In the 'Channel Islands' the highest reading was 77°. The lowest of the minima were recorded during the latter part of the period, and ranged from 30° in 'England, S.W.,' and 41° in Scotland, W., to 49° in 'England, N.W.,' and to 54° in the 'Channel Islands.'

The rainfall was considerably more than the mean over Ireland and Scotland, and just equal to the normal in 'England, N.W. and S.W.,' in all other districts, however, there was a deficit.

The bright sunshine exceeded the mean in all districts excepting 'Scotland, N.' The percentage of the possible duration ranged from 64 in the 'Channel Islands,' and from between 51 and 59 over England, to 41 in 'Ireland, N.,' and to 32° in 'Scotland N.,"

SEEDS.

LONDON: June 24.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that to-day's seed market presented quite a holiday appearance, with almost a complete absence of business. Just now there are scarcely any sowing requirements to be filled, whilst no speculation of any importance shows itself. New samples of Trefoil and Trifolium may shortly be expected. Clover seeds keep exceedingly firm. There is no alteration in either Mustard or Rape seed. Offers of new Turkish Canary seed for delivery in the autumn now come forward less freely from the other side. Peas and Haricots are without change. The Linseed market is dull.

FRUIT AND VEGETABLES.

BOROUGH: June 23.—Quotations:—Cabbages, 1s. 6d. to 3s. per tally; Spinach, 2s. per bushel; Cauliflowers, 1s. 6d. to 2s. per dozen; Onions, English, 6s. to 7s. per tally; foreign do., 3s. 6d. to 4s. per cwt.; Radishes, 2s. 9d. to 3s. per tally; new Carrots, 2s. 6d. to 3s.; Turnips, 1s. 9d. to 2s. 6d.; Parsley, 1s.; Mint, 6d. per dozen bunches; Beetroot, 1s. 6d. to 2s. per bushel; Rorseradish, 1s. 6d. per roll; Rhubarb, 1s. 6d. per doz. bundles; Endive, 1s. 6d. per dozen; Cucumbers, English, 2s. 6d. to 3s. 9d.; do., Dutch, 1s. 6d. to 2s. 6d. per dozen; Peas, English, 2s. to 3s. per sack, and 1s. 6d. to 2s. 6d. per bushel; French Beans, 3d. per flat; Lettuces, 2d. to 6d. a score; Strawberries, 2s. 6d. to 3s. per peck; Cherries, English, 5s. to 8s. per half-sieve; do., for ign, 1s. 9d. per basket; Gooseberries, 2s. to 3s. per half-sieve.

SPITALFIELDS: June 23.—Quotations:—Cabbages, 1s. 6d. to 2s. per tally; Mint, 2s. per dozen bunches; Parsley, 2s. to 3s. do.; Turnips, 1s. 6d. to 2s. 6d. do.; Carrots, 2s. to 3s. do.; Lettuce, 5d. to 9d. per score; Peas, 1s. 6d. 2s. per bushel; do., Blues, 3s. 6d. to 4s. 6d. per bag; do., Whites, 2s. to 3s. 6d. do.; Beans, Broad, 1s. to 1s. 6d. per bushel; Onions, old, 2s. to 2s. 6d. do.; Beetroot, 1s. 6d. to 2s. do.

STRAFORD: June 23.—Quotations:—Cabbages, 1s. to 3s. per tally; Beetroot, 4d. to 8d. per dozen; Horse radish, 2s. to 2s. 6d. per bundle; Parsley, 1s. to 1s. 6d. per dozen; Rhubarb, field, 1s. per dozen; Leeks, 1s. to 2s. per dozen; Spring Onions, 2s. to 4s. per dozen; Salad, 1s. 6d. to 2s. per punnet; Cherries, 5s. to 6s. per bushel; Strawberries, 1s. 3d. to 2s. 9d. per peck; Gooseberries, 2s. to 3s. per half-sieve; do., 3s. to 4s. per flat; Tomatos, Guernsey, 4d. to 5d. per lb.; ditto, English, 5d. to 7d. per lb.; frame Cucumbers, 1s. to 3s. 6d. per dozen; Asparagus, 6d. to 1s. per 100 heads; Green Peas, 1s. 3d. to 2s. 9d. per sieve; do., 3s. to 4s. per bag; Carrots, 1s. to 3s. per dozen bunches; Mangolds, 16s. to 18s. per ton; Onions, Egyptian, 8s. to 9s. per ton.

FABRINGTON: June 25.—Quotations:—Cabbage, 3s. per tally; Cauliflowers, 2s. 6d. per half-tally; Peas, 5s. per bag; Carrots, 4s. per dozen bunches; Turnips, 4s. do.; Onions, spring, 2s. per dozen bunches; do., 4s. per cwt.; Gooseberries, 3s. per half-bushel; Cherries, black, 5s. do.; white, 6s. do.; do.; Strawberries, 1s. 6d. per peck; selected do., 1s. 6d. per gallon; Tomatos, English, 6s. per dozen pounds; Raspberries, 6s. per dozen punnets; good Pine-apples, 3s. each; Cucumbers, 2s. per dozen.

POTATOS.

BOROUGH: June 23.—Quotations: Old ranged from 40s. to 70s. per ton; New, from 6s. 6d. to 9s. per cwt. PITAFIELDS: June 23.—Quotations:—Old; High-kinds, 35s. to 50s.; Black-kinds, 20s. to 35s. per t.m. New: Jerseys, £8 to £8 10s.; Myatt's, £7 10s. to £8; Rounds, £7 to £8; Lisbon, £5 10s. to £6 per ton.

STRAFORD: June 23.—Quotations:—Old; light-soil Bruces, 15s. to 40s.; Magnum, 15s. to 20s. per ton. New: Jersey Kidneys, 7s. to 8s.; do. Flukes, 7s. 6d. to 9s.; Chierbourg, 6s. 6d. to 7s. 6d.; St. Malo Flukes, 6s. 6d. to 7s. 6d.; Lisbon, 5s. to 5s. 6d.; Canary, 4s. to 6s. 6d. per cwt.

FABRINGTON: June 25.—Quotations:—Old Potatos done here; new range from 7s. 6d. Kidney, to 8s. 6d. Flukes, per cwt.

LONDON MARKET AVERAGES: June 24.—New: Jersey, 7s. to 8s.; Snowdrops, light, 7s. 6d. to 8s. 6d.; Hebrons, 7s. to 8s.; St. Malo, 6s. to 7s.; Chierbourg, 6s. to 7s. per cwt. Old: Dumber Bruce and Main Crop, 40s. to 60s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending June 23, and for the corresponding period last year:—1896: Wheat, 25s. 17.; Barley, 22s. 8.; Oats, 15s. 1d. 1895: Wheat, 26s. 5d.; Barley, 15s. 5d.; and Oats, 16s. 1d.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65s. to 90s.; inferior, 38s. to 60s.; Hay, best, 60s. to 85s.; inferior, 30s. to 55s.; mixture, 60s. to 84s.; and straw, 20s. to 40s. per load.

MARKETS.

COVENT GARDEN, JUNE 25.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the supplies, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for plants in pots such as Adiantum, Aspidistra, Calceolaria, Coleus, Dracana, Erica, Evergreen Shrubs, Ferns, Ficus, and Heliotrope, with prices in s. d. s. d.

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers such as Arums, Bouvardias, Carnations, Eucharis, Forget-me-nots, Gardenias, Lilac, Liliun Harrisii, Liliun candidum, Maidenhair Fern, Marguerites, Mignonne, Paonies, and Orchids.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing prices for fruit such as Cherries, Apples, Currants, Figs, Grapes, Hamburgs, Muscats, Melons, Nectarines, Peaches, Pine-apples, Raspberries, and Strawberries.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for vegetables such as Beans, Broad, Cucumbers, Marrows, Mushrooms, Peas, Tomatos, and Turnips.

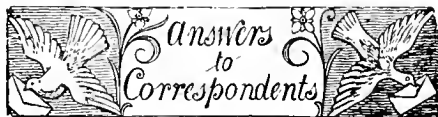
NEW POTATOS.

Prices easier, with moderate supplies; Jerseys, 7s. to 8s.; English Marble, 8s. to 11s.; Hebrons and Parisians, 7s. to 8s. per cwt. J. B. Thomas.

## VARIORUM.

## THE FLOWER TRADE OF THE ITALIAN RIVIERA.

—THE British Vice-Consuls at San Remo and Bordighera in their latest Reports refer to the growth of the trade in flowers from the Italian Riviera. Mr. Congreve, writing from San Remo, says that the only trade largely increasing in his district is that in flowers. Along the coast line from that place to Ospedaletti and Bordighera Olive trees have been ruthlessly cut down, the ground has been rearranged in high terraces, and all planted with Roses and Carnations, the picturesqueness of the scenery being greatly spoiled by this wholesale destruction of the characteristic Olives. Mr. Daly reports that Bordighera, as a resort for visitors, is, perhaps, more essentially British than any other place on the Riviera. Particularly all the ground used for residential purposes by foreigners is owned by British subjects, also a considerable portion not yet built upon. Although the prices asked for building sites are high (ranging from five to twenty lire the square metre), such sites are constantly passing into the hands of British owners who have either an immediate or future intention of building. Bordighera has no special industries. Olives, Palms, and Lemons are cultivated for profit, but of late years there has been a tendency to substitute the culture of Roses and other flowers with a view to exportation. The Olive crop is precarious, a really good yield seldom occurring more frequently than once in three years, and often more rarely still. Lemons, which a dozen years ago commanded a remunerative price, have now nearly ceased to do so. Palms are still exported in greater numbers than from any other place on the coast, but the trade is in a few hands. But the growth of Roses and other flowers for exportation has expanded into a considerable trade within the last few years, with the result that clearings have been made in the dense belt of Olives which fringe the coast line between Ventimiglia and Bordighera. Even this new industry, however, has, he observes, shown signs of exhaustion, affected by the weather, the caprice of the markets, and other causes. Still, the new flower trade, when the conditions affecting it are properly understood, will, he believes expand, and to some extent become a source of local wealth. The exportation of flowers is not largely in the hands of the actual growers; a small class of middleman has been created, the members of which contract in the autumn for the winter and spring produce of the gardens. *Leicester Daily Post.*



ADDRESS: T. H. S. J. Sumner, Limited, Leyland, Lancashire.

APPLES: *J. T. Putney.*—The fruits are out of character and cannot be named with certainty. Send them in their proper season.

BOOKS: *C. B. W. & Co.* *Mushrooms for the Million*, by J. Wright, 171, Fleet Street, E.C.

CHRYSANTHEMUM: *J. R. P. & Sons.* There is no organic disease, and no trace of fungi. The spots on the leaves represent cells which are practically dead, and contain only brown gummy matter, but without trace of mould or mycelium. *M. C. C.*

CUCUMBERS: *C. W. H.* The roots sent are quite healthy, and the soil very suitable for Cucumber growing. The fruits appear to be attacked by a Cladosporium, the life-history of which is in need of investigation. The Bordeaux Mixture, although a good means of killing many minute species of fungi, is powerless against this one.

FAIRY RINGS ON LAWS: *C. L. W.* Some substance must be used to kill the "spawn" of the Mushroom which is always spreading outwards from the circumference, the crop of the fungus having exhausted the supply of nitrogen found in the soil it was raised on. Strong brine used hot or cold should do this, but probably more than one

application would be necessary. Removing the soil to the depth of 1 foot over rather more than the area occupied by the rings is another method of prevention.

FIG TREE WITH A GROSS SHOOT FOUR FEET LONG, &c.: *Inexperienced.* It was wrong practice to allow such large development to this centrally-placed shoot; the point should have been nipped out when the shoot was 1½ foot long. The shoot would then have made lateral shoots, and helped materially to furnish the tree. You might be able to bend it down horizontally, and thus do good to the other shoots by diverting the sap from it to them. At the winter pruning, this strong shoot ought to have two-thirds of its length removed. The shoots of the young Fig trees must be so pruned in the winter as to cause an increase of the number of radial members commensurately with the gradual increase of the circumference of the crown. Not much fruit can be looked for while this building-up of the tree is in progress. In the third or fourth year an appreciable number of fruits will form, and a light crop may then be taken; or if a tree is very vigorous, and shows many fruits, no harm will be done by taking a moderately large first crop and a smaller second one. When the ground-work of the tree is laid, fruiting laterals, which must be stopped at 9 inches in length, may be laid in between the chief branches, but there should be no crowding of these, and all weak spruce should be constantly removed entirely.

FRUIT FOR WEST AFRICA: *W. C.* The fruit sent should be nearly ripe in the case of Pears and Peaches; Nectarines and Grapes not quite ripe. Wrap in tissue-paper, separating the fruit and bunches of Grapes with the finest wood-shavings, and pack fairly firmly. Place in the cold room of the steamer, but not where they will freeze. Boxes with air-holes or slits are better than baskets.

GRAPES SPOTTED: *Anxious.* The berries show signs of the much-dreaded "spot," for which at present no cure is known.

INSECTS: *W. Cooper.*—The beetles destructive to Roses are *Phyllopartha horticola*, nearly allied to the cockchafer. Hand-picking is probably the only remedy for the perfect insect. The larvæ destroy roots of grasses, &c., in the same way as the cockchafer, and the remedies for the latter would apply equally well here, such as lime, gas-water, &c. Of still more importance is the encouragement of birds, especially starlings. The larvæ are said to exist three years before assuming the perfect state. *R. McL.*

MEALY-BUG ON VINES: *J. M. R.* To rid Vines of mealy-bug is always difficult, and attempts to do so in the summer season have only a very partial effect. You might try the effect of vaporising the vine with Richards' XL All, doing it several times at intervals of two or three days. It will not injure the Vines or fruit, and the latter will not acquire an odour from the substance that will be perceptible after the lapse of a few days. Touching the bugs with a camel's-hair pencil dipped in methylated spirits will kill them. Radical measures should be adopted in the winter season to get rid of the pest.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*W. D.* 1, *Pinus Balfouriana*; 3, *Abies firma*; 4, *Tsuga Pattoniana*; 5, *Abies amabilis*; 6, *Juniper*, next week.—*J. C. & Co.* *Pæony* variety.—*L. M. S.* *Argemone mexicana.*—*Flora.* We find only one, and that is *Valeriana officinalis.*—*A. E. D.* *Fraxinus Ornus.*—*W. H. R.* *Chamaerops Fortunei*; it is not unusual to see this flower in the South of England. Potatoes similar to the one you send are not uncommon, and have often been figured in our columns. Probably they are the result of some injury in the first instance.

—*G. D.* 1, *Saxifraga Gemm.*, perhaps; 2, *Sedum glaucum*; 3, *Saxifraga umbrosa*, perhaps; 4, *Sedum album*; 5, *Sedum spurium.*—*H. K.* *Farleigh Gesnera Leopoldi.*—*F. F.* 1, *Gaillardia picta*; 2, *Funkia Sieboldii*; 3, *Schizophragma hydrangeoides*, often called *Hydrangea scandens*; 4, *Chrysanthemum maximum*; 5, *Achillea Ptarmica*, *flor pleno*; 6, *Ribes alpinum aureum.*—*Specimens in green Moss, No Name.* 1, *Asphodelus ramosus*; 2, *Hieracium murorum*, probably; 3, *Allium Moly*; 4, *Saxifraga* species; 5, *Festuca ovina glauca.*—*E. C. H.* It is impossible for us to name florists' Carnations; send to some grower.—*S.* *Broom Hill.* A very pretty variety of *Cattleya labiata Mendeli Tempus fugit.* 1, *Aechusa italica*; 2, *Agrostemma*

*coronaria*; 3, *Ocimum pulvinatum*; 4, *Lycnis dioica, flore pleno*; 5, *Genista tinctoria.*—*W. R. F.* *Geranium pratense.*—*B. S.* One of the varieties of *Aërides multiflorum.*—*N. C.* 1, *Tradescantia virginica*; 2, *Tanacetum vulgare*; 3, *Hieracium Pilosella*; 4, 5, next week; 6, *Geranium Robertianum.*—*W. T.* *Colutea arborescens.*—*W. S. T.* *Gleditsia triacanthos, Double Sweet Briar*; No. 3 was not found.—*Canborne.* *Orobancha minor*, a parasite peculiar to the roots of herbs or shrubs. It differs from the *Lathraea* in that the sepals are not divided into four toothed segments.—*R. R.* 1, *Rhodotypos Kerrioides*; 2, *Griselinia littoralis*; 3, Not recognised, no flowers; 4, *Schinus Molle*, perhaps; 5, *Cupressus Lawsoniana* var.; 6, *Rubus odoratus*; 7, *Alonsoa incisifolia.*—*H. R.* 1, *Zenobia (Andromeda) speciosa*; 2, *Spiraea chamaedrifolia*; 3, *Spiraea callosa.*

PEAR LEAVES: *Sarony.* The work of the Pear-sawfly. As the other methods have failed, try strong tobacco-water.

PINK: *H. A. D.* A very nice fragrant border variety, resembling, in the colour of its bloom, the variety Ernest Ladams, and worth perpetuating as a variety suitable for dry poor soils.

PROLIFEROUS TOMATOS: *D.* The production of adventitious fruits outside the mother-fruit was not uncommon in old days when ribbed fruits were common; now that the smooth varieties have all but ousted the others, this condition is more rarely seen. It is due to over-growth of the axis of the fruit and to the production of supernumerary fruits. How to check that superfluous growth must be a matter of practical management.

SEEDLING STRAWBERRIES: *J. H., Abingdon.* The fruits arrived in a damaged condition, owing to the heat, &c.; moreover, the heavy rains had spoiled the flavour. Send again if you can.

TENANCY WITHOUT AGREEMENT: *J. Maers.* We cannot advise, and should counsel you to consult a solicitor.

TOMATO: *E. G., A. H. C., and Others.* Your fruits are affected with the fungus so often described. Spraying with weak Bordeaux Mixture early in the season would have prevented much of it.

VEGETABLES PRESERVED: *W. J. P.* There are two principal methods, viz., by desiccation and pressure, and by cooking in air-tight bottles or tins, by placing them in a bath in which muriate of lime is dissolved. This substance is used because a temperature of 270° to 280° Fahr. can be maintained without material evaporation taking place. The tins have soldered lids provided with one or two small holes, which are closed by solder as soon as the heat begins to decline; or if bottles are used, then the patent steel self-fitting capsules and bottles or jars of the French Flint-glass Bottle Co., figured and described in these columns at p. 565, May 2, this year, are the best for this kind of preserving. French Beans, Peas, also the curd of Cauliflowers, can be kept in brine. Button Mushrooms can be kept in the same manner, or in vinegar and salt. Cucumbers in brine and sauerkraut for those who like these things. There is no single method short of drying which answers for every kind of vegetable.

COMMUNICATIONS RECEIVED.—*W. E. G.*—*H. H. D'O.*—*F. B.*—*C. H. P.*—*D. R. W.*—*E. D. T.*, shortly.—*T. B.*—*W. T. T.*—*D.*—*W. G. S.*—*F. F.*—*D. S.*—*W. C.*—*W. E. G.*—*S. O. G.*—*E. F.*—*D. W.*—*Hortus* (next week).—*W. P. & Son.*—*C. T.*—*R. C. C.*—*H. E. C.*—*D. M.*—*Strachan.*—*R. D.*—*A. C. F.*—*H. W.*—*K. D.*—*A. P.*—*W. M.*—*J. R. J.*—*G. R. L.*—*R. L. H.*—*A. D.*—*Jain Murison.*—*J. J.*—*W. R. A. K.*

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—*A. K. B.* (seeds, with many thanks).—*J. H. V.* (with many thanks).—*W. H. R.* (next week).—*S. O. G.*—*Dicksons.*—*Messrs. Krelage* (next week).—*G. C.*—*D. T. F.* (book).—*C. B.*—*F. L. G.*—*The Hague.*—*Krelage & Son, Haarlem.*

## CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

Increased to the extent of more than 90 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, and ALL CLASSES of GARDENERS and GARDEN-LOVERS at home, that it has a specially large FOREIGN and COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

# THE GARDENERS' CHRONICLE

(THE TIMES OF HORTICULTURE)

A Weekly Illustrated Journal

(ESTABLISHED 1841)

Among the Correspondents & Contributors to recent Volumes the following, out of many Hundreds, may be named:—

**ALPINE PLANTS:—**

HALL, J., F.R.S., the late.  
CHURCHILL, G. C., Clifton, Bristol.  
CORREYON, H., Geneva.  
DEWAR, B., Glasgow.  
DOD, Rev. C. W., Malpas.  
JENKINS, E., Hampton.  
POTTER, R., York.

**AMATEUR GARDENING:—**

BADGER, E. W.  
BOYLE, Hon. Mrs., "E. V. B." ("Days and Hours in a Garden")  
BRIGHT, the late H. A. ("Notes from a Lancashire Garden")  
CLARKE, Col. Trevor.  
CORDEROY, Justin.  
ELLACOMBE, Rev. Canon.  
EWBANK, Rev. H., Ryde.  
FREMANT-MITFORD, A. B.  
GUMBLETON, W. E., Belgrove, Cark.  
SALTER, J., F.R.S.  
THOMSON, W., Teignmouth.  
WEIR, Harrison.  
WILSON, G., F.R.S., Weybridge.  
WILKS, Rev. W., Shirley.

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ANNESLEY, the Earl of.  
ACLAND, Sir T., Bart.  
ACTON, T., Kilmacurragh.  
BAKER, W. R., Bayfordbury.  
CROUCHER, G., Ochtertyre, Crieff.  
DUCIE, the Earl of.  
MACLEAY, the late Sir G.  
MEATH, the Earl of.  
NICHOLSON, G., Curator, Royal Gardens, Kew.  
POWERSCOURT, Viscount.  
RASHLEIGH, J., Menabily.  
SARGENT, Prof., Arnold Arboretum, Cambridge, U.S.A.  
SHANNON, the Earl of, the late.  
SMITH, T. A., Darrien, Esq.  
STAIR, the Earl of.  
TREVELYAN, Sir W., Bart., the late.  
VAN VOLXEM, J., the late, Brussels.

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CHURCH, Prof., F.R.S.  
DEHERAIN, Prof., Paris.  
DYER, Bernard.  
GILBERT, Sir J. H., F.R.S., Rothamsted.  
LAWES, Sir J. B., Rothamsted.  
MILNOR, W. S.  
MULLER, Dr. Hugo, F.R.S.  
WARINGTON, R., F.R.S.  
WILLIS, J. J., Rothamsted.

**DISEASES OF PLANTS:—**

ARTHUR, Prof., New York.  
ROS, Dr. Ritzeema, Wageningen.  
COOKE, Dr. M. C.  
KLEBAHN, Dr., Bremen.  
MAGNUS, Prof., Berlin.  
MASSEE, G., Kew.  
MURRAY, G., British Museum.  
PAGET, Sir James, F.R.S.  
PHILLIPS, W.  
PLOWRIGHT, Dr. C. B., King's Lynn.  
PRILLIEUX, Prof., Paris.  
SMITH, W. G.  
SORAUER, Prof., Proskau.  
WARD, Prof. Marshall.

**FERNS:—**

BAKER, J. G., Royal Gardens, Kew.  
BRUBERY, C. T., Forest Gate.  
HEMSLEY, A.  
JENMAN, British Guiana.  
LOWE, E. J., Chesham.

**FLORISTS' FLOWERS, &c.:—**

DEAN, R., Ealing.  
DODWELL, E. S., Oxford, the late.  
D'OMBRAIN, Rev. H. H., Westwell.  
DOUGLAS, J., Iford.  
RNGLEHEART, Rev. G.  
HORNBER, Rev. F. D.  
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PAUL, G., Paisley.  
TURNER, C., the late.

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ANDRE, E., Paris.  
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HANSEN, Prof. Carl, Copenhagen.  
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ORTIGUES, E., Zurich.  
OUDEMANS, Prof., Amsterdam.  
PRNZIG, Prof., Geneva.  
PIROTTA, Prof., Rome.  
FYNAERT, E., Ghent.  
REGEL, E., the late.  
RODIGAS, E., Ghent.  
ROVELLI, Sig., Pallanza.  
ROZE, R., Paris.

SOLMS, Prof., Count, Strasburg.  
SURINGAR, Prof., Leyden.  
TRELEASE, Prof., St. Louis.  
TROUBETZKOI, Prince, the late, (Eucalyptus).  
VAN TUBERGEN, C. G., Junr.  
VILMORIN, H. de, Paris.  
VILMORIN, Maurice de, Paris.  
WIGMAN, Bot. Garden, Buitenzorg.  
WILKOMM, Prof., Prague.  
WITTMACK, Dr., Berlin.  
WOLKENSTEIN, P., Soorash, Russia.

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FRANCE, C. S., Aberdeen.  
MAYR, Dr., Munich.  
MICHE, C. Y., Cullen, Aberdeen.  
ROGERS, H., Plymouth.  
SCHLICH, Dr., Superintendent, Forest Department, Cooper's Hill.  
WEBSTER, A. D.  
WEBSTER, J. B.

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CHEAL, J., Crawley, Sussex.  
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MARKHAM, H., Mereworth.  
RIVERS, T. F., Sawbridgeworth.  
ROUELL, W., Harvey Lodge.  
TURTON, T., Maiden Erlegh.  
WILDSMITH, W., the late.  
WOODWARD, Geo., Barham Court.

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BALFOUR, Prof., Edinburgh.  
BARBEY, W., Lausanne.  
BROWN, N. E., Herbarium, Kew.  
BURBRIDGE, F. W., Botanic Gardens,  
CLARKE, Col. Trevor. [Dublin.  
CLARKE, C. B., Pres. Linn. Soc.  
CORNU, Prof. Max, Director of the Jardin des Plantes, Paris.  
DE CANDOLLE, A., the late, Geneva.  
DYER, W. T., Director, Royal Gardens, Kew.  
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**JOURNEYMAN.**—Mr. COATES, Darnhall Hall Gardens, Winsford, Cheshire, would be pleased to recommend a young man, age 22, as above. Six years' experience.

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**JOURNEYMAN, Inside, or Inside and Out.**—Age 22; good character. Three years in present place, five previous.—J. BEAUCHAMP, Cowesfield Gardens, Salisbury.

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**JOURNEYMAN.**—O. JOHNSON, Warford Hall Gardens, Alderley Edge, can highly recommend F. WILLIAMS, age 19, as above. Good references from two other situations.

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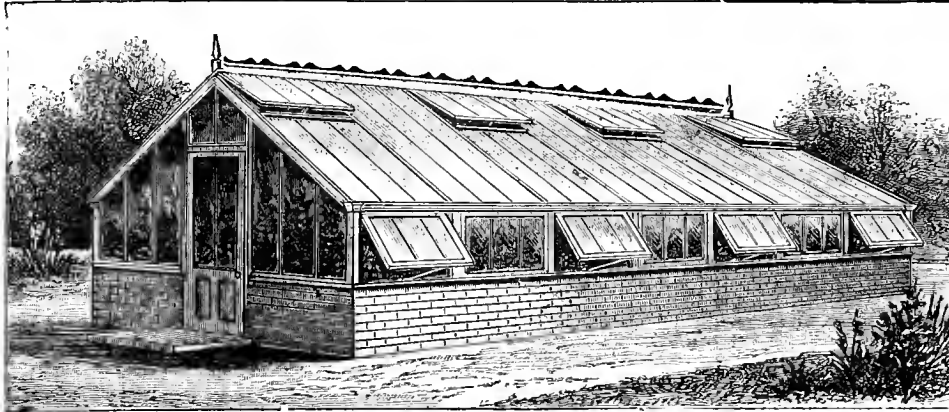
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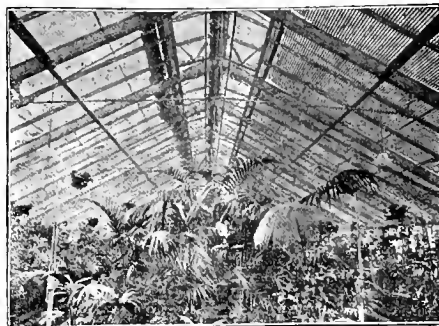


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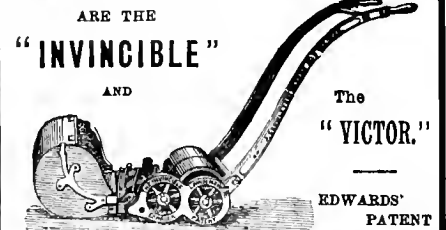
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